

Idiomatic expressions in Hindi:
A study of comprehension and production of idioms by
children in the age group of 7-13 years

A Thesis Submitted to the
University of Hyderabad
in Partial Fulfilment of the Award of the Degree of
Doctor of Philosophy in Applied Linguistics
at the Centre for Applied Linguistics and Translation Studies
School of Humanities, University of Hyderabad

by
Sheerin Hena



University of Hyderabad
Central University, Gachibowli,
Hyderabad - 500 046, Telangana, India

September 2021



**CENTRE FOR APPLIED LINGUISTICS AND TRANSLATION STUDIES,
UNIVERSITY OF HYDERABAD**

CERTIFICATE

This is to certify that the thesis entitled “**Idiomatic expressions in Hindi: A study of comprehension and production of idioms by children in the age group of 7-13 years**” submitted by **Sheerin Hena (12HAPH05)** in partial fulfilment of the requirements for the award of the degree of **Doctor of Philosophy in Applied Linguistics** from the **University of Hyderabad** is a bona fide work carried out by her under my supervision and guidance.

This thesis is free from plagiarism and has not been submitted previously, either in part or in full, to this or any other University or Institution for award of any degree or diploma.

Further, the student has the following publications before submission of the thesis for adjudication and has produced evidence for the same in the form of reprint in the relevant area of her research:

1. Hena, S. (2020). Exploring the comprehension of idioms: A study on Hindi speaking children of age-group 7 to 12 years. In Khan, T. (ed.) *Trends in Applied Linguistics and Language in Use*. Mysore: CIIL. 70-83. (ISBN No: 978-81-946499-9-1)
2. Hena, S. (2020). Determining the properties of Hindi idioms which facilitate comprehension. In Khan, T. (ed.) *Indradhanush of ideas in Language, Literature and Translation: A Festschrift in Honour of Prof. Panchanan Mohanty*. Munich, Germany: Lincom Europa, 186-202. (ISBN No: 9783969390276)
3. Hena, S. (2019). Understanding the Cognitive Mechanisms Responsible for Interpretation of Idioms in Hindi-Urdu. *Language in India*, 19(1), 301-309. (ISSN No: 1930-2940)

The student has made presentations in the following conferences:

1. Hena, S. (2018, December 5-7). *Exploring the comprehension of idioms: A study on Hindi speaking children (age-group 7 to 12 years)*. 40th International Conference of Linguistic Society of India. Organized by Central Institute of Indian Languages (CIIL), Mysore, India. (International)
2. Hena, S. (2014, February 6-8). *Do gender differences affect men and women language use? An Empirical Study*. 30th South Asian Languages Analysis Roundtable. Organized by Centre for Applied Linguistics and Translation Studies (CALTS), University of Hyderabad, Hyderabad, in collaboration with Central Institute of Indian Languages (CIIL), Mysore, India. (International)

The student has passed the following courses towards fulfilment of the coursework requirement for Ph.D.

	Course Code	Name	Credits	Pass/Fail
1.	AL-801	Research Methodology	04	Pass
2.	AL-803	Technologies for Language Documentation	04	Pass
3.	AL-821	The Topic Related to be Offered by the Concerned Supervisor	04	Pass
4.	AL-861	Advanced Topics in Sociolinguistics	04	Pass

Prof. Panchanan Mohanty

Supervisor

Head of the Department

CALTS

Dean of the School

School of Humanities



**CENTRE FOR APPLIED LINGUISTICS AND TRANSLATION STUDIES,
UNIVERSITY OF HYDERABAD**

DECLARATION

I, **Sheerin Hena**, hereby declare that this dissertation entitled “**Idiomatic expressions in Hindi: A study of comprehension and production of idioms by children in the age group of 7-13 years**” submitted to the **University of Hyderabad** in partial fulfilment of the requirements for the award of the degree of **Doctor of Philosophy** in **Applied Linguistics** is a bona fide research work carried out by me under the guidance and supervision of **Professor Panchanan Mohanty**, Centre for Applied Linguistics and Translation Studies, School of Humanities, University of Hyderabad.

I declare that I was admitted to the candidacy of the Ph.D. degree in August 2012 after successfully completing the written and the oral qualifying examinations.

I declare that this thesis has been composed solely by myself and that it has not been submitted, in whole or in part, to this or any other university or institution for the award of any degree or diploma. Except where stated by reference or acknowledgment, the work presented is entirely my own.

I declare that this research work is free from plagiarism. A report on the plagiarism statistics from the Indira Gandhi Memorial Library, University of Hyderabad is enclosed. I hereby agree that my thesis can be deposited in Shodhganga/INFLIBNET.

Date: 24.09.2021

Place: Hyderabad

Prof. Panchanan Mohanty
Supervisor, CALTS

Sheerin Hena
Regd. No. 12HAPH05
CALTS

Acknowledgements

As the final version of this work comes into existence, there are many to whom I would like to express my sincere gratitude.

First and foremost, I would want to thank my Supervisor, Prof. Panchanan Mohanty. Although there are absolutely no words for an accurate expression of my gratitude towards him, I would state the fact that this work could not have been completed if not for his unwavering support, guidance, and mentorship during extremely challenging personal and professional times at various stages of this work. His inputs were always relevant, precise, well-explained, and helped me in doing timely course-corrections, thereby avoiding much rework. Even during the pandemic year, which was a huge setback for everyone, he was always available to guide and motivate me over phone and other virtual mediums. I feel incredibly indebted to him.

My sincere thanks to the members of my Doctoral Committee Prof. Uma Maheshwar Rao and Prof. Gautam Sen Gupta for their valuable comments, discussions, and feedback. I also express my gratitude to the Head of the Department, CALTS, Prof. Bhimrao Panda Bhosale. I take this opportunity to thank all my professors and faculty members for the valuable lessons in linguistics. I would also like to thank Dr. Somsukla Banerjee who introduced me to the field of Psycholinguistics. I would like to express my pride in being associated with the University of Hyderabad, which provided me an incredible platform to pursue my research interests. I am grateful to all the non-teaching staff of CALTS for their timely assistance to complete all technical and formal procedure.

I would also like to acknowledge the guidance of Prof. Ashok Kumar and Prof. P. N. Jha right from my graduation days. A special thanks to Dr. S. M. Nawab (Director, Woodbine Modern School, Darbhanga) and Dr. Nasreen Nawab (Principal, Woodbine Modern School, Darbhanga) for being very kind, understanding, and supportive, for permitting me to conduct the empirical studies, and for encouraging me to pursue the field study for over three months. Thanks to Mrs. Shanti Devulapalli (Principal Mentor, MSIT, IIIT Hyderabad) for always motivating me to complete my work flawlessly.

Many thanks to my dear sisters, an enthusiastic researcher Rena, and a keen observer Saba, for reviewing this thesis for clarity and brevity. I am extremely thankful to my dear friend Abhishek for helping me with statistical analysis and proofreading multiple drafts. I am also thankful to Dr. Krishna Soni for participating in the focus group discussions and suggesting and arranging other participants for the focus group. I am extremely thankful to all the participants of the focus group discussions for their valuable insights, suggestions, and questions, which shaped the course of this work, and to all the participants who as subjects showed interest and participated with full enthusiasm. Without their help and cooperation, this work would not have been accomplished.

Most importantly, I am deeply grateful to my family members without whose unconditional and unfailing love, support, and encouragement this thesis would not have been completed. I would like to dedicate this work to my Abbu who is my inspiration, always been a pillar of support, who always stood by me, and encouraged me to break the societal norms and pursue higher studies and research. While I lost him during this period, he will always be a guiding light and will be present through his words in my journey of life. Nobody can ever express enough gratitude towards their mother, more so true for me, as I revere my Ammi for being the strongest person I have ever known, for being ever so understanding, and for being a calming influence even in the most stressful times thereby providing me the confidence and strength to overcome any hurdles which come my way. I thank my siblings (Saba, Rena, and Hayat) for believing in me, always being there for me, and extending a positive energy during the most challenging times. I thank my friends and fellow researchers from the University of Hyderabad: Ankita, Sasmita, Abhijit, Barnali, Mona, Neetu, Rahmat, and Zikrullah, who helped build a fantastic environment of constant learning and support.

Above all, I praise and thank the Almighty who granted me countless blessings, knowledge, and opportunities.

Typographic Conventions

- Thesis text:
 - Font: Times New Roman, font-size: 12, line spacing: 1.5
 - Example: sample text
- Concepts:
 - Font: Times New Roman, font-size: 12, line spacing: 1.5, upper case
 - Example: ANGER IS HEAT
- Running text transcribed Hindi data
 - Font: Courier New, font-size 11, line spacing 1.5, lower case
 - Example: nau d̥o gyarəh ho dʒana
- Text in table:
 - Font: Times New Roman, font-size: 10, line spacing: 1.15
 - Example: sample text
- Transcribed Hindi data in table:
 - Font: Courier New, font-size 10, line spacing 1.15, lower case
 - Example: nau d̥o gyarəh ho dʒana
- Hindi data in Devanagari script, in running text:
 - Font: Mangal, font-size: 11, line spacing: 1.5
 - Example: आँखों का तारा होना
- Hindi data in Devanagari script, in table:
 - Font: Mangal, font-size 10, line spacing 1.15
 - Example: आँखों का तारा होना

IPA symbols used for Hindi vowels and consonants

Vowels		Consonants			
Hindi Orthography	IPA Symbol	Hindi Orthography	IPA Symbol	Hindi Orthography	IPA Symbol
अ	/ə/	क	/k/	प	/p/
आ	/a/	ख	/kʰ/	फ	/pʰ/
इ	/i/	ग	/g/	ब	/b/
ई	/iː/	घ	/gʱ/	भ	/bʱ/
उ	/u/	ङ	/ŋ/	म	/m/
ऊ	/uː/	च	/tʃ/	य	/j/
ए	/e/	छ	/tʃʰ/	र	/ɾ/
ऐ	/əi/	ज	/dʒ/	ल	/l/
ओ	/o/	झ	/dʒʱ/	व	/v/
औ	/əu/	ञ	/ɲ/	स	/s/
		ट	/ʈ/	ष	/ʂ/
		ठ	/ʈʰ/	श	/ʃ/
		ड	/ɖ/	ह	/h/
		ढ	/ɖʱ/	क्ष	/kʂə/
		ण	/ɳ/	त्र	/ʈrə/
		त	/ʈ/	ज्ञ	/jɲə/
		थ	/ʈʰ/	ड़	/ɽ/
		द	/ɖ/	ढ़	/ɽʰ/
		ध	/ɖʱ/	क़	/q/
		न	/n/	ज़	/z/
				फ़	/f/

Table of Contents

LIST OF TABLES	XXII
LIST OF FIGURES	XXVII
CHAPTER 1: INTRODUCTION.....	1
1.1. Idiom: A ubiquitous entity	1
1.1.1. Idioms as multiword expressions.....	3
1.1.2. Perspectives towards defining and understanding idioms	4
1.1.3. Idioms and other forms of figurative languages	7
1.1.3.1. Idioms and metaphors	7
1.1.3.2. Idioms and proverbs.....	8
1.1.3.3. Idioms and fixed expressions.....	9
1.1.3.4. Idioms and clichés	9
1.1.4. When do we use idioms in our speech?	9
1.1.5. Effect of culture on idioms	12
1.2. The relevance of idioms in language studies	13
1.3. The significance of the present study	15
1.4. The objective of the study	17
1.5. Research questions.....	18
1.6. Organisation of the thesis	19
1.7. Summary.....	20

CHAPTER 2: REVIEW OF LITERATURE AND THEORETICAL FOUNDATIONS	22
2.1. Introduction.....	22
2.2. Defining idioms	23
2.2.1. Smith (1923, 1925)	23
2.2.2. Hockett (1958)	24
2.2.3. Katz and Postal (1963).....	24
2.2.4. Healey (1968)	25
2.2.5. Weinreich (1969)	26
2.2.6. Fraser (1970).....	26
2.2.7. Makkai (1972).....	28
2.2.8. Fernando (1996).....	30
2.2.9. Moon (1998)	30
2.2.10. Grant and Bauer (2004)	30
2.2.11. Remarks on the definitions provided	31
2.2.12. Fundamental properties of idioms	31
2.3. Idiomaticity.....	33
2.3.1. Arbitrariness of idioms and idiomaticity	33
2.3.2. Compositionality or analysability of idioms.....	36
2.3.3. Metaphoricity of idioms.....	37
2.3.4. The status of idioms as dead metaphors	38
2.4. Categorisation of idioms.....	39

2.4.1.	Categorisation based on compositionality	40
2.4.2.	Categorisation of idioms based on semantic intelligibility.....	41
2.4.3.	Opaque, transparent, and quasi-metaphorical idioms	43
2.4.4.	Criticism on categorisation of idioms	43
2.5.	Processing of idioms: An overview	44
2.5.1.	Non-compositional approach	46
2.5.1.1.	Idiom List Hypothesis (Bobrow and Bell, 1973).....	46
2.5.1.2.	Lexical Representation Hypothesis (Swinney and Cutler, 1979)	47
2.5.1.3.	Direct Access Hypothesis (Gibbs 1980, 2002).....	48
2.5.2.	Compositional approach	49
2.5.2.1.	Configuration Hypothesis (Cacciari and Tabossi, 1988).....	50
2.5.2.2.	Idiom Decomposition Hypothesis (Gibbs et al., 1989)	51
2.5.2.3.	Composition Model (Gibbs, 1994; Tabossi and Zardon, 1995)	52
2.5.2.4.	Phrase-Induced Polysemy Model (Glucksberg, 1994)	53
2.5.3.	Other relevant processing models.....	53
2.5.3.1.	Hybrid Model (Titone and Connine, 1999)	55
2.5.3.2.	Model of Dual Idiom Representation (Abel, 2003).....	55
2.6.	An overview of language development in children	56
2.6.1.	Theories of cognitive development in children	57
2.6.2.	Stages of cognitive development	58
2.6.3.	Idiom acquisition and comprehension process in children	60

2.6.4.	Challenges faced by children in understanding the figurative language	62
2.6.5.	Models for idiom comprehension in children.....	63
2.6.5.1.	Language Experience Hypothesis.....	64
2.6.5.2.	Global Elaboration Model	64
2.7.	Dimensions of idioms which affect their comprehension	69
2.7.1.	Context.....	69
2.7.2.	Familiarity.....	71
2.7.3.	Compositionality.....	72
2.7.4.	Reading and comprehension skill	74
2.7.5.	Predictability	75
2.7.6.	Literality.....	76
2.7.7.	Conceptual knowledge.....	77
2.8.	Summary.....	78
CHAPTER 3: METHODOLOGY.....		81
3.1.	Overview.....	81
3.2.	Qualitative study	81
3.2.1.	Shortlisting the idiom set through focus group discussions	81
3.3.	Quantitative studies.....	90
3.3.1.	Studies on adult native speakers of Hindi.....	91
3.3.1.1.	Empirical Study 1	91
3.3.1.2.	Empirical Study 2	91

3.3.1.3. Tasks conducted.....	92
3.3.2. An empirical study to test the idiom comprehension skills in Hindi-speaking children	93
3.3.2.1. MCQ Task.....	93
3.3.3. An empirical study to test production skills in Hindi-speaking children ...	94
3.3.3.1. Picture Identification task	94
3.3.3.2. Fill in the Blanks task	94
3.4. Summary.....	95

CHAPTER 4: DEMYSTIFYING THE PROCESS OF IDIOM COMPREHENSION: AN EXPLORATORY STUDY ON ADULT NATIVE SPEAKERS OF THE HINDI LANGUAGE..... 96

4.1. Introduction.....	96
4.2. Conceptualisation of idioms and the gaps in literature.....	96
4.3. Empirical Study 1: Establishing the idiom categories (based on usage frequency, meaning familiarity, and decomposability)	98
4.3.1. Methodology	99
4.3.1.1. Participants.....	99
4.3.1.2. Method	99
4.3.1.3. Material.....	100
4.3.1.4. Rating tasks to compute meaning familiarity and usage frequency	101
4.3.1.5. Semantic judgement task for decomposability test.....	103
4.3.2. Analysis	105

4.3.2.1. Defining the usage frequency index and the meaning familiarity index.....	105
4.3.2.2. Creating the decomposability index	106
4.3.2.3. Quantifying the linguistic dimensions of idioms using indices.....	107
4.3.2.4. Understanding the data using the IBM SPSS Statistics software	116
4.3.2.5. Understanding the data through descriptive statistics.....	116
4.3.2.5.1. Describing the dataset through mean and median analysis.....	117
4.3.2.5.2. Measuring the variance of the defined indices.....	118
4.3.2.5.3. Checking for skewness to understand the distribution of data.....	119
4.3.2.5.4. Identifying the range for the defined indices	121
4.3.3. Results.....	121
4.3.3.1. Linear Regression 1: Correlation between meaning familiarity, usage frequency, and decomposability	122
4.3.3.2. Linear Regression 2: Correlation between meaning familiarity and usage frequency	123
4.3.3.3. Shortlisting and categorising Idioms	126
4.3.3.3.1. ‘Frequent and Decomposable’ idioms	127
4.3.3.3.2. ‘Frequent and Less-Decomposable’ idioms.....	131
4.3.3.3.3. ‘Less-Frequent and Less-Decomposable’ idioms	132
4.3.3.3.4. ‘Less-Frequent and Decomposable’ idioms.....	134
4.4. Empirical Study 2: Factors which facilitate comprehension for different categories of idioms	134
4.4.1. Methodology	136

4.4.1.1.	Participants.....	136
4.4.1.2.	Method.....	137
4.4.1.3.	Material.....	137
4.4.1.4.	Task 1: Decomposability Test	138
4.4.1.5.	Task 2: Literal Meaning Identification task (the role of literal meaning)	141
4.4.1.6.	Task 3: Point of Idiom Identification task	143
4.4.2.	Analysis	145
4.4.2.1.	Analysis 1: Computing the indices	145
4.4.2.1.1.	Computed values of indices developed.....	147
4.4.2.2.	Analysis 2: Understanding data through descriptive statistics	152
4.4.2.3.	Analysis 3: Linear Regression between the meaning familiarity index and the usage frequency index on complete dataset	153
4.4.2.4.	Analysis 4: Categories of idioms developed.....	154
4.4.2.4.1.	‘Frequent and Decomposable’ (F-D) idioms	154
4.4.2.4.2.	‘Frequent and Less-Decomposable’ (F-LD) idioms	157
4.4.2.4.3.	‘Less-Frequent and Decomposable’ (LF-D) idioms	159
4.4.2.4.4.	‘Less-Frequent and Less-Decomposable’ (LF-LD) idioms	161
4.4.2.5.	Analysis 5: Linear Regression tests among the defined indices	163
4.4.2.6.	Analysis 6: Linear Regression between meaning familiarity and literal meaning identification for highly frequent idioms	165
4.4.2.7.	Analysis 7: Linear Regression between meaning familiarity and decomposability for the ‘less-frequent and decomposable’ idioms.....	166

4.4.2.8.	Analysis 8: Linear Regression between decomposability and literal meaning identification for the ‘less-frequent and decomposable’ idioms	168
4.4.2.9.	Analysis 9: Linear Regression between meaning familiarity and literal meaning identification for the ‘less-frequent and decomposable’ idioms	169
4.4.2.10.	Analysing the data for idioms that have plausible literal meanings .	171
4.4.2.11.	Point of idiom identification	178
4.4.3.	Results.....	186
4.4.3.1.	Relationship between meaning familiarity and usage frequency	186
4.4.3.2.	Classification and shortlisting of idioms based on usage frequency and decomposability	186
4.4.3.3.	Comprehension of frequent idioms.....	187
4.4.3.4.	Comprehension of the less frequent idioms.....	188
4.4.3.5.	Impact of decomposability.....	190
4.4.3.6.	Unique point of idiom identification	190
4.5.	Summary.....	191

CHAPTER 5: INSIGHTS ON COMPREHENSION OF HINDI IDIOMS BY CHILDREN..... 192

5.1.	Introduction.....	192
5.2.	A quick recapitulation of the discussion on idiom comprehension done in Chapter 2.....	193
5.2.1.	Perspectives on the process of idiom comprehension	193
5.2.2.	Perspectives on the idiomatic competence and age	194
5.2.3.	Perspectives on the control parameters used in idiom research.....	194

5.3.	Comprehension task: Multiple Choice Questions (MCQ).....	195
5.3.1.	Objective.....	195
5.3.2.	Methodology.....	196
5.3.2.1.	Participants.....	196
5.3.2.2.	Method.....	198
5.3.2.3.	Material.....	199
5.3.2.3.1.	Test booklet.....	199
5.3.2.3.2.	Idioms used	201
5.3.3.	Analysis and Results.....	205
5.3.3.1.	Analysis 1: Summary of correct responses vs. grade of respondents...	205
5.3.3.2.	Analysis 2: Summary of correct responses vs. age of respondents	207
5.3.3.3.	Analysis 3: Summary of correct responses vs. the age groups of respondents	208
5.3.3.4.	Analysis 4: Summary of correct responses vs. grade and age groups of respondents	210
5.3.3.5.	Analysis 5: Summary of correct responses vs. idiom categories.....	211
5.3.3.6.	Analysis 6: Summary of correct responses vs. idiom categories and age groups of respondents	214
5.3.3.7.	Analysis 7: Error analysis of responses	217
5.3.3.7.1.	Analysis 7.1: Error analysis across age and age groups of respondents	217
5.3.3.7.2.	Analysis 7.2: Error analysis across idiom categories.....	219

5.3.3.7.3. Analysis 7.3: Error analysis across age groups of respondents and idiom categories	221
5.3.3.7.4. Analysis 7.4: Error analysis across idioms with and without plausible literal meanings.....	226
5.3.3.8. Analysis 8: Linear Regression between comprehension accuracy and the factors influencing comprehension	227
5.4. Discussion.....	230
5.4.1. The model for idiom comprehension.....	235
5.5. Summary.....	237

CHAPTER 6: INSIGHTS ON PRODUCTION OF HINDI IDIOMS BY CHILDREN..... 238

6.1. Introduction.....	238
6.2. A quick recapitulation of the discussion on idiom production done in Chapter 2	238
6.3. Objective	240
6.4. Methodology	240
6.4.1. Design	240
6.4.1.1. Picture Identification task	241
6.4.1.2. Fill in the Blanks task	243
6.4.2. Participants.....	245
6.4.3. Method	247
6.4.4. Material.....	248
6.4.4.1. Test booklet.....	248

6.4.4.2.	Idioms used	248
6.5.	Analysis and Results	255
6.5.1.	Analysis 1: Understanding the production accuracy across overall idiom dataset....	255
6.5.2.	Analysis 2: Comparing the performance of children across both production tasks through baselining.....	260
6.5.3.	Analysis 3: Summary of correct responses vs. grade of respondents	264
6.5.4.	Analysis 4: Summary of correct responses vs. age and age groups of respondents	265
6.5.5.	Analysis 5: Summary of correct responses vs. categories of idioms.....	269
6.5.6.	Analysis 6: Summary of correct responses vs. categories of idioms and age groups of respondents	271
6.5.7.	Analysis 7: Error analysis of responses	273
6.5.7.1.	Categorisation of responses for picture identification task:.....	273
6.5.7.2.	Categorisation of responses for fill in the blanks task:	275
6.5.7.3.	Analysing the errors to ascertain the phases of figurative competence development.....	276
6.5.7.4.	Error analysis of responses across both production tasks.....	278
6.5.7.5.	Error analysis of responses across the grade (class) of respondents.....	279
6.5.7.6.	Error analysis of responses wrt age groups	282
6.5.7.7.	Error analysis of responses wrt idiom categories	286
6.5.8.	Analysis 8: Linear Regression between production accuracy, usage frequency, decomposability, and age groups of respondents	290
6.6.	Discussion	294

6.6.1.	The model for idiom production.....	299
6.7.	Summary.....	301
CHAPTER 7: FINDINGS AND CONCLUSIONS.....		302
7.1.	Introduction.....	302
7.2.	Categorisation of idioms, and the effect of idiom properties on idiom comprehension	303
7.2.1.	Categorisation of idioms	303
7.2.2.	Role of compositionality and usage frequency of idioms in their comprehension	305
7.2.3.	Unique point of identification.....	306
7.3.	Comprehension of idioms by children having Hindi as their L1 language	306
7.4.	Production of idioms by children having Hindi as their L1 language	309
7.5.	Development of idiomatic competence in children	311
7.6.	Practical applications of this study	314
7.6.1.	Gaps observed in material and methodologies used in schools for teaching Hindi idioms	315
7.6.2.	Application of the current work in improving the material and methodologies used in schools for teaching Hindi idioms	317
7.6.2.1.	Developing material as per children's cognitive maturity.....	318
7.6.2.2.	Developing a good reading skill to increase exposure to idioms	319
7.6.2.3.	Use of concept-based teaching	319
7.6.2.4.	Use of pictures or videos to capture the attention and do effective understanding of the meaning.....	321

7.6.2.5. Explain the use of compositionality to relate the idiomatic meaning with the literal meaning	322
7.6.2.6. Selecting the right set of idioms for classroom teaching:	322
7.6.2.7. Possible approaches and material designs for teaching idioms to children in different grades	323
7.6.2.7.1. Proposed teaching methods, activities, and practice exercises for developing the idiom comprehension competence	324
7.6.2.7.2. Proposed teaching methods, activities, and practice exercises for developing the idiom production competence:	328
7.6.2.7.3. Mapping the teaching materials and teaching exercises to class (grade) and age groups of children	330
7.7. Future directions	331
BIBLIOGRAPHY	333
APPENDICES	355
Appendix 1: Questionnaire used for ‘meaning familiarity’, ‘usage frequency’, and ‘decomposability’ tasks on adults.....	355
Appendix 2: Questionnaire used for ‘decomposability’, ‘the role of literal meaning’, and ‘point of idiom identification’ tasks on adults	386
Appendix 3: Test Booklet used for comprehension task on children	408
Appendix 4: Test Booklet used for production tasks on children.....	416

List of Tables

Table 1.1: Examples of well-formed and ill-formed idioms in Hindi	6
Table 2.1: Katz and Postal – classification of idioms.....	25
Table 2.2: Fraser’s Frozenness Hierarchy	27
Table 2.3: Makkai’s list of lexemic and sememic idioms	29
Table 2.4: Semantic classification of idioms adapted from Grant and Bauer (2004).....	42
Table 3.1: List of 100 idioms.....	84
Table 4.1: Rating scale for usage frequency test	102
Table 4.2: Rating scale for meaning familiarity test.....	102
Table 4.3: Idioms used in dataset and the corresponding indices.....	107
Table 4.4: Descriptive Statistics	117
Table 4.5: Mean and Median	117
Table 4.6: Variance.....	118
Table 4.7: Descriptive Statistics for Decomposability Index	118
Table 4.8: Skewness	119
Table 4.9: Range	121
Table 4.10: Correlation between the meaning familiarity index, the usage frequency index, and the decomposability index.....	122
Table 4.11: Correlation between the meaning familiarity index and the usage frequency index.....	124
Table 4.12: Means of the defined indices	126
Table 4.13: List of ‘frequent and decomposable’ idioms	127
Table 4.14: List of ‘frequent and less-decomposable’ idioms.....	131
Table 4.15: List of ‘less-frequent and less-decomposable’ idioms	133
Table 4.16: Instructions for Decomposability Test	139
Table 4.17: Instructions for Literal Meaning Identification task.....	142

Table 4.18: Instructions for Point of Idiom Identification task	143
Table 4.19: Computation of indices created to quantify idiom properties	146
Table 4.20: Values of the indices for each idiom	147
Table 4.21: Descriptive statistics for the indices	153
Table 4.22: Linear Regression between meaning familiarity and usage frequency	153
Table 4.23: List of ‘frequent and decomposable’ idioms (F-D)	155
Table 4.24: List of ‘frequent and less-decomposable’ idioms (F-LD)	158
Table 4.25: List of ‘less-frequent and decomposable’ idioms (LF-D)	160
Table 4.26: List of ‘less-frequent and less-decomposable’ idioms (LF-LD)	161
Table 4.27: Summary of regression tests done and the corresponding results	163
Table 4.28: Linear Regression between meaning familiarity and literal meaning identification for highly frequent idioms	165
Table 4.29: Linear Regression between meaning familiarity and decomposability for the ‘less-frequent and decomposable’ idioms.....	167
Table 4.30: Linear Regression between decomposability and literal meaning identification for the ‘less-frequent and decomposable’ idioms.....	168
Table 4.31: Linear Regression between meaning familiarity and literal meaning identification for the ‘less-frequent and decomposable’ idioms.....	170
Table 4.32: List of idioms with plausible literal meanings.....	171
Table 4.33: List of idioms which are in the sub-category ‘Plausible literal meaning’ and are of ‘frequent and decomposable’ category	175
Table 4.34: Linear Regression between meaning familiarity and literal meaning identification for the ‘frequent and decomposable’ idioms	177
Table 4.35: Point of idiom identification (PII)	178
Table 4.36: Average values of Meaning Familiarity Index and Usage Frequency Index for idioms with and without a unique ‘point of idiom identification’	185
Table 4.37: Examples of idioms demonstrating high correlation between usage frequency and meaning familiarity	186

Table 4.38: Examples of idioms from F-D and F-LD categories	187
Table 4.39: Example of idioms from Very Frequent category	188
Table 4.40: Examples of idioms from LF-D category	189
Table 4.41: Example of idioms from LF-LD category	190
Table 5.1: Respondent profile - age and grade of respondents	197
Table 5.2: ‘Frequent and Decomposable’ Idioms (F-D).....	201
Table 5.3: ‘Less-Frequent and Decomposable’ Idioms (LF-D)	202
Table 5.4: ‘Frequent and Less-Decomposable’ Idioms (F-LD)	203
Table 5.5: ‘Less-Frequent and Less-Decomposable’ Idioms (LF-LD)	204
Table 5.6: Summary of correct responses vs. grade of respondents	206
Table 5.7: Summary of correct responses vs. age of respondents	207
Table 5.8: Summary of correct responses vs. age groups of respondents	208
Table 5.9: Summary of correct responses vs. grade and age groups of respondents....	210
Table 5.10: Count of responses vs. idiom categories	212
Table 5.11: Summary (%) of responses vs. idiom categories.....	213
Table 5.12: Defining dataset for each dimension separately	215
Table 5.13 – Summary of responses across age of respondents	217
Table 5.14 – Summary of responses across age groups of respondents	217
Table 5.15 – Types of error across idiom categories (errors in each category as a percentage of total error responses)	221
Table 5.16 – Summary of responses for the age group of 7-8 years across idiom categories	222
Table 5.17 – Summary of responses for the age group of 9-10 years across idiom categories	222
Table 5.18 – Summary of responses for the age group of 11-12 years across idiom categories	223

Table 5.19: Consolidated responses for comprehension of each idiom, including correct responses and errors made	225
Table 5.20: Consolidated responses for comprehension of idioms (analysis regarding comprehension of idioms with plausible and implausible meanings)	226
Table 5.21 – Linear Regression between comprehension accuracy and the factors influencing comprehension.....	228
Table 5.22 – Substantial increase in accuracy of responses at the age of 8-9 years.....	232
Table 6.1: Samples of idioms used for the ‘picture identification’ task	242
Table 6.2 – Respondent profile vs. gender of respondents	245
Table 6.3 - Respondent profile vs. grade, age, and age group of respondents	245
Table 6.4: Idioms used for the ‘picture identification’ task.....	248
Table 6.5: Idioms used for the ‘fill in the blanks’ task	254
Table 6.6: Production tasks - summary of correct responses	256
Table 6.7: Production tasks – distribution of idioms	260
Table 6.8: Performance wrt each idiom in Production and Comprehension Tasks.....	262
Table 6.9: Overall performance in Production Tasks vs Comprehension Task	263
Table 6.10: Production tasks - summary of correct responses wrt grade	264
Table 6.11: Production tasks - summary of correct responses wrt age.....	266
Table 6.12: Age groups of respondents	267
Table 6.13: Production tasks - summary of correct responses wrt age group	267
Table 6.14: Production tasks - summary of correct responses wrt idiom categories....	269
Table 6.15: Production tasks - summary of correct responses wrt age groups of respondents and idiom categories	272
Table 6.16: Error analysis of responses across both production tasks.....	278
Table 6.17: Picture identification task - summary of error responses wrt grade	279
Table 6.18: Fill in the blanks task - summary of error responses wrt grade.....	279

Table 6.19: Picture identification task - Proportion of different types of error corresponding to grade of respondents	281
Table 6.20: Fill in the blanks task - Proportion of different types of error corresponding to grade of respondents	281
Table 6.21: Picture identification task - summary of error responses wrt age group ...	283
Table 6.22: Fill in the blanks task - summary of error responses wrt age group.....	283
Table 6.23: Picture identification task - Proportion of different types of error corresponding to age groups of respondents.....	284
Table 6.24: Fill in the blanks task - Proportion of different types of error corresponding to age groups of respondents	285
Table 6.25: Production tasks - summary of error responses wrt idiom categories.....	286
Table 6.26: Age groups of respondents	290
Table 6.27: Linear Regression between production accuracy, usage frequency, decomposability, and age groups of respondents	291
Table 6.28: Linear Regression between production accuracy, usage frequency, and age groups of respondents	292
Table 7.1: Hindi grammar books (prescribed for Class III to Class VII) reviewed to identify the gaps in current idiom teaching methods.....	315
Table 7.2: Idiom teaching methodologies proposed for Class III to Class VII (and the corresponding age groups).....	330

List of Figures

Figure 2.1: Semantic taxonomies of idioms adapted from Gibbs and Nayak (1989), Gibbs (1991)	41
Figure 2.2: Idiom List Hypothesis adapted from Bobrow and Bell (1973).....	47
Figure 2.3: Lexical Representation Hypothesis adapted from Swinney and Cutler (1979)	48
Figure 2.4: Direct Access Hypothesis adapted from Gibbs (1980, 2002)	49
Figure 2.5: Configuration Hypothesis adapted from Cacciari and Tabossi (1988)	50
Figure 2.6: Hybrid Model of Idiom Production reproduced from Cutting and Bock (1997).....	54
Figure 2.7: Cognitive developmental stages and cognitive processes in children adapted from Piaget (1936, 1953)	60
Figure 2.8: Phases of idiom acquisition adapted from Levorato and Cacciari (1992, 1993, 1995)	68
Figure 4.1: Sample snapshot of rating tasks for usage frequency and meaning familiarity tests	103
Figure 4.2: Sample snapshot of the judgement task for decomposability test.....	105
Figure 4.3: Skewness of Decomposability Index	119
Figure 4.4: Skewness of Usage Frequency Index.....	120
Figure 4.5: Skewness of Meaning Familiarity Index.....	120
Figure 4.6: Scatter plot between the Frequency Index and Familiarity Index.....	125
Figure 4.7: Observed vs Predicted values of Usage Frequency Index	125
Figure 4.8: Decomposability Test questions (sample).....	141
Figure 4.9: Literal Meaning Identification task: questions (sample).....	143
Figure 4.10: Point of Idiom Identification task: questions (sample)	144
Figure 5.1: Graphical representation of correct responses vs. years of education (class/grade)	206

Figure 5.2: Graphical representation of correct responses vs. age of respondents	207
Figure 5.3: Graphical representation of correct responses vs. age group of respondents	209
Figure 5.4: Graphical representation of correct responses vs. grade and age groups of respondents	211
Figure 5.5: % Correct responses received, across the idiom categories, and different age groups.....	214
Figure 5.6: Graphical representation of the % of correct responses received, across the dimensions of usage frequency and decomposability of idioms in different age groups	216
Figure 5.7: Graphical representation of error responses in different age groups	218
Figure 5.8: Graphical representation of correct and error responses, across the dimensions of usage frequency and decomposability of idioms	220
Figure 5.9: Graphical representation of error responses in idiom comprehension by children, across the dimensions of usage frequency and decomposability of idioms in different age groups	224
Figure 5.10: Regression standardised residual as close approximation of normal curve	228
Figure 5.11: A Comprehensive Model of Idiom Comprehension	236
Figure 6.1 - Respondent profile vs. gender, grade, age, and age group.....	246
Figure 6.2 – Baseline wrt comprehension task.....	261
Figure 6.3 - % Correct vs Grade of respondents (Formal Education)	265
Figure 6.4 - % Correct vs Age (in years) of respondents	266
Figure 6.5 - % Correct vs age group of respondents	267
Figure 6.6 - % Correct vs Age Group (in Years) of respondents	268
Figure 6.7 - Production tasks - summary of correct responses wrt age groups of respondents and idiom categories	272
Figure 6.8 - Production tasks - errors associated with development of figurative competence	277

Figure 6.9 - Production tasks - summary of errors observed wrt the grades of respondents	280
Figure 6.10 - Production tasks - summary of errors observed wrt the age groups of respondents	283
Figure 6.11 - Production tasks - summary of errors observed wrt the idiom categories	287
Figure 6.12 - Production tasks - summary of errors wrt the idiom categories and age groups.....	289
Figure 6.13: A Comprehensive Model of Idiom Production	300
Figure 7.1: Phases of idiomatic competence and the corresponding age of children (approximate).....	313

Chapter 1: Introduction

1.1. Idiom: A ubiquitous entity

Language as a tool for communication comprises both literal and figurative expressions. The primary objective of any communication is to convey a message or emotion or information in its sincere earnestness from a sender to one or many recipients. Any language offers this ability to enable communication in a way that is effective, unambiguous, and warrants the attention of the recipient. Therefore, languages typically consist of many complex systems and constructs which aid the user to communicate effectively. One of the normal and day-to-day forms of communication is where the sender and the recipient communicate with each other in the most basic and unmarked forms of the language concerned. Such expressions require the use of forms that provide a direct reference between words and objects. In such cases, the objective is generally limited to conveying a plain message or a piece of information. The literal expressions perform an essential function of serving the basic communication needs. If one were to map this on Maslow's hierarchy of needs (1943), this would be probably the base of the pyramid, serving a basic but important function.

The figurative forms in a language provide the capability to convey abstract constructs and complex emotional overtones, provide emphasis, and display wit, humour, irony, sarcasm, etc. These forms are also used to convey simple messages in a clever way (e.g. through poetry or symbolism), making it extremely intriguing for the recipient, hence enriching the communication process. Again, if one were to map this form of communication on Maslow's hierarchy of needs (1943), this would be probably the top of the pyramid as it forms an evolved system of language use which goes beyond the needs of a simple message transfer. The figurative forms enable a connotative representation where additional information accompanies the core message being conveyed. More often than not, such figurative expressions have a special meaning, and these expressions are used to convey this special or figurative meaning which is different from the literal meaning of the expression. The competence of any language is not complete unless the language user attains the maturity to disambiguate the lexical ambiguity of nonliteral forms and can produce and use such forms of language in their day-to-day conversations.

Idioms are one of the forms of figurative expressions, so pervasive in almost all languages that a decent grasp of idioms generally implies a good command of language. Idioms are seen as multiword expressions, the meaning of which may not be the sum of the meaning of the individual words that constitute them. They are considered frozen expressions, as any syntactic variation can cause an idiom to lose its idiomatic sense or meaning. Idioms are also classified into transparent idioms and opaque idioms depending on the feasibility of arriving at the idiomatic meaning from their constituents. The comprehension of idioms poses challenges to language users in general, and language learners in particular, as they may be unable to deduce the idiomatic meaning from the constituents of the idiom or be unaware of the social construct and convention behind the idiomatic meaning. To native speakers of any language, the meaning retrieval and the comprehension of certain idioms might not pose as many difficulties due to frequent exposure, but non-native speakers may find them more challenging to comprehend and sometimes even fail to recognise the expression as an idiom. The acquisition, as well as learning of idiom, is considered to be a difficult territory to conquer due to the unpredictability in meaning.

Idioms result from the creativity of the human mind and of cultural and social conventions that helped languages of the world evolve into complex systems akin to learning, living organisms. Idioms are an integral part of almost all languages of the world and are used by people from all walks of life. We do not hesitate to use idioms to express several human emotions, such as delight, anger, frustration, disappointment, sorrow, etc. We even use this invaluable asset in situations to mark satire or sarcasm, provide witty and humorous responses, or in some instances, solely for brevity. Undeniably, idioms are omnipresent in natural language, and we often use and encounter them in day-to-day conversations and writings. Idioms provide a powerful tool to any language user to vividly construct and accurately convey many abstract concepts while capturing the subtle differences and enable communication of world knowledge innovatively. The idioms keep evolving with time as we do more inventions and discoveries, incorporate the newness of cultures into the old, and accumulate more world knowledge. Each new invention, from the bullock cart to the train, from the lamp to the electricity, adds more information to the knowledge domain, which eventually enriches and adds new idioms to the existing repository.

1.1.1. Idioms as multiword expressions

Multiword expressions are defined as cohesive lexical units that cross the word boundaries (Sag et al., 2001; Copestake et al., 2002). In different languages, multiword expressions occur in various syntactic forms. In English, they appear in the form of nominal compounds (e.g. ‘post office’), phrasal verbs (e.g. ‘pick up’), and idioms (e.g. ‘pull strings’), to name a few. We see some other distinctive categories under multiword expressions in South Asian languages.

These include:

- Noun-verb complex predicates; for example,

qəja kər

to have mercy

- Adjective-verb complex predicates; for example,

pərefan kər

to trouble

- Compound verbs; for example,

lik^h lena

to write (for oneself)

- Idioms, proverbs, etc.; for example,

nau qo gyarəh ho dzana

to flee or escape

Multiword expressions can further be categorised into ‘lexicalised’ and ‘institutionalised’ phrases. The significant differences between these two categories of multiword expressions are their internal semantics and syntactic flexibility. The institutionalised multiword expressions are decomposable and undergo syntactic variations, but they block the compositional alternate within the expected semantics, and hence they are not productive word combinations. For example, in the compound motor car, ‘motor’ cannot be substituted with ‘engine’ (*engine car), and ‘car’ cannot be substituted with ‘automobile’ (*motor automobile) (Sag et al., 2001).

Unlike institutionalised phrases, lexicalised phrases are syntactically and semantically flexible expressions. They exist either as fixed or semi-fixed expressions. Fixed expressions defy conventions of grammar and compositional interpretation and do not undergo morpho-syntactic variation or internal modification. Expressions such as ‘by and large’ are suitable expressions to be fitted into this category. Semi-fixed expressions undergo some degree of lexical variation in the form of inflection, reflexivisation, and determiner selection. Idiomatic expressions also fall under the category of multiword expressions which form a heterogeneous set, and therefore cannot be classified within a single category. Idioms may fall either in the flexible category or semi-fixed category of multiword expressions.

1.1.2. Perspectives towards defining and understanding idioms

The study of idioms has been an area of interest to scholars and linguists throughout considering their complex nature and close association with culture and convention. According to Glucksberg (2001:68), idioms are the “subset of the fixed expressions in a language community”. A single comprehensive definition of these expressions is difficult considering the diverse range of such expressions and the different properties displayed by idioms in substantially varying degrees. Idioms seem to belong to a fuzzy category where a concrete definition is hard to project, due to the multidimensional lexical space, characterised by several distinct properties: semantic, syntactic, poetic, discursive and rhetorical. Scholars have presumed different views on defining idioms. For some scholars, the term covers all fixed phrases, like greetings, proverbs, clichés, slangs, and collocation, while others draw a strict boundary. Scholars like Hockett (1958), Katz and Postal (1963), and Cooper (1998) have even included individual words in the category of idioms which are used metaphorically, such as ‘weigh’ in the phrase ‘weigh a decision’. For many scholars, idioms belong to a category of restricted forms that are fixed and semantically opaque or metaphorical.

The definition of idioms majorly dwells around the trajectory of the studies conducted at various points in time. The understanding of idioms evolved with time as scholars researched idioms through diverse standpoints and studied the various aspects or properties. This fuelled a rich discourse which produced many agreements and disagreement of the views of these scholars. The earlier studies concentrated more on the structural properties of idioms rather than the meaning of the idioms. Hence, the form of

the idiom was discussed elaborately and played an essential role in defining idioms. These studies defined idioms as multiword expressions with a frozen form and can tolerate very few to no structural variations. The other set of relatively recent studies concentrated more on the functional properties of idioms, where the idiomatic meaning was the focus. They considered the metaphoricity of idioms as the most significant feature, where grammatical and lexical transformation does not violate the idiomaticity of an idiom. These studies focused on the empirical evidence, which defines that the link between the idioms meaning, and the idioms are not in an arbitrary relationship. Idioms have been defined predominantly by the following characteristics.

- **Compositionality:** Compositionality denotes a relationship between an idiom's constituents and its true figurative meaning. An expression is compositional if the elements of the expression contribute to its overall meaning. An idiom can be categorised into non-compositional, partially compositional, or compositional depending on the degree of transparency of its meaning.
- **Frozenness:** Frozenness is the degree of fixedness an idiom exhibit. It can be defined as the resistance shown by the idiom towards structural variations like addition and deletion, permutation, replacement of elements. Flexible idioms can survive multiple transformations, i.e. they do not lose meaning when subjected to structural changes. On the other hand, frozen idioms restrict such variations and lose their idiomaticity if such transformations are imposed.
- **Institutionalisation:** Institutionalisation is a degree of recognition of a phrase in a particular culture, or speech community, which tags the expression as an idiom, or to have a non-literal meaning, because of a set of associated conventions accepted by the speech community. This is an intriguing aspect of idioms, where we see many figurative expressions are institutionalised across cultures, as some expressions have figurative equivalents in many languages. In other cases, some expressions are specific to a particular culture and institutionalised in that particular speech community. An idiom with identical meaning in different cultures can be institutionalised in those cultures in different lexical forms. For example, a Hindi speaker might not refer to a very close and dear one as 'apple of the eye' rather use the idiom 'आँखों का तारा' figurative meaning: 'very dear to someone') which literally translates to 'star of the eye'. In this example, in the

Hindi language, the word ‘star’ performs the same role as ‘apple’ in the English idiom ‘apple of the eye’.

One of the ways to define an idiom could be to consider it as a figurative form, with lexical ambiguity, where the meaning of the phrase is either completely independent of, or is indirectly derivable from, the meaning of its constituents. Idioms are hence the figurative forms in language, where a unique meaning is conveyed, rather than the verbatim literal equivalent of the expression under consideration. For example, the Hindi idiom ‘angu:ṭʰa ḡikʰana’ refers to an expression of showing thumb (literal context), but in an idiomatic environment, it would mean to ‘say no to someone’, or to ‘deny doing some assistance or work’. Expressions like ‘angu:ṭʰa ḡikʰana’ belong to the categories of idiomatic expressions which have valid literal as well as non-literal forms.

Therefore, some idioms illustrate both lexical representations, where they have well-formed literal as well as non-literal meanings. Alternatively, some idioms are either ill-formed or do not convey a sensible or realistic literal meaning, with only the non-literal meaning forming a valid interpretation. Some scholars have termed such ill-formed category of idioms as the purely idiomatic form. The examples for both the forms are provided in Table 1.1.

Table 1.1: Examples of well-formed and ill-formed idioms in Hindi

Idiom with a valid literal meaning	Idiom with an invalid literal meaning
āḱʰ ḡikʰana Literal meaning: ‘to show eyes’ Figurative meaning: ‘to express anger’	nau ḡo gyarəḥ ho dʒana Literal meaning: ‘to become nine two eleven’ Figurative meaning: ‘to flee or escape’

We have discussed the perspectives of scholars for defining idioms in detail in Chapter 2, which indicated that labelling idioms as formulaic language or even agreeing on one definition is not possible. Overall, it can be said that although there were no single definitions accepted as the one final answer, these studies added tremendous value to the knowledge of idiom understanding.

1.1.3. Idioms and other forms of figurative languages

In this section, we have discussed the different forms of figurative expressions and compare them with idiomatic expressions. While the purpose of any figurative expression is to enhance the arsenal at the disposal of a language user, each figurative form has a subtly different purpose of its existence. We cover these figurative forms in the corresponding subsections below.

1.1.3.1. Idioms and metaphors

Even though idioms and metaphors fall in the same genre of figurative language, they are quite distinct. Metaphors provide the mechanism or tools to convey many complex and abstract messages, while idioms are the expressions, generally with fixed constituents, where the meaning of an idiomatic expression is not a function of the meanings of the individual words that compose it. Generally, interpretation of metaphors is built in a compositional manner, except for a few conventionalised metaphors, which may become an idiom over time. For idioms, a compositional analysis may or may not be valid, depending on the degree of decomposability of the idiom. The frozenness property also stipulates that idioms lack the open-endedness of meaning, unlike metaphors.

Also, it is a common understanding that all verbalised concepts, even all concrete nouns or verbs of everyday occurrence, or even the most common adjectives, may not be used idiomatically. However, with metaphors, it is not so restricted. Metaphors are semantically rich and more flexible in structure. For example, ‘the river snaked its way’ uses a metaphor which is based on the movement pattern of a snake; hence it is the creativity of a speaker that enables them to use the expression in a novel form. Therefore, we have the standard repositories of idioms in any language we pick. However, when it comes to describing metaphors, we do not have any specific examples or documentation of metaphors.

The words used as a metaphor in a specific context or communication style can be just regular words or expressions in certain other contexts. For example, ‘life is a roller-coaster’, or ‘life is a journey’ are sentences that use ‘roller-coaster’ and ‘journey’ as metaphors, while these words can be used in regular language use (e.g. ‘it was a long

journey’). Hence, idioms are marked as unique entries in dictionaries, but dictionaries generally do not include entries for metaphors.

When we look at the creativity aspect, we find it difficult to consciously add a new idiom to the existing language or the language known (except in a figurative sense). On the contrary, new metaphors are created and used almost every day. Idioms are less productive and more conventionalised expressions because of their syntactically and semantically unproductiveness. For example, for the idiom ‘kick the bucket’, if we apply any syntactic operation (‘the bucket was kicked’) and simultaneously apply a semantic variation (‘kick the pail’), it will lose its figurative meaning and will become a literal phrase. Metaphors are more productive and less conventionalised.

The similarities between idioms and metaphors are that they both cannot be understood in their literal variant, and their processing by the mind is theorised to be similar. Cognitive scientists see some uniformity in the way idioms are processed, especially in cases when they are metaphorical in nature. Regarding the acquisition of idioms, studies indicate that they are likely to be acquired (most often later than individual words of concrete and literal nature) as part of the semantic and pragmatic development, while metaphors are not acquired in the same process or order.

1.1.3.2. Idioms and proverbs

Idioms and proverbs fall into the same basket of figurative expressions which have fixed meanings. Proverbs are culturally motivated phrases, which are associated with the shared beliefs of a society and are, therefore, an integral part of cultural literacy. Proverbs mostly convey a piece of advice or moral lesson, which is not true for idioms. A greater degree of world experience is required to infer the meaning of a proverb. These expressions are on a lower side of the frequency of occurrence, and therefore, are difficult to comprehend as compared to idioms or metaphors. These expressions require a great amount of verbal reasoning. The learners need to gain information as to why the speaker has used the expressions in any linguistic context. Comprehension of proverbs generally requires a profound understanding of the culture and the convention. As elaborated by Nippold (2006:371), “Thus, to understand a proverb, it is not sufficient to have knowledge of the words it contains. One also must draw analogies between items stated in the proverb and those existing in the environment, a process called ‘metaphorical mapping’”.

1.1.3.3. Idioms and fixed expressions

Idioms and fixed expressions share a similarity in form as they both restrict themselves by allowing little to no variation in their syntactic structure. Both idioms and fixed expressions are generally non-compositional (to varying degrees), where the overall meaning is not the sum of the meaning of the components. Fixed expressions (e.g. ‘as a matter of fact’), unlike idioms, are transparent in nature as their meaning can be inferred from the meaning of their constituents. However, not all fixed expressions can be considered idioms because of the lack of figurativeness (e.g. ‘ladies and gentlemen’).

1.1.3.4. Idioms and clichés

Both idioms and clichés are highly conventionalised multiword expressions. The fundamental difference between the two is that many idioms are generally non-compositional, whereas clichés are compositional expressions (e.g. ‘what goes around comes around’). As per Jackendoff (1997), “The Wheel of Fortune (WoF) corpus consists mostly of phrases, of all sorts. . . There are clichés (which I distinguish from idioms because they apparently have nothing non-compositional in their syntax or meaning)”.

1.1.4. When do we use idioms in our speech?

Idioms are not just formulaic expressions; rather, they perform different functions, including various pragmatic functions. Liu (2008) discussed in his book *Description, Comprehension, Acquisition, and Pedagogy* on the operational property of language where he referred to the two operational properties of language principles proposed by Sinclair (1987). He discussed that language functions on two principles which are ‘the open choice principle’ and ‘the idiom principle’. These two principles are complementary to each other.

The ‘open choice principle’ gives relatively more freedom to language users in choosing the words in conversation and puts a restriction only on grammaticality. On the other hand, ‘the idiom principle’ restricts the user from making a word choice because the combination of words in idioms is not random. Language users make the choices of idiom principle in the form of prefabricated phrase (e.g. ‘of course’; invariant in structure) or semi-fabricated phrases (e.g. ‘take something for granted’; permits some structural variations) in registered sensitive circumstances. Such circumstances demand language

users to use context-sensitive idioms, where different idioms will be used in informal and formal situations in both the spoken and written forms of language.

Idioms are used based on the functional components of meaning in language. Scholars like Halliday (1978), Fernando (1996), Moon (1998), and Liu (2008) proposed that idioms are used based on three discourse situations.

- Ideational: It is a situation where the performative function of language is to convey a person's ideas, views, and experience. The idioms used in such a situation will offer information and will be evaluative. As pointed out by Fernando (1996) "Ideational idioms signify message content, experiential phenomena including the sensory, the affective, and the evaluative, or characterise the nature of the message. These expressions may describe actions ('tear down', 'spill the beans'), events ('turning point'), situations ('be in a pickle'), people and things ('a red herring'), attributes ('cut-and-dried'), evaluations ('a watched pot never boils'), and emotions ('green with envy')."• Interpersonal: Such situations are more interactional, where facilitation of the conversation is the discourse situation and maintaining meaningfulness and effectiveness of the conversation is not compromised. Interpersonal idioms are generally idioms showing cordiality, but sometimes idioms of disagreement and conflicts are also used, e.g. 'what's cooking', 'made my day', 'knock it off'. Fernando (1996:73) stated that "Interpersonal idioms can fulfil an interactional function or characterise the nature of the message. They can, for instance, initiate or keep up an interaction between people and maintain politeness. These expressions include greetings and farewells ('good morning'), directives ('let's face it'), agreements ('say no more'), feelers that elicit opinions ('what do you think?'), and rejections ('come off it')."• Textual: Such situations demand some textual moves like summarising or concluding a topic or shifting topic in conversation. Idioms in this category are the idioms that provide textual cohesion and organised information. Halliday (1985) distinguishes relational (or textual) idioms, which ensure that the discourse is coherent, e.g. 'to sum up', 'on the contrary', 'in addition to', 'on the other hand'.

As explained above, idioms can perform multiple functions when used in different contexts. Liu (2008) cited examples from the work done by Moon (1998), who extensively worked on the corpus to signify cross-function behaviour of idioms. One of the examples presented was a discussion on a television show which indicated how the idioms ‘skeleton in the cupboard’ and ‘let the cat out of the bag’ hold an evaluative function which acts as a preface; cited as: “Are there any skeleton left in the cupboard to come out? Has the last cat in the bag been let out?” (Liu, 2008; Moon, 1998). In the discussion on the functional categories of idioms which are more frequently used, Liu (2008) reused the data from Moon’s (1998) work observing that even though idioms denoting information and evaluative uses (ideational function) constitute the majority of idioms (79%), but these are the least used ones.

The corpus-based research in the academic speech where the data was taken from the Michigan Corpus of Academic Spoken English (MICASE) signified that idiom perform various pragmatic functions such as evaluation, description, emphasis, etc. Some examples are provided below.

- Idioms performing the evaluative function in an interactive session in academic discourse (Simpson and Mendis 2003:428)
 - “they would just be like, what are you talking about? you know just, suck it up deal with it hang with it you know and, she_ it really threw her for a loop and she actually um, she came_ she, was in the math department she then chose to transfer to the statistics department (Women in Science conference panel)”
- Idioms performing the descriptive function in an interactive session in academic discourse (Simpson and Mendis 2003:429)
 - “if your thyroid is severely out of whack, it has all the exact same symptoms of depression. (Introduction to Psychopathology lecture)”
- Idioms performing the emphasis function in an interactive session in academic discourse (Simpson and Mendis 2003:430)
 - “mostly in, doing data analysis we’re interested in posing particular questions that’re interesting to us, and we’re not interested in explaining the total variance in our outcome by throwing everything in but the kitchen sink. so, by

looking only at R-square of how good is our model that would be the kind of what I would call the kitchen sink model, and in education data even the kitchen sink model is not gonna do you very well, the_ unless you have, unless your outcome is (Statistics in Social Science lecture)”

1.1.5. Effect of culture on idioms

There exists an inseparable bond between language and culture. The preferred communication is achieved if we make use of appropriate language according to the culture. Kovecses (2002) indicated that the conceptual system of the human mind could be predicted, and the mechanism of understanding the complex expressions could be revealed if we try to understand the underlying conceptual domains of the figurative idioms (motivated by metaphors, metonymy etc.). Kovecses (2002:12) summarised this understanding by defining ‘source domain’ and ‘target domain’, which correspond through ‘mappings’; it is through these that the metaphorical linguistic expressions manifest into conceptual metaphors. There are idioms that are derived from our physical experience such as ‘tʃəhɾa lal hona’ (literal meaning: ‘face becoming red’, figurative meaning: ‘to be very angry’), ‘kʰu:n kʰəulna’ (literal meaning: ‘blood boiling’, figurative meaning: ‘to be very angry’), ‘breathe fire’ (figurative meaning: ‘to be very angry’). The physiological action of getting angry generally makes it feel like there is a rise in the temperature of the human body, which is reflected in the face as it turns red. This experience is universal across cultures, and hence the image of anger is associated with the words related to domains such as ‘fire’, ‘heat’, etc. The idioms related to this concept will not be the exact word-by-word translation in all cultures but will share the same image.

However, it is crucial to note that the idioms derived from specific domains may vary from one culture to another because the domain from which idioms are derived in one culture may not be equally important in another culture. If we take an example of two different cultures like Chinese and American English, we find that American English as a language is rich in expressions for ‘driving’ and ‘sports’, while idioms denoting the metaphorical concepts of ‘eating’, and ‘family’ are more prevalent in the Chinese culture. In American English, personal relationships are expressed using ‘sports’ and ‘business’ metaphors, while the same relationships are conveyed by the ‘family’ or ‘eating’ motivated metaphors in Chinese. For example, in case of disagreement in views,

Americans would like to say, 'I don't buy it.' while a Chinese would say, 'I don't eat it.'. To derive the meaning of an idiom, the easiest way would be to recognise its origin and connections to the culture (and possibly convention). For example, the idiom 'take a back seat' comes from the domain of driving, and once we recognise that, it will be easier to understand sentences like these: 'The students were working well together, so I decided to take a back seat.'.

1.2. The relevance of idioms in language studies

Cacciari and Tabossi (1993) have rightly pointed out in their book *Idioms: Processing, Structure, and Interpretation* that if a logician designed the natural language, the idioms would not have existed. Idioms, being ubiquitous, have become essential linguistic and cultural elements. Idioms are such language components that can make an ordinary conversation or piece of writing more vivid and colourful. That said, figurative forms of language are an essential part of language and cannot be marginalised only as an ornamental piece of any language. Idioms are a driving force to push the limits of human imagination; they are used as a useful tool in day-to-day conversations to explain abstract concepts through a limited number of words. Using idioms can also help in conveying complex ideas and abstract emotions effectively.

Idioms are mostly used unconsciously yet frequently by native speakers of a language in communication. Such broad utility of idioms entails that any natural language cannot be just literal in use. Idiom's structural, semantic, discourse features and constraints reflect the conceptual structures in the human mind. The figurative expressions are mirrors of the culture and convention as they can explain the cognitive structure of a linguistic community. Cacciari and Tabossi (1993) rightly remarked: "These expressions can provide useful information and clues to show how the conceptual and lexical knowledge of a speech community is organised. An example for such a case would be the reference of 'time' in English, where many concepts of the temporal domain are borrowed from the spatial domain".

The theoretical position of figurative expressions has always been a subject of discussion among linguists. The literal form of language has been in the central position, and figurative expressions have been sent to the periphery by limiting its usage as the pragmatic function (Grice, 1975). However, the pervasive nature of idioms is reflected in

the general propensity of speakers to “speak idiomatically unless there is some good reason not to do so” (Searle 1975:75-76).

The inherent disposition of idioms has also been not consistent in the literature. Many scholars have considered them as frozen forms of expressions existing as single units with special referents. As per this hypothesis, idioms are stored in a separate ‘idiom list’ in the mental lexicon of native speakers (as a special entity), and the comprehension process involved would be based on direct memory retrieval of the idiomatic meaning. Some scholars have suggested that the process of meaning retrieval for such representation is defined as: first, the regular compositional analysis fails (literal meaning is a misfit and hence discarded), and then the native speaker explores an alternative option in the exceptional list of idioms.

However, the classification of idioms into an exceptional category oversimplifies the complex aspects of idiom properties and trivialises the idiom acquisition and comprehension challenges faced by language users. Some studies have shown that some idioms are able to tolerate syntactic variations and are valid candidates for compositional analysis and that an idiom’s comprehension may involve two modes of processing: one is regular linguistic processing (compositional analysis) like any other phrase, and the other is direct memory retrieval. The processing module will be activated based on the semantic dimension of idioms (decomposable or non-decomposable). This approach is also questioned by many scholars, and there are other approaches that postulate the simultaneous processing of literal and figurative meaning, where figurative meaning wins the race. Overall, we cannot generalise or put a constraint on all idiomatic expressions as a frozen form or illogical arrangements of word strings with a unique meaning. There are multiple approaches to address the conceptualisation of idioms and the comprehension process or meaning retrieval of idioms.

The above discussion raises a concern that if idioms are so illogical, and the process of its interpretation is so complex and cannot be understood in a usual way, then why are they so pervasive in day-to-day conversation. The findings and empirical evidence so far are not conspicuous to define a concrete model for interpretation of idioms. These representations of the meaning of the idioms, highlighted through multiple behavioural studies on idioms, have fascinated scholars from various areas like semantics, psycholinguistics, cognitive linguistics etc., to understand the complexity of cognition

and conceptual structure of these expressions. Many eminent psycholinguists also challenge the traditional approach of the frozenness of idioms. There is still some pertinent work on adult native speakers and proposals for the processes of idioms comprehension, but there are very few works available that discuss the competence of figurative expression. The work on development of figurative language has gained momentum in the past decade, but much work needs to be done to understand the comprehension pattern in children in their language acquisition phase. All these recent developments in idiom studies have spiked interest among researchers. The different theories on idioms have also been studied widely by language teachers to improve the teaching and learning of these expressions. The prevalence of multiple theories on the representation and meaning retrieval process calls for a more comprehensive and inclusive study that can address these issues.

1.3. The significance of the present study

As discussed in the previous sections, the comprehension of idioms in adult speakers is quite extensively explored through experimental research. There are different approaches and theories of idiom comprehension, which discuss various dimensions of idioms that need to be considered while building a comprehension model of idioms. However, children's competence in figurative language has not been explored much until recently. The study of children's competence of figurative expressions in Hindi in a bilingual/multilingual setting has not been explored in detail so far.

The literature on the idiom comprehension models primarily discusses the monolingual settings, and the dominant work has been done on English and few other languages (Gibbs, Nayak, and Cutting, 1989; Cacciari and Levorato, 1989, 1998; Cacciari and Glucksberg, 1990; Nunberg, Sag, and Wasow, 1994). These studies discussed the competence of L2 language learners and considered English as the second language. There is also no consensus on the age of development of the figurative language competence in children. Some studies indicated that idiomatic competency does not develop in children even by the age of 10 years, while others, for example, Levorato (1989), pointed out that children can display idiomatic competence even from the age of 7 years when presented in an information-rich context.

In the last few decades, psycholinguistic theories have tried to resolve the issues of language comprehension mechanisms and language processing. Regarding figurative acquisition and competence, the studies are divided primarily into two different approaches. Some scholars believed that different language processing skills are involved in literal and non-literal language comprehension, while others argued that non-literal language is processed similarly as literal language and does not require any special mechanism in figurative language comprehension. Levorato et al. (1989, 1998) had done extensive research on figurative language competence and proposed that developmental studies and evidence from these studies would be resourceful in detangling these theoretical differences.

The other concern in non-literal language competence was that some scholars (Searle, 1976) believed that younger children first analyse the idiom literally and then reject the literal meaning, while others (Vosniadou and Ortony, 1983) believed that figurative interpretation is quickly resolved without computing the literal meaning. The other issue widely discussed in the literature is that younger children interpret idioms literally. Therefore, it is not conclusively established whether figurative expressions require a separate language processing mechanism.

Many psycholinguistic studies have questioned the literalness of idiomatic expressions and have opened the window of opportunity to understand the developmental trends of figurative expressions. The developmental studies on idioms can provide insights to understand the nature and properties of idioms. This study is a significant step towards examining how children at certain stages develop the competency to go beyond the literal strategy of interpretation (word-by-word derivation of the meaning of a phrase) in any language and assign a wholly different or an extended sense that may be figurative.

Another key reason for pursuing this study was that there is hardly any attempt made to investigate the developmental trend in Hindi idioms by considering the semantic properties of idioms. A comprehensive study that can thoroughly investigate the idiomatic expressions, the various characteristics of idioms, developmental trends of figurative competence in children, and children's cognitive abilities to understand the figurative forms of language in totality is missing in the literature. Through our study, we will be able to trace the progression of competence of idioms, children's awareness of suspension of literal strategy, and adaptation of the inferential strategy. We also check on the

development of world knowledge which aids in building idiomatic competence in children, and the realisation that lexical items do contain secondary meanings which are figurative in nature and are often used in discourse.

Studies conducted on adult speakers have discussed various issues, and one among those is the role of literal meaning in idiom comprehension. Some studies have proposed that an idiom's literal meaning has no relevance in the process of arriving at the idiomatic meaning, while others discarded the theory of irrelevance of literal meaning in idiom's comprehension (Cacciari and Tabossi, 1988; Gibbs, Nayak and Cutting, 1989), i.e. they find it worthwhile to pursue an investigation into the role that the literal meaning of an idiomatic expression plays. However, there are few studies that discuss the role of the literal meaning of idioms in language acquisition literature.

Another key aspect that is often under-explored is understanding the types of comprehension and production errors made by children while they are still finding their way around the literal meaning of the idiomatic phrase. Errors can also provide an insight into the role of literal meaning in deciphering an idiomatic phrase and help us understand the types of error in different categories or types of idioms. The types of error produced can also provide a vivid picture of the phases in language development in children. They can indicate the cognitive as well as language development in children and the ways to enhance idiomatic understanding in children during the course of their language learning.

1.4. The objective of the study

The present work is a step to understand the competency of idiomatic expressions in children while also touching upon the comprehension of different types of idioms (with varying characteristics) in adults. The discussion point of the work is to develop a deeper understanding of the different properties of idioms, to identify the different possible classifications or categories of idioms, to get insights into the comprehension patterns of idiomatic expressions in adults (native speakers) and children (language learners), and to recognise an age by which there is a reasonable development in understanding the figurative forms of language, i.e., the age at which children start comprehending and producing figurative expressions correctly.

The study also aims to investigate how the different characteristics of idioms can affect the interpretation of idioms in children. The properties of semantic transparency, usage frequency, literalness, and familiarity of idioms are the focal points of this study, with the emphasis on developing an understanding of how these properties affect the idiom comprehension process in adults (native speakers) and children (language learners). The incorporation of these linguistic domains can pave the way to develop an enhanced comprehension model of idiom acquisition. The study finally aims to gather invaluable insights about the idiom comprehension and production processes and to outline an approach towards how idioms can be taught in any curriculum to language learners.

1.5. Research questions

In this thesis, we have conducted exploratory studies on adult native speakers and behavioural experiments on children in their language learning phase to develop an understanding corresponding to the following research questions.

1. What are the critical properties of idioms that affect comprehension of idioms and can be used to classify or categorise idioms?
2. Does an idiom's compositionality have an impact on the ease of idiom comprehension? Does the usage frequency and the meaning familiarity of idioms also contribute to the idiom comprehension process? Among usage frequency and decomposability, which is the dominant or critical factor?
3. Does idiom comprehension involve a literal meaning analysis, or is idiomatic meaning retrieved directly, without even considering the literal meaning as a valid possibility? What is the role of the literal meaning, and the plausibility of it, on idiom comprehension?
4. During the comprehension process, at any stage before an idiomatic expression is completely read (or heard), does it get recognised as an idiom?
5. Which properties of idioms facilitate the comprehension and production of idioms in children?

6. What are the types of errors made by children during the processes of idiom comprehension and production? What can be the possible inferences from these errors?
7. How do the idiom comprehension and production skills of children evolve in their language learning phase? Is there a specific phase or age where substantial growth in idiomatic understanding (comprehension and production) is observed?
8. How do the idiom comprehension and production skills in children vary for the various categories of idioms? Which idioms are easier to comprehend or produce, and which are the most difficult?
9. Can there be any improvements in the way idioms are taught in schools in order to enable the children to develop a better figurative competency (expertise in comprehension and production of idioms)?

1.6. Organisation of the thesis

There are seven chapters in this thesis; following is the brief outline. Chapter 1 explains the relevance of this work, and discusses the objectives and research questions.

Chapter 2 reviews the major research trends that deal with the comprehension, processing, and acquisition aspects of idioms. This chapter is divided further into three sections to address the issues pertaining to the field of research of idioms and present a summary of some of the work done by linguistic scholars to date. We begin with a discussion on the definitions, characteristics, classification, and other vital aspects like compositionality and arbitrariness of idioms. The second section deals with the comprehension and processing elements, and the last section discusses the acquisition aspect. We have also discussed the need to develop a comprehension model which could consolidate on the strengths of the work done in this area while addressing the gaps or drawbacks associated with the theories when presented in isolation.

Chapter 3 discusses the methodology used in our study. The preparatory work for data collection is discussed in detail in this chapter. An overview of the methodology used for the empirical studies on adult native speakers and children is also presented in this chapter.

Chapter 4 discusses the objective, method, analysis, and results of the empirical study on adults who are native speakers of the Hindi language. The empirical study presented in this chapter helps us establish the categories of idioms confidently and to ascertain idiom characteristics, using which we can understand the underlying factors influencing the comprehension of idioms. This study also helps us design further experiments to assess the comprehension of idioms in children. The survey on adults has also indicated a few interesting findings that can further be studied to develop an enhanced idiom processing model for adult language users.

Chapter 5 examines the figurative language competency of children, particularly concerning their ability to comprehend idioms. We conducted an MCQ (multiple choice questions) test with idioms provided in a sentential context. Based on this study, we attempt to arrive at comprehension patterns in children and relate the insights to the observations made in Chapter 4, where we explored the idiom comprehension in native adult speakers.

Chapter 6 is an extended study of Chapter 5, which discusses the two production tasks, ‘picture identification’ and ‘fill in the blanks’, conducted to understand the ease of production of idioms by children. We also try to understand if the idiom comprehension and production abilities increase significantly at any particular age of children in their language learning phase.

Chapter 7 concludes the thesis with a summary of the work done and a discussion on some of the key findings and insights we gathered throughout the course of this study. We also outline the practical applications of this study and provide direction for future research in the area of idiom acquisition.

1.7. Summary

This chapter sets the base for our study to discuss and understand different dimensions of idioms, the distinction of idioms from other figurative forms of language, and the further need to explore the study on idioms and make them an indispensable aspect of language studies. By doing so, we have raised a concern regarding the reason psycholinguistic studies on idioms are so crucial and qualify as valuable research in the present scenario. The relevance of this study was also discussed, which establishes how this work can add value to the existing body of acquisition studies.

The present work briefly explores the patterns in the comprehension of idioms by native speakers of the Hindi language to ascertain the underlying factors that aid idiom comprehension. The exploratory study on adults is a precursor to the idiom comprehension and production studies on children which focus on understanding the development of figurative competence in children brought up in a linguistic environment with Hindi as the mother tongue. The studies on children are conducted as behavioural experiments focusing on idiom comprehension and production tasks.

Chapter 2: Review of Literature and Theoretical Foundations

2.1. Introduction

Idioms and other forms of figurative language have been a central point of multiple linguistic and psycholinguistic studies. Over the last few decades, a considerable number of linguists have attempted to demystify the puzzling aspects of idioms. Whether it be because of the close association with culture and convention or because of their form and structure or because of the conceptualisation, idioms are one of the most intriguing and challenging forms of figurative language competence. So much so, a language learner cannot claim a firm grasp on any language without being proficient in using idioms and other forms of figurative forms prevalent in that language. In this chapter, we have discussed the studies conducted on idioms from the linguistic and psycholinguistic points of view.

The present chapter is broadly divided into four sections, where we have reviewed the relevant literature and current research in the disciplines of general linguistics and psycholinguistics. In these sections, we have reviewed and presented the studies from the literature that discuss the definition of idioms, question the traditional view of idiomaticity, identify idiom categories and their characteristics, and present empirical evidence and hypothesis. Further, the studies presented define the comprehension process and processing of idioms in adult L1 speakers and the overall language acquisition process. We have also discussed theories that deal with cognitive development in children and offer different perspectives on idioms' acquisition and interpretation mechanisms in children. Moreover, we have also reviewed the studies that indicate the factors that can influence comprehension in adults and children to varying degrees.

The first section captures the general understanding of idiomatic expressions. This encompasses a discussion on the definitions of idioms, where the works done by multiple scholars to define idioms, idiomaticity, characteristics of idioms, classifications of idioms, etc are explored. The second section deals with the psycholinguistic studies, where theories of idioms and their representational and processing models of native language users are discussed. The third section of the chapter is dedicated to the literature

exploring a psychological model for cognitive development (Piaget's model) in children, empirical evidence on the acquisition model, and comprehension pattern of idioms in children. The fourth section deals with the linguistic factors that can influence the comprehension of idioms in adults and children. We conclude the chapter with a discussion on some of the questions emerging from our review of the literature on conceptual architecture and language-cognition interface.

2.2. Defining idioms

The word idiom dates back to the latest sixteenth and early seventeenth century. As elaborated in the *Online Etymology Dictionary*, the source of the word 'idiom' is "Middle French 'idiome', Late Latin 'idioma' for 'a peculiarity in language', Greek 'idioma' for 'peculiarity, peculiar phraseology', 'idioumai' meaning 'to appropriate to oneself' and 'idios' for 'personal, private', properly 'particular to oneself'". Throughout the literature, linguists have not reached a consensus on its definition, and hence we present the views of some established scholars and their different perspectives on the definition of an idiom.

2.2.1. Smith (1923, 1925)

Smith (1925:277) talked about idioms as the life and spirit of language. He recognised idioms as special expressions of language where the resultant meaning is not the outcome of the compositional functions of the constituents. However, he did not make this the distinguishing property of idiomaticity. His categorisation of idioms was grouped based on 'thematic groups'. He gave very comprehensive lists of idioms relating to the sea, the military, hunting, cattle, sheep, swine, birds, woods, and trees, etc.; and assigned a central place in this categorisation to body part idioms and verb-particle combination (phrasal verbs). In his own words:

- "Hitherto, indeed, I have but skirted the fringe of my subject; the real heart of idiom is to be found in two special classes of idiomatic phrases, which are closely connected with each other. The first of these great sources of idiom is nothing less than the human body itself. About almost every external part of the human body, the head, the face, and all its features, the arms, the hands, the fingers, the legs and feet and toes, and even the heart, the bones, blood and breath within the body, cluster con-stellations

of phrases and figures of speech which are so numerous that it would require much more space than is at my disposal to print them all” (Smith 1923:44).

- “Equally vivid, and infinitely more numerous, are the idioms derived from what I have called ‘phrasal verbs’ - verbs in which a preposition or adverb follows the verb, and is often placed at some distance from it” (Smith 1923:45).
- “Idioms like ‘on the rocks’ or ‘under a cloud’ are visual images; phrasal verbs like ‘to pull through’, ‘to keep up’, are kinesthetic metaphors, arousing imagined sensations of muscular effort. These verbs of motion and effort possess so protean and self-multiplying a power of entering into combinations, and throw off idioms in so kaleidoscopic a variety that, compared with the other inert elements of our vocabulary, they seem to possess, like radium, an inexhaustible store of life and energy” (Smith 1923:46).

2.2.2. Hockett (1958)

Hockett (1958) proposed the broadest definition of idioms. In his view, any element of a language, including phrases and clauses (e.g. ‘What’s up’), words (e.g. ‘worked’, ‘telephone’), and even single and bound morphemes (e.g. ‘work’, ‘ed’, ‘tele’, ‘phone’) can be categorised as idioms if their meaning cannot be deduced from the structure. He claimed that the raw materials from which we build utterances could also be referred to as idioms. According to him, context is the crucial variable that leads the listener to identify and interpret a given expression is idiomatic or not. However, Hockett’s definition is too broad and labels simply too many language items as idioms, hence limiting the practical value of this definition.

2.2.3. Katz and Postal (1963)

Katz and Postal (1963:275) pointed out that: “The full meaning [of an idiom], and more generally the meaning of any sentence containing an idiomatic stretch, is not a compositional function of the meanings of the idiom’s elementary grammatical parts”. They considered polymorphemic words such as ‘greenhouse’ and ‘telescope’ as idioms. They further classified idioms as ‘lexical idioms’ and ‘phrase idioms’. Idioms made up of polymorphemic words are ‘lexical idioms’ (e.g. ‘greenhouse’, ‘telephone’), and those consisting of multiple words are ‘phrase idioms’ (e.g. ‘kick the bucket’). They also

differentiated these two categories in the context of their structure, productivity, and representation in the speaker's mind.

Table 2.1: Katz and Postal – classification of idioms

Aspects	Lexical idioms	Phrase idioms
Structure	Belong to the lowest syntactic categories (noun, verb, adjective etc.)	Belong to the highest syntactic categories (phrases, clauses, and sentences)
Productivity (based on generative-transformational approach)	Productive	Not productive and transformation-permissible e.g. 'eat one's mouth' cannot be passivised without losing the idiomaticity of the expression
Mental Representation	Registered as a lexical item along with other individual words e.g. 'greenhouse', 'telephone'	Registered separately in an idiom list because of dual representation of meaning i.e. either composite meaning idiomatic meaning or literal meaning from its syntactic elements. e.g. 'kick the bucket' Literal meaning: 'kicking the bucket' Composite meaning: 'to die'

2.2.4. Healey (1968)

Healy (1968) described an idiom as a functional unit, which is a group of words and has a different meaning than that of its constituents. He formulated three operational tests to identify idioms, as mentioned below:

1. The substitution or replacement test whereby any morpheme replaceable by another is identified as a non-idiom.
2. Once all non-idiomatic parts, if any, are shorn off, a suspected idiom can be further subjected to a predictability test.
3. The third test of idiomaticity is to expose an expression that has been tested by means of (1) and (2) to allow any number of transformations permitted by its internal structure.

2.2.5. Weinreich (1969)

Weinreich (1969) also defined an idiom as “a complex expression whose meaning cannot be derived from the meanings of its elements”. His definition was more practical and narrower than Katz and Postal (1963) as single polymorphemic words like ‘telephone’ and ‘greenhouse’ do not qualify the category of idioms. He considered only multiword expressions like ‘pull someone’s leg’ as idioms because such expressions are ambiguous and possess both literal and figurative meanings. He even disqualified expressions like ‘by and large’; ‘assets and liability’; ‘two wrongs do not make a right’ as idioms because these expressions either lack ambiguity by not possessing a valid literal meaning, or by the constituent words not having any real tendency to form a coherent and valid phrase. He considered these expressions as stable collocations.

2.2.6. Fraser (1970)

Fraser (1970) defined idioms based on the degree of their variability when subjected to various transformations. Some idioms may allow more transformations without losing their meaning, while others restrict these. He had investigated particularly on the syntactic frozenness of idioms and also employed a generative-transformational approach to examine the transformational potential of idioms, according to which idioms were classified on a six-point scale referred to as ‘Frozenness Hierarchy’.

The Frozenness Hierarchy ranges from the completely frozen idioms to the free collocations. Less variation implies the syntactic frozenness of the expression and can be termed as ‘fixedness’ or ‘invariability’ of the expression. He also had an important observation in his Frozenness Hierarchy by stating that “any idiom marked as belonging to one level is automatically marked as belonging to any lower level” (Fraser 1970:39). This observation suggests that if an idiom marked, for example, allows a transformation to level L3-Permutation, then it will also allow all the transformations included in the lower levels, which is levels L2-Insertion and L1-Adjunction. Although there is a lack of empirical evidence in its support, this work inspires further research into the lexical flexibility of idioms.

Table 2.2: Fraser's Frozenness Hierarchy

Scale	Idioms	Transformation(s)	Transformed idioms
L6-Unrestricted	No idioms can permit this level of variation, any phrase permitting these is just a regular phrase conveying the literal meaning. e.g. 'Go to a shop'	-	-
L5-Reconstruction	e.g. ' <u>Lay</u> down the law'	Nominalisation of verbal idioms	e.g. ' <u>Laying</u> down the law'
L4-Extraction	e.g. 'Hit the nail on the head' Sample sentence: His father <u>hit the nail on the head</u> when he advised him to be more disciplined.	Passive transformation	By giving an advice to be more disciplined, <u>the nail was hit on the head</u> by his father.
L3-Permutation	To bring the <u>house down</u>	Reshuffling the constituents (indirect object movement as L2 level but the idioms contains both direct and indirect object) Particle movement	To bring <u>down the house</u>
L2-Insertion	To lend <u>a hand</u>	Placing an additional component into the idiomatic expression, such as adding indirect object to an idiom which does not contain one, or adding additional adverb or adjective	To lend <u>a helping hand</u>
L1-Adjunction	<u>Burn the candle</u> at both ends	Gerundive nominalisation transformation	<u>Burning of the candle</u> at both ends
L0-Complete frozen	<u>Kick the bucket</u>	Completely frozen (no transformations possible without losing meaning)	<u>Kick the bucket</u>

Cutler (1982) studied Fraser's hierarchy to check whether syntactic frozenness could be correlated with the time period that the idiom had occurred in a language, and observed that "those idiomatic expressions which are least susceptible to syntactic operations are also those which have been in use in the language in their idiomatic form for the longest time". Her study showed that the frozenness and 'age of an idiom' do not correlate completely, but she observed a tendency of the older idioms to be more frozen. In her paper, she discussed two reasons for such a tendency.

- a) "Syntactic freezing of an idiom happens over a long period of time spanning centuries. For example, idioms like 'build castles in the air' (Fraser's level 0) was used in the passive form in 1575 and 1630 as per the Oxford English Dictionary" (Cutler 1982:319).
- b) "An idiom becomes syntactically frozen when its meaning is no longer apparent because its original literal reference has become concealed or obsolete over time. For example, 'let off steam' belongs to Fraser's level 0 because nowadays we travel by horseless carriages and electrified railways" (Cutler 1982:319).

2.2.7. Makkai (1972)

Makkai (1972) identified two types of idioms: idioms of 'encoding' (phraseological idioms) and idioms of 'decoding' (semantic idioms). He also talked about the dual system of idioms, 'lexemic' and 'sememic'. Lexemic idiom (mostly phrasal) consists of more than one word, but its meaning is not the cumulative sum of the meanings of its parts (e.g. 'kick the bucket'). In contrast, sememic idiom (mostly sentential) is a multiword expression, the meaning for which is derived from its constituent lexeme (e.g. 'do not put all eggs in one basket'). He considered polymorphemes as idioms, but in his definition, polymorphemic words should consist of at least two free morphemes to qualify as an idiom. The polymorphemes 'telephone' does not qualify as an idiom as it contains one bound morpheme or an affix ('tele') and one free morpheme ('phone'). He disqualified expressions like these as idioms because he believed that speakers could reasonably deduce the meaning of expressions like 'telephone' from their constituents by applying a set of morphological rules, i.e., deducing first the bound morpheme and then the affix attached to it. He insisted that the meaning of an idiom cannot be derived from its components. By knowing the prefix 'tele', one can easily predict the meaning of the word

containing it. Expressions containing two free morphemes like ‘blackmail’ do not give such scope to the speaker as the overall meaning of ‘extortion’ cannot be derived from the two free morphemes (black and mail).

Makkai’s criteria for identifying an expression as an idiom were:

- Presence of at least two free morphemes.
- The ability of these morphemes to adopt different meanings.
- Ambiguity in decoding arising from the possibility of literal interpretation.
- Semantic unpredictability because of the idiomatic meaning being implausible from its components.

Table 2.3: Makkai’s list of lexemic and sememic idioms

Makkai’s list of lexemic idioms (1972:135-172) consists of: ¹	Makkai’s list of sememic idioms (1972:172-179) consists of: ²
• Phrasal verbs (structures consisting of a verb plus particle); e.g. ‘come across’, ‘make up’, ‘turn out’, ‘bring up’, etc. • Tournures (structures each made up of a verb plus at least two lexons); e.g. ‘bite the bullet’. • Irreversible binomials (structure each composed of two nouns in a fixed order); e.g. ‘friend or foe’, ‘pepper and salt’, ‘coffee and cream’, etc. • Phrasal compound (compound nouns and adjectives); e.g. ‘high-handed hot dog’, ‘blackmail’, ‘high-handed’, etc. • Incorporating verbs (compound verbs); e.g. ‘brainwash’, ‘manhandle’, ‘boot-lick’ etc. • Pseudo-idioms (compound verb or phrases in which one of the constituents is a cranberry morph); e.g. ‘chit-chat’, ‘kith and kin’, ‘to and fro’, etc.	• Proverbs; e.g. ‘don ‘t count your chickens before they are hatched’. • Familiar quotations; e.g. ‘brevity is the soul of wit’. • ‘First-base’ idioms associated with a national game like baseball; e.g. ‘have two strikes against one’, ‘never to get to first base’. • Idioms of ‘institutionalised politeness’; e.g. ‘may I . . . X?’ (with interrogative intonation) for ‘I want to ... X’, or ‘may I ask who’s calling?’ for the imperative ‘identify yourself’. • Idioms of ‘institutionalised greeting’; e.g. ‘how do you do?’, ‘so long’. • Idioms of ‘institutionalised understatement’; e.g. ‘I was not too crazy about him’. • Idioms of ‘institutionalised hyperbole’; e.g. ‘he won ‘t even lift a finger’.

¹ The classifications and examples of lexemic idioms are taken from the paper ‘Criteria for Redefining Idioms: Are we Barking up the Wrong Tree?’ by Grant and Bauer (2004:40-41)

² The classifications and examples of sememic idioms are taken from the paper ‘Criteria for Redefining Idioms: Are we Barking up the Wrong Tree?’ by Grant and Bauer (2004:41)

2.2.8. Fernando (1996)

Fernando (1996:30) defined idioms as “indivisible units whose components cannot be varied, or only varied within definable limits”. She highlighted structural variance (the lack of it) as the identifying attribute of an idiom, mentioning that “only those expressions which become conventionally fixed in a specific order and lexical form, or have only a restricted set of variants, acquire the status of idioms and are recorded in idiom dictionaries” (Fernando 1996:31). She classified idioms based on their structural variance as ‘invariant idioms’ and ‘idioms of restricted variance’. As the definition based only on variance is too broad, she considered semantic transparency as another defining characteristic of idioms. Based on the transparency in meaning, she postulated that idioms are of three kinds: ‘pure’ (non-literal), ‘semi-literal’ and ‘literal’.

2.2.9. Moon (1998)

Moon (1998) referred to idioms as multiword expressions that are typically ambiguous in nature and have figurative meaning or connotation associated with them. However, she also called out the practical limitations of clear separation between ‘fixed expressions’ and ‘idioms’ rather than resorting to the usage of the terms FEIs (‘fixed expressions and idioms’). Moon (1998) discussed the following expressions: “various kinds of phrasal lexemes, phraseological units, or multiword lexical items (i.e., frozen collocations, grammatically ill-formed collocations, proverbs, routine formulae, sayings, and similes)”. She classified idioms into three major categories: anomalous collocations, formulae, and metaphors. Her corpus-based study of fixed expressions and idioms in English was very comprehensive, but it was based on exclusively written texts, with more than two-thirds of them being from journalistic writing.

2.2.10. Grant and Bauer (2004)

Grant and Bauer (2004) further restricted the definition of idioms by considering only those expressions as idioms that are non-compositional, i.e. their meaning cannot be derived through a compositional analysis. Remarkably, as called out in their paper, they did not consider those expressions with figurative meanings as idioms, for which there is an untruth or implausibility associated with their literal meaning. Such expressions are considered as MWUs (multi-word units) but not idioms because the associated untruth forces a reinterpretation based on pragmatic competence and not based on linguistic

competence. As they mentioned, their definition “leaves out of account, for example, an important group of expressions which have figurative meanings (in terms of the whole combination in each case) but which also keep a current literal interpretation” (Grant and Bauer 2004:58). However, this definition seems to be too narrow, as can be understood from the fact that they conducted their research on 19 widely accepted English idioms and did not pass any of those to be idioms as per their definition.

2.2.11. Remarks on the definitions provided

As discussed in the previous sections, linguists over time have presented diverse views about idioms, with their unique perspectives converging to the following three basic criteria in identifying idioms:

- 1) Non-compositionality - Individual components of an idiom do not often add to the idiom’s meaning, i.e., the idiomatic meaning is not derivable from its components.
- 2) Structural variance or frozenness - Idioms show rigid structure, i.e. some of them are completely invariant, but others allow some restricted variance through transformations.
- 3) Multiword expressions - Idioms are multiword expressions consisting of at least two words (which may include compound words also).

2.2.12. Fundamental properties of idioms

As the logical next step towards understanding idioms, we discuss next the orthogonal properties of idioms. Nunberg et al. (1994:491-492) distinguished the idiomatically combining expressions (ICEs), e.g. ‘pull strings’, from idiomatic phrases (IPs), e.g. ‘kick the bucket’, and proposed that though ICEs may be conventionalised expressions, their meaning is ‘distributed among their parts’. They added that the idiomatic phrases ‘do not distribute their meanings to their components’. They discussed that the prototypical idioms like ‘kick the bucket’ and ‘spill the beans’ exemplify some of the orthogonal properties of idioms. Following are the characteristics pointed out by Nunberg et al. (1994:492-493).

- **Conventionality:** Idioms are conventionalised expressions based on certain conventions that are closely associated with a culture or language community. Such

conventionalisation can be unique to a culture or can span across multiple cultures. Hence, the meaning or even the correct usage of all idioms cannot be predicted without understanding the associated convention. Conventionality seems to be a constant property more or less uniformly applied to all idioms. Apart from this, none of the properties discussed below is applied obligatorily to all idioms.

- (In)flexibility: Idioms can exist only in certain restricted syntactic structures and undergo only a finite set of syntactic variations or transformations. E.g. ‘break a leg’ → * ‘a leg was broken’.
- Figuration: Idioms typically exist in figurative forms, like metaphors (‘take the bull by the horns’), metonymies (‘count of heads’), hyperboles (‘not worth the paper it’s printed on’), or other kinds of figuration. When such expressions are encountered, the language user can sense that some form of figuration is playing a role; however, it is difficult to understand why ‘shoot the breeze’ means ‘to have a conversation’. Although the symbolism is not always obvious, these figurative forms surely act as a tool to guide the language user to the intended meaning (Gibbs, 1985, 1990).
- Proverbiality: Some idioms are motivated through proverbiality, which represents the conveying of abstract concepts and social situations through relatable and defined actions. For example, a new group of individuals not opening up to each other is a typical social situation. ‘Overcoming the awkwardness or hesitation to connect’ is conveyed through a simple, relatable action of ‘breaking the ice’, where the word ‘break’ relates to ‘changing a mood or tense atmosphere’, while ‘ice’ relates to ‘social tension’. Such proverbiality, which invokes a metaphorical model, is often identified in idioms as a discursive function.
- Informality: Like other proverbial expressions, idioms are typically associated with relatively informal or colloquial registers and with popular speech and oral (spoken) culture. Such association with colloquial language increases the realism and association with the culture.
- Affect: Idioms are typically used to imply a particular evaluation or affective stance towards the things they denote. This property is more pronounced in the case of idioms conveying psychological concepts; for example, ‘to lose sleep over’ something implies ‘to be extremely worried about’ something.

2.3. Idiomaticity

Idiomaticity is the characteristic or quality of idioms that measures their idiomatic nature, i.e. it is the scale that measures the figurative meaning relationship of the idioms to their literal constituents and describes the fixedness of the expression. Hence, it is a measure of how much ‘idiom-like’ an idiom is; “idioms and idiomaticity, while closely related, are not identical” (Fernando 1998:30). Linguists categorised idioms based on the property of metaphoricity and frozenness. The property of metaphoricity of an idiom is the scale that measures semantic intelligibility. Frozenness of idiomatic expressions is the degree of grammatical variation that an idiom can survive without losing the idiomatic meaning as discussed in Fraser’s (1970) Frozenness Hierarchy. The formal approach to defining an idiom emphasises the rigidity of idioms, i.e. the more rigid an expression, the more idiomatic it is considered.

Earlier studies, which concentrated on the form of idioms, considered idioms as ‘dead metaphors’ with undetectable origins and having arbitrary figurative meaning. This view implied that the meanings of idioms were memorised with no connection between the form and the meaning. Recent studies have argued against this by suggesting that the meaning of idioms cannot be referred to as completely arbitrary, and there exist varieties of idioms that are very much alive (Gibbs, 1980, 1984; Lakoff, 1987; Kovecses and Szabo, 1996). Hence, the definitions of idioms are based on the degree of tolerance of grammatical variations and the varying degrees of transparency that idioms exhibit. A simpler approach to look at idiomaticity would be semantic analysability, but this is the primary concern and issue for comprehension.

2.3.1. Arbitrariness of idioms and idiomaticity

The ‘Principle of Arbitrariness’ (Saussure, 1916, 1975) and the ‘Principle of Compositionality’ are the two principles that form the core of the linguistic theories on idioms. The ‘principle of arbitrariness’ holds that the relation between a word (signifier) and its meaning (signified) is arbitrary. The meanings of such words need to be arbitrarily stipulated in memory; the meanings of phrases and sentences do not. According to the morpho-syntactic rules of the language, the meaning of phrases and sentences is derivable by compositional analysis of the meaning of its constituent words. Idioms like ‘kick the bucket’, ‘to hold all the aces’, ‘to speak one’s mind’, ‘to miss the boat’, etc., refute this.

Indeed, lack of compositionality has generally been considered an essential property of idioms and a good indicator of idiomaticity. The old school scholars widely recognised idioms as figures of speech and a component of language which are fixed expressions and non-compositional, where their figurative meanings are not functions of the meanings of their individual parts (Aitchison, 1987; Bobrow and Bell, 1973; Brooke-Rose, 1958; Chomsky, 1965, 1980; Cooper, 1986; Cruse, 1986; Fraser, 1970; Jakendoff, 1975; Kats, 1973; Long and Summers, 1979; Makkai, 1972; Strassler, 1982; Weinreich, 1969). A semantic analysis of the idiom ‘kick the bucket’ may never produce the meaning ‘to die’. The literal meaning of the expression refers to the act of striking a bucket with the foot, but it is unlikely for native speakers to use this expression in its literal form.

Such observations led the scholars to conclude that an idiom’s meaning cannot be derived from its constituents. The scholars drew a fundamental distinction between literal and figurative language. Idioms were treated as ideal lexical items whose meanings are not compositionally derived or pragmatically inferred but are simply arbitrarily stipulated in memory and retrieved as a unit in interpretation. They further added that figurative meaning must be learnt as a whole unit. Following are the views proposed by eminent linguists who believed idioms as fixed expressions that lack compositionality:

1. “These are idiomatic in the sense that their meaning is non-compositional.” (Chomsky 1980:149).
2. “Idioms... do not get their meanings from the meanings of their syntactic parts.” (Katz 1973:358).
3. “The traditional definition of an idiom states that its meaning is not a function of the meanings of its parts and the way these are syntactically combined; that is, an idiom is a non-compositional expression.” (van der Linden 1992:223).
4. “The essential feature of an idiom is that its full meaning...is not a compositional function of the meanings of the idiom’s elementary parts.” (Katz and Postal 1963:275).
5. “I shall regard an idiom as a constituent or series of constituents for which the semantic interpretation is not a compositional function of the formatives of which it is composed.” (Fraser 1970:20).

There are two types of evidence in favour of idioms as lexical items. First, behavioural studies have indicated that idiomatic strings are processed considerably faster than literal strings of the same length. For example, the idiom ‘spill the beans’ can be understood faster than the literal phrase ‘reveal the secret’. “An idiom is understood faster when processed in the context in which its idiomatic meaning is intended than when processed in a context in which its literal meaning is intended (e.g. ‘kick the bucket’ is understood faster when used to mean ‘die’ than when used to mean ‘hit a pail with one’s foot’).” (Gibbs, 1980; Ortony et al., 1978).

Second, in assuming that a single semantic representation is assigned to idioms as a whole and not to their components, traditional scholars expected idioms to behave linguistically as lexical items and so not to allow internal transformation (Chomsky, 1980; Cruse, 1986; Fraser, 1970; Katz, 1973). Although the assumption that idioms are lexical items with no internal composition has been deeply rooted in linguistic research for years, modern researchers in linguistics have questioned this characterisation of non-compositionality and frozenness. Some idioms are syntactically flexible; one such example is the idiom ‘let the cat out of the bag’, which appears in both active and passive forms. For example, ‘Who let the cat let out of the bag? It was let out by old George, of course.’ The other instance of syntactic flexibility would be a replacement of the constituents and internal transformation. For example, ‘spill the beans’ → ‘He did not spill a single bean’. Another example is, ‘pull the strings’ → ‘Many strings were pulled but he was not elected’. ‘The strings he said he would pull for you’.

The transformational capacity of idioms seems to range from minimal morphological variation (e.g. tense marking, ‘he kicked the bucket’) to almost full syntactic flexibility. The theory of idiom transformation assumes that different syntactic rules apply to different idioms, as discussed in the idiom’s hierarchy framework (Fraser, 1970). The difficulty in accounting for the syntactic versatility of idioms has led to consider the phenomena that idioms are semantically motivated. For instance, Newmeyer (1972) proposed that idioms have the same semantic structure as their equivalent literal paraphrases and that this influences their syntactic behaviour. According to him, an idiom like ‘kick the bucket’ does not passivise because the verb ‘die’ is intransitive. ‘Spill the beans’ can passivise because the verb ‘reveal’ is transitive and allows passivisation. Idioms can be paraphrased in many ways, and two idioms with similar meanings may have very different syntactic behaviour. ‘Kick the bucket’ and ‘give up the ghost’ can be

roughly paraphrased as ‘die’, but the latter idiom allows passivisation without disruption of idiomatic reading, while the former one does not.

2.3.2. Compositionality or analysability of idioms

Many scholars have studied compositionality as one of the critical aspects of the comprehension studies of idioms. Broadly, most scholars refer to compositionality as the degree to which an idiom’s meaning is related to its components. Nunberg et al. (1994) suggested that compositional analysis happens in a post hoc way, i.e. literal word meanings of the expression are mapped to components of idiomatic meaning after the idiomatic meaning is known. However, multiple theories talk about the competing processes between compositional analysis and memory recall during comprehension. Titone and Connine (1999:1671) observe that: “Given that word meanings are always activated during idiom processing (e.g. Cacciari and Tabossi, 1988; Titone and Connine, 1994a), component words of idiomatic sequences may contribute substantially to the construction of idiomatic meanings (as they would for inherently compositional or transparent idiomatic combinations) or a minimal semantic contribution to the construction of idiomatic meanings (as they would for less compositional or transparent idiomatic phrases).”.

According to the compositionality frameworks, idioms tend to fall under a heterogeneous class lying along the continuum of compositionality or analysability, varying in the extent to which their individual parts have identifiable idiomatic referents (Nunberg, 1978; Wasow et al., 1983; Nunberg et al., 1994; Baldwin et al., 2003). The degree of compositionality of idiomatic strings is believed to play a significant role in the linguistic behaviour of these expressions. Many studies in idioms-related research, especially by Nunberg (1978, 1994), Gibbs and Nayak (1989), Gibbs (1992), have proposed that the compositionality of idioms varies to the degree where the literal meanings of an idiom’s constituents contribute or do not contribute, to the overall figurative sense. For some idioms, such a relationship may be direct and obvious, e.g. ‘save your skin’. For another set of idioms, the constituents may metaphorically or indirectly associate themselves with an idiom, e.g. ‘meet your maker’, where ‘maker’ metaphorically conveys the meaning ‘God’. Finally, there could be some idioms where there is hardly any connection between the components and idiomatic meaning, e.g. ‘kick the bucket’. Nunberg et al. (1994) suggested that previous idiom studies misconceived

and generalised compositionality to explain any semantic relationship between an idiom's meaning and its components; rather, there are three dimensions, viz. compositionality, conventionality, and transparency, which need to be considered for understanding this semantic relationship.

2.3.3. Metaphoricity of idioms

The section above presented conflicting views on if the link between the idiomatic expressions and their meaning can be considered arbitrary. This discussion led some scholars to believe that idioms are dead metaphors. Research conducted during the era of the '80s and '90s (Gibbs, 1980, 1985, 1994; Lakoff, 1987; Schweigert, 1992; Nippold and Rudzinski, 1993) completely changed this perception of idioms being dead metaphors. These studies discussed that the relationship between an idiom and its figurative meaning could be detected at least at the level of etymology. Metaphoricity is the degree of figurativeness an idiom can pose, and often it is associated with mental imagery formed by the language speakers while drawing the similarity between the literal meaning and the figurative meaning. This link of connecting two concept domains determines semantic transparency.

Metaphoricity is an attribute of an idiom, the importance of which cannot be understated in any discussion on idioms. The reason for certain idioms to be considered as metaphorically dead expressions is due to the weak association of the origin of the expression and the meaning. Gibbs (1980) argues against the non-compositional view and fixedness of idioms. He discusses the compositionality of idioms and argues that they form a heterogeneous set and cannot be classified within a single category. In fact, recent studies have indicated that analysability (decomposability) and metaphorical presence facilitate the learning of new idioms in children and second language learners.

The figurativeness of an expression depends on the judgement of a native speaker and hence may vary across speakers. This can pose some difficulties in determining the figurativeness of an idiom whose meaning is known to the speaker or if the idiom is used in a supportive context, as it may affect this judgement. The idioms may generate similar mental images for certain speakers while they associate the meaning of the idioms. On the other hand, in some cases, speakers may use their creativity, leading to different mental images. We have discussed the transparency and structural variations of idioms earlier which can create difficulty in interpreting idioms. There can be some other

scenarios that can increase the difficulty level of idioms comprehension. The idioms with a dual representation of meaning, both literal and figurative (e.g. 'kick the bucket'), with less familiarity, will be difficult to comprehend, as compared to idioms with an 'illogical' combination of words, i.e. where the literal meaning is absurd (e.g. 'foot the bill'). The idioms that are not as metaphorical as assumed by the speaker can also create some difficulty in comprehending the idioms. In such a scenario, the speaker may add some connotation that might not be part of the idiom. For example, in the idiom 'cat among pigeons', speakers added the connotation of cruelty while creating an image of this expression (Pulman, 1993).

2.3.4. The status of idioms as dead metaphors

Idioms are assumed to originate from 'dead metaphors' that lost their metaphorical and imaginative connections over time and became conventionalised, possibly because of the frequent usage of such expressions, where the metaphorical meaning became known even without any connotation. It is assumed that the idioms lost their metaphoricity for some unknown reason and became conventionalised (Weinreich, 1969; Chomsky, 1965; Aitchison, 1987), thereby becoming equivalent to simple literal phrases such as 'spill the beans', meaning 'to reveal a secret' without creating any link between idiom phrase to its figurative meaning. This assumption was based on several observations, which were later criticised. It was observed that most idioms are generally grammatically consistent in their form. As the idioms once were 'alive metaphors', were used in a correct grammatical structure, it seems reasonable to assume that they retained the grammatical integrity even after they became conventionalised.

However, all idioms cannot be bracketed in a well-structured grammatical form, e.g., the English idiom: 'by and large' and the Hindi idiom: 'nau dō gyarēh ho d̥ʒana' (literal meaning: 'to be nine eleven', figurative meaning: 'to flee or escape'). This observation does not confirm that idioms are not 'dead metaphors', but suggests that idioms may not always follow the same route to enter the lexicon. The most substantial claim for idioms to be dead metaphors was that they are conventionalised expressions that have lost the compositional meaning. The reason for such a claim is still a mystery as we may not know as to why some idioms lost their connection to metaphorical imagery and compositional analysis.

In his book *The Poetics of Mind: Figurative Thought, Language, and Understanding*, Gibbs (1994) presented cases that investigate the role of metaphorical thinking in the understanding of idioms. Through a series of experiments, he examined the role of conceptual metaphors in immediate idiom comprehension, and the findings indicated that language users do access the conceptual metaphors when understanding idioms. Gibbs (1994) remarked that: “language users access the appropriate conceptual metaphors such as, ANGER IS HEAT when processing idioms belonging to that conceptual domain (‘be steaming’, ‘be fuming’)”. He observed that the understanding of metaphors has psychological validity, and language users make sense by metaphorical mapping from source to target domain. The findings are evidence of the role of the metaphorical mind in understanding figurative language.

2.4. Categorisation of idioms

Recent studies categorise idioms as a heterogeneous set of multiword expressions which cannot be classified within a single category. Idioms are established as multifaceted expressions that exhibit various features and can be represented along a continuum between the non-compositional and compositional groups of words (Moon, 1998; Baldwin et al., 2003). Scholars proposed the concept of semantic compositionality where the semantic correlation between the constituent parts and the whole describes the overall meaning of multiword expressions (Gibbs and Nayak, 1989; Gibbs, Nayak, Bolton, and Keppel, 1989; Nunberg, 1978; Nunberg et al., 1994). This relationship describes the decomposability of a multiword expression and hence, further categorises the expressions into decomposable and non-decomposable idioms. This linguistic typology inspired scholars to have a fresh perspective beyond the early non-compositional definition of idioms. We have discussed below the semantic classifications of idioms proposed by different scholars. These classifications are based on the semantic features of idioms, which define the predictability of the meaning of idiomatic expressions. The scholars share a similar ideology regarding the transparency of the expressions.

2.4.1. Categorisation based on compositionality

Decomposability is a description of the degree to which the semantics of multi-word expressions can be attributed to those of its parts (Riehemann, 2001; Sag et al., 2002). Idioms, based on their semantic correlation, fluctuate on the degree of decomposability. Based on Nunberg's taxonomy (1978), scholars posited the categories of idioms classified in terms of semantic taxonomies (Nunberg, 1978; Gibbs and Nayak, 1989:104; Titone and Connine, 1999). They also discuss the effects of compositionality on the comprehension process.

These theories classify idioms in three categories: 'non-decomposable idioms', 'abnormally decomposable idioms', and 'normally decomposable idioms'. We have discussed these categories with the help of examples in this section. The idiom 'spill the beans' can be considered a normally decomposable idiom and can be analysed as: 'spill' conveys the sense 'reveal', 'beans' conveys the sense of 'secret', and hence the meaning 'reveal the secret' can be obtained. Normally, decomposable idioms are generally more syntactically productive than other categories (Gibbs et al., 1989). It is important to note that some scholars have also argued that many of these idioms are not decomposable in the absolute sense of the term. Thus in 'spill the beans', 'spill' and 'beans' are coerced into idiosyncratic interpretations of 'reveal' and 'secret' respectively, and since these senses are not used in other contexts, it is fallacious to take them as compositional units (Baldwin et al., 2003).

Idioms like the frequently cited example of 'kick the bucket', which are considered non-decomposable idioms, do not encourage any such compositional analysis as seen for normally decomposable idioms (e.g. 'spill the beans'). Non-decomposable idioms tend to be semantically opaque and do not undergo internal modification, e.g. 'kick the big bucket', or passivation, e.g. 'the bucket was kicked'. The only types of lexical variations observed in this category are inflection and reflexivisation.

According to Gibbs et al. (1989), the abnormally decomposable idioms constitute words that indirectly or metaphorically contribute to the overall meaning of the idiomatic expression. An example of such an idiom would be 'pass the buck' where 'buck' metaphorically conveys the sense of activation of "to attribute to another person or group one's own responsibility" (Gibbs and Nayak, 1989). Such idioms are semantically flexible only to a certain extent.

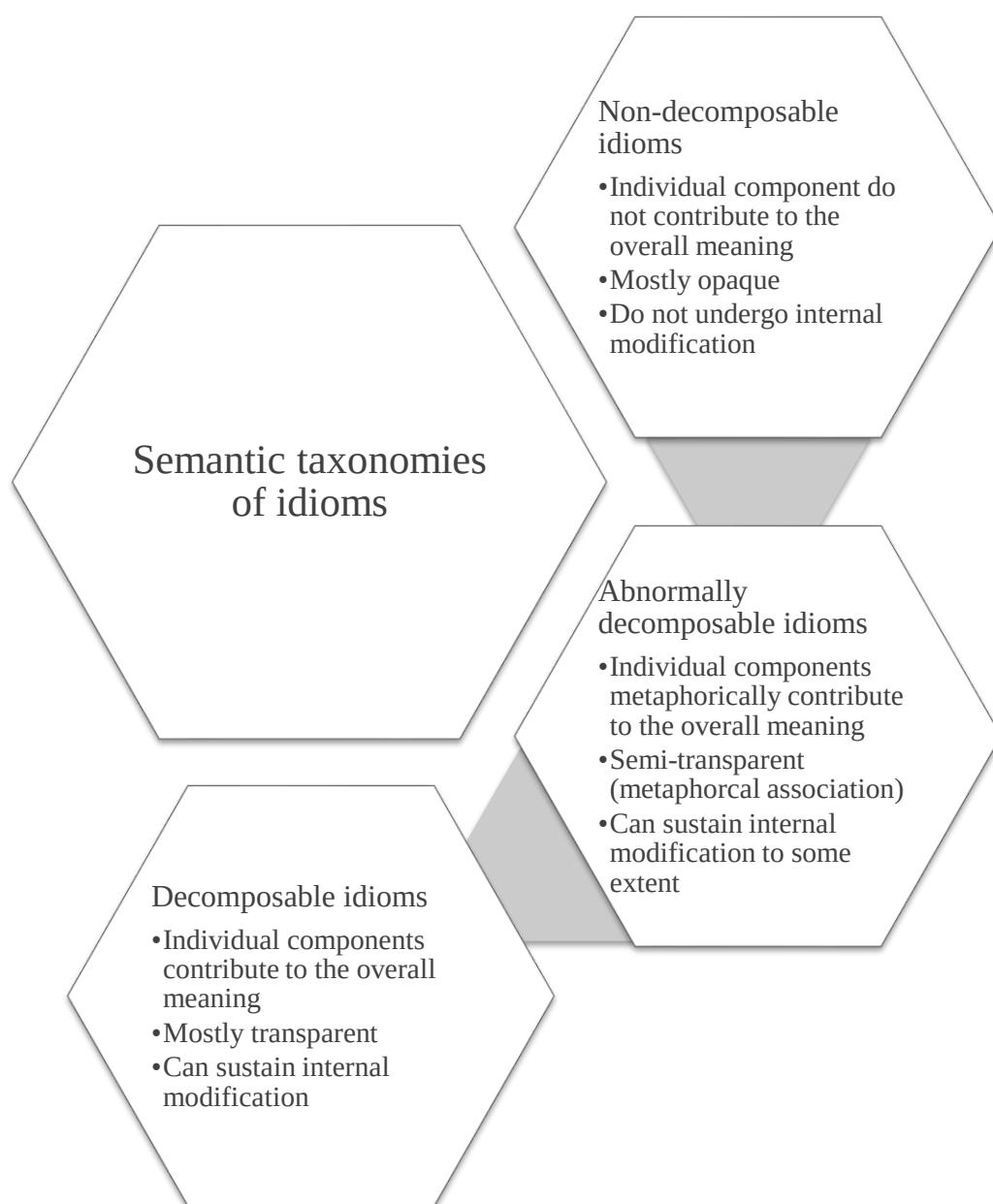


Figure 2.1: Semantic taxonomies of idioms adapted from Gibbs and Nayak (1989), Gibbs (1991)

2.4.2. Categorisation of idioms based on semantic intelligibility

Idioms are also categorised based on semantic intelligibility, i.e., based on the functional properties of idioms. Instead of giving a narrow definition of idioms, many linguists described a scale of idiomaticity (Fernando, 1978; Moon, 1998 (a); Lynn, 2004). This criterion of idioms fundamentally compares the literal meaning and the idiomatic meaning of idioms. The transparency of idioms is affected by many factors, and the two most common ones are the contribution of individual components to the overall

interpretation of the resultant meaning, which makes the expression transparent and hence decomposable. The other factor which makes the idiomatic meaning comprehensible is the common metaphoric theme. Idioms that share a common metaphoric theme are found to be more transparent. For example, idioms based on the metaphoric theme ‘ANGER IS HEAT’ in English idioms like ‘blow a fuse’, ‘breathe fire’, and Hindi idioms like ‘ag babu:la hona’ (literal meaning: ‘to be hot fire’, idiomatic meaning: ‘very angry’) and ‘gəɾəm d̪imag’ (literal meaning: ‘hot mind’, idiomatic meaning: ‘short tempered’) can be easily interpreted. This semantic classification puts idioms on the two extreme ends where one end of the continuum is the ‘open collocation’, which enforces that idioms must be interpreted only literally. The other extreme is the ‘pure idioms’, which imposes that idioms must be interpreted only idiomatically.

Table 2.4: Semantic classification of idioms adapted from Grant and Bauer (2004)

Yorio (1980)	Cowie, Mackin, and Mc Caig (1983/93)	Alexander (1987)	Cacciari and Glucksberg (1991)	Howarth (1998)	Moon 1998(a)	Fernando and Flavell (1981)	Fernando (1996)
Transparent (not idioms) e.g. ‘your face looks familiar’	Open collocation e.g. ‘fill the sink’, ‘a broken window’	Literal phrase e.g. ‘hit the ball’	Analysable transparent idiom e.g. ‘spill the beans’	Free combination e.g. ‘under the table’	Transparent metaphor e.g. ‘behind someone’s back’	Literal and/or transparent e.g. ‘add fuel to the fire’	Literal idiom e.g. ‘dark and handsome’
Semi-transparent (expressions / idioms) e.g. ‘shake hands’	Restricted collocation/ semi idioms e.g. ‘catch someone red-handed’, ‘jog one’s memory’	Semi-idiom e.g. ‘hit the six’	Non-analysable e.g. ‘by and large’	Restricted collocation e.g. ‘under attack’	Semi-transparent metaphor e.g. ‘the pecking order’	Metaphor/ Semi-transparent e.g. ‘skate on thin ice’	Semi-literal idiom e.g. ‘kith and kin’ Semi-idiom e.g. ‘catch your breath’
Figurative idiom e.g. ‘beat one’s breast’	Metaphorical idiom e.g. ‘hit the jackpot’ Figurative idiom: ‘hit list’	Quasi-metaphorical e.g. ‘giving up the ship’	Figurative idiom e.g. ‘under the microscope’	-	Metaphor/ Semi-opaque e.g. ‘burns one boat’	-	-
Opaque/ True idioms e.g. ‘by and large’	Pure idiom e.g. ‘kick the bucket’	Opaque/ pure idiom e.g. ‘hit the sack’	Analysable-opaque e.g. ‘kick the bucket’	Pure idiom e.g. ‘under the weather’	Opaque metaphor/ Pure idiom e.g. ‘bite the bullet’	Full idiom/ Opaque e.g. ‘pull someone’s leg’	Pure idiom e.g. ‘spill the beans’, ‘red herring’

2.4.3. Opaque, transparent, and quasi-metaphorical idioms

In this section, we have briefly reviewed the compositionality of idioms as explained by Cacciari and Glucksberg (1991), and Glucksberg (1993). In Table 2.4, we have seen the classification of idioms as compositional-opaque (opaque), compositional-transparent (transparent), quasi-metaphorical, and non-compositional (non-decomposable). Compositional-opaque idioms are phrases such as ‘kick the bucket’ in which idiomatic meaning is not derivable from the component words. However, the component words impose a semantic constraint on the idiom by limiting both the idiom’s interpretation and its use, as it has a valid literal meaning. Compositional-transparent idioms are phrases in which a direct interpretation of the idiom from the meanings of the component words is feasible, and there is a direct mapping of literal word meanings to idiomatic meaning, e.g. ‘spill the beans’. Non-compositional or non-decomposable idioms are those in which the idiom’s meaning is not derivable from the constituents. There is no semantic mapping between the idiom’s components and the idiom, e.g. ‘trip the light fantastic’, idiomatic meaning: ‘to dance gracefully’. Cacciari and Tabossi (1993) observed, “Quasi-metaphorical idioms are phrases in which the overall literal meaning of the phrase metaphorically maps onto idiomatic meaning. These idioms convey meaning via their indirect referential content. They call to mind a prototypical or stereotypical instance of an entire category of people, events, situations, or actions.”.

2.4.4. Criticism on categorisation of idioms

The categorisation made by Gibbs et al. (1989) about the compositionality and decomposability of idioms was the outcome of many empirical studies carried out by them. The analysis done in these studies was based on syntactic behaviour, meaning transparency, semantic composition, and the processing of the idiomatic expressions by adult native speakers. The results showed that decomposable idioms are more syntactically productive, lexically flexible, and were processed faster than non-decomposable idioms.

Beate Abel (2003), in his paper *English idioms in the first language and second language lexicon: A dual representation approach*, criticised the selection approach of the idioms by Gibbs et al. (1989). Abel (2003) pointed out that the English idioms in the study done by Gibbs et al. (1989) were preselected by the author for the three categories

and had an equal distribution among the three groups. Furthermore, he pointed out that the study conducted by Titone and Connine (1994) on 171 English idioms, which encouraged the participants to comment on the categorisation of idioms freely, has shown that native speakers did not make a balanced distribution. The speakers judged 41.9% to be decomposable idioms and 58.1% to be non-decomposable idioms. Abel's paper also reviewed the fundamental problem with the category of the abnormally decomposable idioms. Abel referred to the study conducted by Titone and Connine (1994) to point out that native speakers cannot easily distinguish between the decomposable and abnormally decomposable idioms, and this distinction can be made only for a few distinctive phrases. He pointed out that "the subdivision of decomposable idioms into normally and abnormally decomposable ones is of low psychological validity" (Abel 2003:335).

After reviewing the literature on semantic taxonomies done in the more recent studies explored as part of the previous section, an interesting observation we had was that completely opaque or pure idioms are actually the rarest ones because most idioms exhibit some degree of transparency, conventionality, proverbiality, or compositionality which provide subtle hints to the language user. It could be more practical to assume that idioms display all these characteristics to some extent, and the dominance of a particular property can help categorise the idiom accordingly. For example, it may be more appropriate to categorise some idioms with low compositionality into a 'less-decomposable' category, rather than suggesting that they are 'non-decomposable'. Hence, in our work, we have the idioms based on the degree of their compositionality and usage frequency and have carefully used the terms 'less-decomposable' and 'less-frequent' and vice versa.

2.5. Processing of idioms: An overview

As evident from the literature discussed so far, it is evident that idioms belong to a heterogeneous set and display a variety of properties. Hence, building a comprehensive understanding of the processing and comprehension of idioms is one of the most challenging tasks for linguists. In this section and the further subsections, we have discussed the different proposed models of idioms processing, in order to account for idioms' representation, compositional analysis, and the associated retrieval processes. There was a paradigm shift around the 1970s where several psycholinguistic studies were conducted to investigate the processing and storage of idioms. The idiom research shifted

from the study of structure and form of idioms to the role of language users. The scholars directed their research efforts to understand how idioms are accessed and processed by language users. Multiple linguists in the 1970s (Bobrow, Bell, Swinney, Cutler, etc.) came to a consensus that idioms are stored as entities in the mental lexicon. Further work in idiom research aimed at understanding the representation and location of idioms in the mental lexicon.

The studies predominantly concentrated on whether idioms enter the mental lexicon as a separate entity in the form of a separate 'idiom list' or are stored in the same list along with the regular lexical items. These studies further tried to solve the mystery of the literal and figurative distinction by concentrating on the processing advantage of idioms. The idiom processing studies explored the comprehension pattern of idioms. The primary concern of these studies was to envisage if literal meaning had a processing advantage over the figurative meaning and was processed faster, or if the other way around was true, or if they are processed parallelly without any processing advantage. The reaction time (or response time) was the parameter to understand the processing, storage and recall of idioms, where idioms of different nature (figurative idioms, flexibly idioms, transparent idioms, etc.) were studied. The subject of the study were majorly native adult speakers of English. In the 1980s, the comprehension of idioms in children caught the attention of some scholars (Gibbs, Lodge, Leach, Prinz, Nippold, Martin, Ezell, Goldstein, etc.). A few studies were conducted on subjects who were hearing impaired, as well as on normal adolescents and children. However, the acquisition aspect of idioms in general and in language users with learning disorders was not extensively explored.

All the idiom processing models were discussed as hypotheses, which is an indication that none of the models was conclusive and left much scope for more rigorous research. The processing theories towards idiom comprehension can be broadly classified into three groups as per their approach towards the compositionality of idioms. The 'non-compositional approach' discussed how an idiomatic meaning is holistically retrieved while discarding the influence of semantic characteristics of the idiom's word components in the comprehension process. In contrast, the 'compositional approach' posited that the literal meanings of an idiom's word components are critical in their comprehension, suggesting that idiomatic word sequences are semantically and syntactically analysable. However, recent studies have indicated that neither of these can

completely explain all the aspects of idiom processing and comprehension, and hence hybrid approaches were proposed. The hybrid approaches combined some key insights from both non-compositional and compositional theories and proposed that both these approaches have a role to play during idiom processing. The hybrid approaches treated idioms as non-compositional and compositional word sequences simultaneously, as both literal and figurative meanings are activated for all idioms (to varying degrees) during their comprehension.

2.5.1. Non-compositional approach

The following section deals with the processing models which dealt with and hypothesised non-compositional approaches of idiom processing. Non-compositional approaches hypothesised that idioms are stored in the lexicon and retrieved from it as whole ‘long words’ (Bobrow and Bell, 1973; Swinney and Cutler, 1979; Gibbs, 1980).

2.5.1.1. Idiom List Hypothesis (Bobrow and Bell, 1973)

This hypothesis was proposed by Bobrow and Bell (1973) and is aligned with the initial studies of idioms interpretation which treated an idiom as a word with spaces. They argued that idioms are like words and occupy the same representation where there is a direct association with the semantic and conceptual information without any compositional analysis (Katz and Postal, 1963; Weinreich, 1969). Bobrow and Bell (1973) suggested that “idioms are stored as a separate list which is an ‘idiom word’ dictionary of long, complex words in a special ‘idiom lexicon’ and are accessed as single lexical items”. They proposed that there are two separate modes of processing a sentence, literal and figurative. A native speaker’s interpretation of idioms follows the mechanism of first interpreting an idiom literally. When the literal meaning does not make sense and is a misfit in the corresponding context, they search for the idiom in the ‘mental idiom lexicon’, which is like a ‘mental idiom dictionary’, and make a selection of the relative figurative meaning.

This hypothesis was supported by running an experiment that studied the literalness priming effects. The participants in this experiment were first presented with either a set of four literal sentences or a set of four sentences containing idioms. The participants were then instructed to indicate which meaning of a test sentence (which could be interpreted either literally or figuratively) came first, i.e. literal or idiomatic

meaning. The evidence showed that the subjects interpreted an ambiguous string as ‘idiomatic’ if exposed to several idiomatic strings and as ‘literal’ when preceded by literal strings. This led to the conclusion that the default mode of processing must be a literal interpretation of the idiom for the test sentences, whereas the idiom processing mode seemed to be active only when the participants were presented sentences containing idioms. Although a closer look at their results did not find significant differences, their study has been cited ever since as the evidence of existence of two separate modes of processing. The ‘idiom list hypothesis’ is also often referred to as the ‘literal-first hypothesis’ of idiom comprehension (Vega-Moreno, 2001).

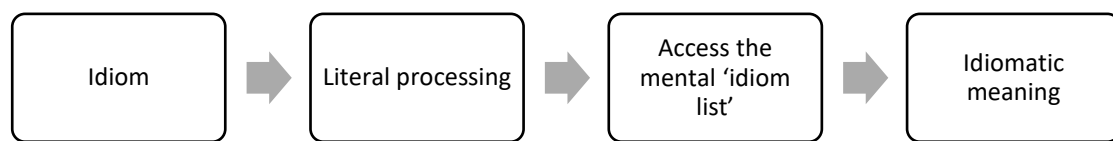


Figure 2.2: Idiom List Hypothesis adapted from Bobrow and Bell (1973)

2.5.1.2. Lexical Representation Hypothesis (Swinney and Cutler, 1979)

Swinney and Cutler (1979) proposed that idiomatic expressions do not need any special processing mode or a special ‘idiom list’ in the mental lexicon. However, like the ‘idiom list hypothesis’, the ‘lexical representation hypothesis’ supported the claim that idioms are morphologically complex words stored in the mental lexicon along with the other words and mentally processed as long words. Vega-Moreno (2001) referred to this hypothesis as the ‘simultaneous processing hypothesis’, because this model advocated a parallel activation of both the literal and figurative meanings and argued against the priority of literal interpretation.

The model proposed that computation of a literal and figurative meaning occurs simultaneously and results in a ‘horse race’, in which the context determines the more fitting interpretation. In the response time experiments that led to the formulation of this hypothesis, participants were shown a word string on the computer and had to decide whether the string formed a meaningful, natural phrase in English. In addition to meaningful strings, the list contained, in random order of appearance, idioms and literal phrases like ‘take him for a ride’ / ‘take him for a beer’ and ‘wrap it up’ / ‘lift it up’. The participants responded significantly faster to idioms than the matched control phrase.

These results confirmed their hypothesis that “idioms are stored and retrieved from the lexicon in the same manner as any word” (Swinney and Cutler, 1979), thus refuting the ‘idiom list hypothesis’. The assumption of simultaneous access of the human mind to literal and figurative semantics of ‘long words’ explained why figurative and literal comprehension of language items take principally equally long time.

As discussed earlier, Bobrow and Bell (1973) had hypothesised that language users adopt the idiomatic meaning after abandoning the literal one. Swinney and Cutler provided definite evidence against this claim based on their experimental findings that show that understanding of idioms, e.g. ‘kick the bucket’, does not take longer than understanding literal strings, e.g. ‘strike the pail’ (Ortony et al., 1978; Swinney and Cutler, 1979). Cutler (1983) pointed out that “Bobrow and Bell’s results could equally well be explained as reflecting a mental decision about the most appropriate meaning on which to base a response”. Also, it was observed that Bobrow and Bell had conducted an interpretation or comprehension task, while Swinney and Cutler relied on online processing tasks.

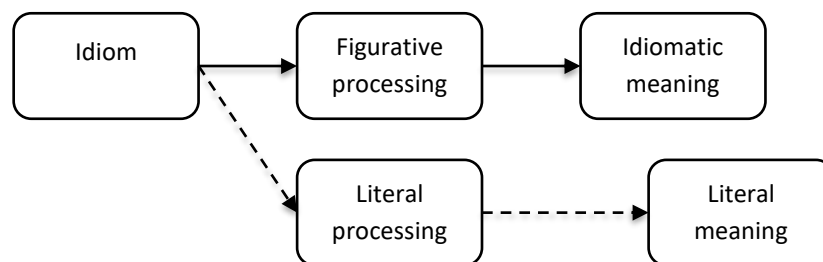


Figure 2.3: Lexical Representation Hypothesis adapted from Swinney and Cutler (1979)

2.5.1.3. Direct Access Hypothesis (Gibbs 1980, 2002)

Gibbs first proposed the ‘direct access hypothesis’ (Gibbs, 1980, 1984, 1986, 2002; Schweigert, 1986; Schweigert and Moates, 1988; Needham, 1992), also referred to as the ‘figurative first hypothesis’ (Vega-Moreno, 2001), which diverged further away from the ‘idiom list hypothesis’. This hypothesis also did not favour the literal-figurative ‘horse race’ in the ‘lexical representation hypothesis’ proposed by Swinney and Cutler. Instead, the ‘direct access hypothesis’ proposed that idioms are lexical items for which the figurative meaning is activated first, without the processing of literal meaning. Only if the idiomatic meaning is inappropriate to the context, the phrase is interpreted literally.

Hence this hypothesis disagrees with the ‘idiom list hypothesis’ as observed by Vega-Moreno (2001): “the finding that idioms (e.g. kick the bucket) are processed faster than literal strings (e.g. ‘strike the pail’) does not necessarily imply that literal processing must take place at all”.

Gibbs conducted two experiments to support this hypothesis which showed that idioms, when presented in literal-bias contexts, were processed slower than figurative-bias contexts. The suggested reason for this was that idioms presented in literal contexts go through dual processing because it involves an unconventional usage, which results in a longer comprehension time. The literal use (unconventional usage) of idiomatic expressions required additional processing time in the study as the time was invested in finding and verifying representations in memory to account for the sentence. This hypothesis supported that conventionality plays a vital role in memory retrieval and decides which interpretation needs to be accessed.

However, in his experiment, Gibbs did not grade the usage frequency of idioms, which could have provided further insights into processing, i.e. if more frequently used idioms are an indication of the more conventional idiomatic usage and if these are processed faster as well. For example, the usage of the expression ‘kick the bucket’ in its idiomatic form may be more frequent than its literal counterpart ‘kick the pail’ or ‘kick a tub’; such considerations were not discussed in the ‘direct access hypothesis’.

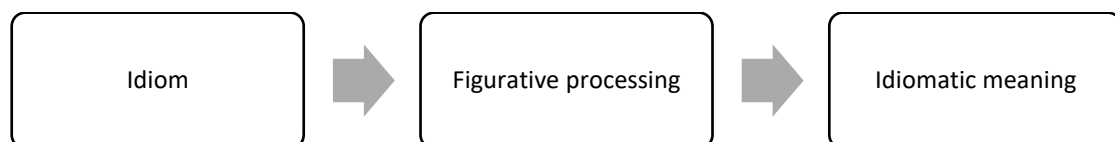


Figure 2.4: Direct Access Hypothesis adapted from Gibbs (1980, 2002)

2.5.2. Compositional approach

The following section outlines the models which represent the compositional approach of idiom processing. Compositional models opposed the theory of ‘long words’ and assumed that the idiomatic meaning is inferred from the individual components that constitute the idiom, through syntactic and semantic analysis (Cacciari and Tabossi 1988, Gibbs et al. 1989, Glucksberg 1993, Titone and Connine, 1994; Tabossi and Zardon, 1995).

2.5.2.1. Configuration Hypothesis (Cacciari and Tabossi, 1988)

This hypothesis, proposed by Cacciari and Tabossi (1988) and later developed by Cacciari and Glucksberg (1991), rejected the theories which consider idioms as long words stored in the mental lexicon. The ‘configuration hypothesis’ proposed that idioms belong to a set of configurations of words, where the constituents’ meaning helps in the activation of figurative meaning. The model projected the compositional nature of idioms and proposed the concept of an ‘idiomatic key’. An idiomatic key is a word in the idiomatic expression, which acts as a trigger point for the language user, thereby influencing the decision to reject the literal meaning in favour of the idiomatic one.

The configuration hypothesis was supported by cross-modal lexical decision tasks where the processing of idioms was studied to check whether idiomatic and literal interpretations were activated. Results indicated that for the predictable idioms without plausible literal meaning, only the idiomatic meaning was activated. Literal meaning activation happened only for the predictable idioms with plausible literal meanings. The model suggested that the literal processing of idioms gets suppressed as soon as the idiomatic key is accessed; the language user recognises the string as idiomatic, and the memory retrieval of idiomatic meaning activates because a specific configuration is encountered. The results also indicated that literal processing does happen until the idiomatic key is recognised, which contradicts the direct access model.

The model provided more insights into the decomposability property of idiom and why some idiomatic phrases are processed faster than their literal counterparts. The literal processing is dependent on the idiomatic key, i.e. how far an expression can be accessed literally, and may also depend on the usage of idioms in alignment with a supportive context. However, this was not explored in the study done by Cacciari et al. (1988, 1991). The configuration hypothesis focused on the processing of idioms in the absence of context.

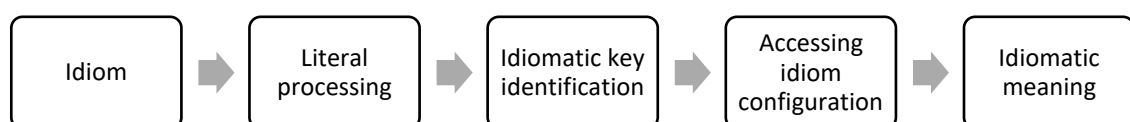


Figure 2.5: Configuration Hypothesis adapted from Cacciari and Tabossi (1988)

2.5.2.2. Idiom Decomposition Hypothesis (Gibbs et al., 1989)

The ‘idiom decomposition hypothesis’ developed by Gibbs and his colleagues (Gibbs and Nayak, 1989; Gibbs, Nayak and Cutting, 1989; Gibbs, Nayak, Bolton, and Keppel, 1989) initiated a detailed study on the decomposability of idioms and analysed that idioms show some degree of semantic analysability. As discussed in Section 2.4.1, Gibbs et al. (1989) proposed that “idioms are not just dead metaphors whose meaning can be paralleled with a simple ‘single word’ literal paraphrase”, and idioms constituents do contribute to the figurative meaning due to their metaphoric potential. By proposing the compositionality of idioms, they did not deny the “role of the meaning stipulated to an idiom in the mental lexicon”. Rather, they discussed that the non-decomposable category of idioms does not undergo compositional analysis.

This explanation regarding the role of individual words in the overall meaning of the idiom expands on the study done by Lakoff and Johnson (1980), who suggested that “language items are motivated by pre-existing conceptual metaphorical mappings in our long-term memory”. These are shaped by our life experiences and world knowledge. For example, understanding an idiom such as ‘spill the beans’ is a matter of mapping the two metaphorical concepts that motivate the idiomatic meaning. This parser relies upon the two conceptual metaphors ‘MIND IS A CONTAINER’ and ‘IDEAS ARE PHYSICAL ENTITIES’, expanded to ‘mind is a container of ideas, and ideas and secrets are physical entities residing in the mind-container, which can be spilt out of it’, hence suggesting the idiomatic meaning to be ‘reveal the secret’. Hence one domain motivates the meaning by mapping to another domain.

Gibbs et al. (1989) defined three grades of idiom decomposability (analysability) in varying degrees of ‘syntactic flexibility’ and ‘semantic transparency’. This degree of decomposability is related to the intuition of language users, based on which they can define the degree to which an expression can be semantically decomposed. We have already discussed the three categories, viz. decomposable, abnormally decomposable, and non-decomposable, in Section 2.4.1. The whole argument in proposing this nomenclature was that idioms are a heterogeneous class and vary in degree of syntactic flexibility and semantic transparency. Some idioms do not require any special processing mechanism. In contrast, others follow the same computation and language processing mechanism by which a literal language is processed. The empirical results of Gibbs et al. (1989)

indicated that decomposable idioms are processed faster than the non-decomposable idioms, which we have discussed in the composition model in Section 2.5.2.3. The decomposition hypothesis had a substantial contribution to the literature on idiom comprehension.

Both the hypotheses, the ‘configuration hypothesis’ and the ‘decomposition hypothesis’, contradicted the assumptions of the non-compositional models, which visualised idioms as morphologically complex or long words. However, the key point of differentiation between the configuration hypothesis and the decomposition hypothesis was that the former highlighted the significance of the literal meaning of the constituents treating idioms as word configurations. At the same time, the latter emphasised the literal-figurative connect of the components of the idiom. It is pertinent to note that the decomposition hypothesis was more focused on the comprehension aspect and hence circuitously gave insights into the processing of idioms.

2.5.2.3. Composition Model (Gibbs, 1994; Tabossi and Zardon, 1995)

The ‘composition model’ was an extension of the ‘decomposition hypothesis’ and proposed that the idiomatic meaning access is dependent on the compositionality of an idiom. A study was conducted to understand the processing of different categories of idioms based on semantical analysability, in which the native English speakers were asked to decide whether a given word string was meaningful or not in the English form. The participants showed a significantly lesser time to process decomposable idioms (e.g. ‘hit the jackpot’) than to process the non-decomposable idioms (e.g. ‘kick the bucket’). Thus, it was observed that language users tend to identify the idiomatic meaning through semantic analysis of the individual constituents and try to combine these meaningful parts into the overall figurative meaning. This implied that people do not shut down their normal language processing mode when they encounter an idiom or phrase. Their syntactic parser automatically analyses the grammatical structure of the words and phrases they encounter. The lexical processor automatically accesses the lexical items in the mental lexicon and assigns meaning to them, and semantic analysis is done based on the grammatical structure and the meanings of lexical items of the phrase (Flores d’Arcais, 1993). Thus, the ‘composition model’ suggested that idiom comprehension involved compositional analysis at the semantic, syntactic, and lexical level, just like the analysis that occurred when any other phrase was encountered.

2.5.2.4. Phrase-Induced Polysemy Model (Glucksberg, 1994)

Glucksberg (1994) proposed an approach of idiom comprehension, which was quite different from the decomposability hypothesis, and called this as phrase-induced polysemy (PIP) model. The PIP model was based on the core idea that the words of familiar idioms have become polysemous through frequent use in idiom contexts, i.e. the lexical items in idioms undertake a new meaning due to their usage in the idioms. Since this model depended on the assumption of phrase-induced dual meaning, this was referred to as the phrase-induced polysemy model. For example, for the idiom ‘spill the beans’, the verb ‘spill’ and the noun ‘the beans’ have two meanings in the idiom context, one is literal, and the other is the acquired meaning ‘spill = reveal’ and ‘beans = secret’. This view was different from the decomposition approach as the interpretation is not dependent on the underlying conceptual metaphors; rather, the attribute of decomposition is acquired due to usage effects.

Besides, the model also explained how certain variations of idioms retain their idiomatic meaning and are processed almost as quickly as the original form. For example, ‘did not spill a single bean’ can be understood as ‘did not reveal any secret’, drawing a parallel from the idiom ‘spill the beans’, which means ‘to reveal a secret’. Glucksberg explained these variations in terms of their communicative functionality: “When an idiom’s constituents bear functional relations to the idiom’s meaning, then operations such as quantification, antonymy, and negation will be productive provided that a plausible communicative intent can be inferred” (Glucksberg 1993:14).

2.5.3. Other relevant processing models

As discussed in Section 2.5.1 and Section 2.5.2, studies on idioms have attempted to explain the processing of idioms by providing supportive findings and arguments for both compositional and non-compositional approaches. Non-compositional approaches hinged around the observation that idioms presented in idiomatic contexts are processed faster than idioms presented in literal contexts. Compositional approaches have also presented proofs of the occurrence of a literal analysis during the processing of idioms and argued through different models that this compositional analysis aids in identifying the idiomatic meaning. These studies encouraged scholars to work on hybrid models, which borrow from the merits of both compositional and non-compositional studies.

Cutting and Bock (1997), Giora and Fein (1999), and Sprenger et al. (2006), in their hybrid theories, combined the compositional and unitary features of syntactic and lexical-conceptual nodes in the mental lexicon. The work by these scholars was not limited to the comprehension and processing of idioms; they provided invaluable insights into the process of idiom production as well. Cutting and Bock's (1997) empirical study was one of the first hybrid approaches which suggested that the production of idioms is affected by the idiomatic meaning, syntactic structure, and literal meaning. Cutting and Bock (1997) presented the view that "though idioms are stored as a whole on some level of processing, they cannot be word-like entries without internal structure".

Titone and Connine (1999), using an eye-tracking study, proposed that idioms are processed simultaneously as semantically arbitrary word sequences and compositional phrases. These approaches to hybrid models were discussed as the Hybrid Model of Idiom Production (Cutting and Bock, 1997), Model of Idiom Comprehension (Titone and Connine, 1999), and the Model of Dual Idiom Representation (Titone and Connine, 1999).

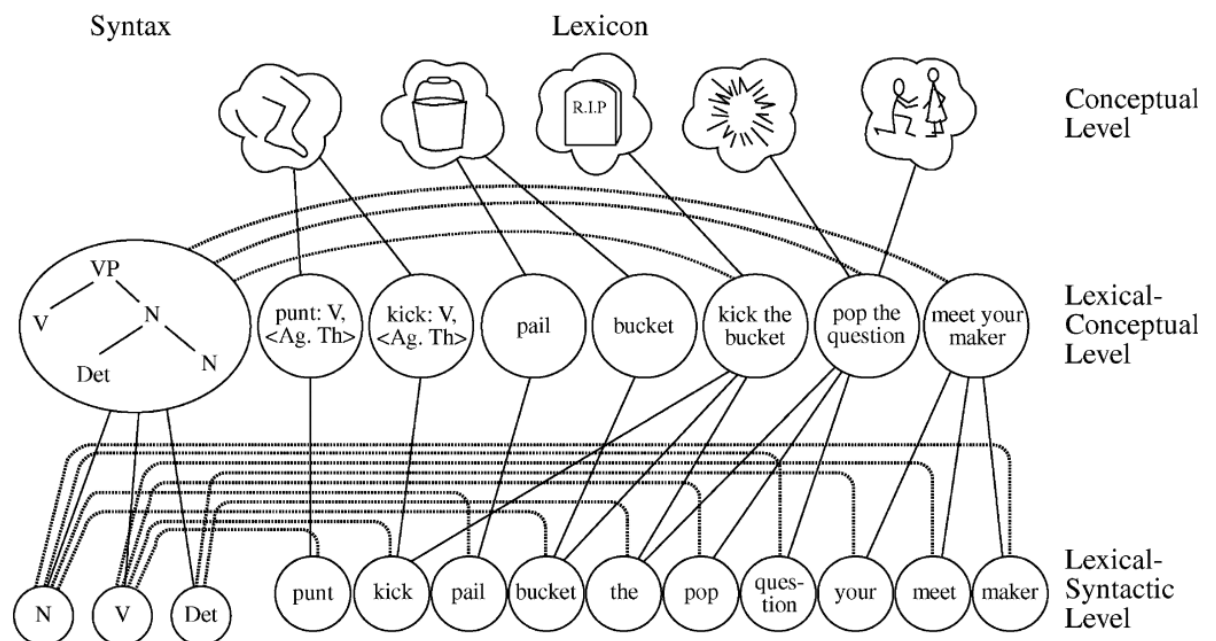


Figure 2.6: Hybrid Model of Idiom Production reproduced from Cutting and Bock (1997)

2.5.3.1. Hybrid Model (Titone and Connine, 1999)

Titone and Connine (1999) proposed the ‘hybrid model of idiom comprehension’, which hypothesised that both meanings, i.e. the literal and the figurative ones, are activated during idiom comprehension. They discussed that the nonliteral meaning of non-decomposable idioms, being strongly associated with the convention, is interpreted in the same way as regular words, implying that the processing of non-decomposable idioms will be like a single lexical entry associated with a particular meaning. On the other hand, the decomposable idioms will be processed as a fragment of a distributed knowledge network in memory that can be directly retrieved from the semantic cues of the expression. The model proposed that non-decomposable idioms will be processed as long-words and decomposable expressions as inferences.

According to Titone and Connine (1999), the two modes of processing, literal and idiomatic, always happen for the idioms, but with a varying degree of compositional analysis which eventually affects the activation time in different idioms. Also, Nunberg et al. (1994) suggested that: “Activation of idiomatic meanings and the activation and the role of literal meanings during comprehension will be a function of the degree to which idioms are conventional and compositional”. The results of their eye-tracking study, conducted on 24 participants and 32 idioms (16 non-decomposable and 16 decomposable idioms), supported their hypothesis that both meanings, literal and figurative, are activated. For non-decomposable idioms, it was observed that it takes longer to integrate the correct meaning into the biased idiomatic context because, in this case, the two meanings are semantically distinct. The experiments also recorded that highly familiar idiomatic expressions enjoy a processing advantage over non-idiomatic phrases. Also, the study suggested that idioms in an idiomatic context tend to be processed more quickly than idioms in non-idiomatic (literal) contexts.

2.5.3.2. Model of Dual Idiom Representation (Abel, 2003)

Abel (2003) introduced the ‘model of dual idiom representation’ (DIR Model), which concurred with the observations of the configuration model (Cacciari and Tabossi, 1988) and the ‘hybrid model’ (Titone and Connine, 1999). However, the DIR model attempted to address the issues, and the factors overlooked in the other processing models discussed in this chapter. The first issue pointed out by Abel (2003) was that these models

did not account for the comprehension and processing patterns of non-native speakers of a language (L2 lexicon). Second, the comprehension models had theorised that idiomatic meaning is ascertained through either the lexical representation or the conceptual mapping and did not consider a model which could account for both these aspects. Lastly, an essential factor, idioms' frequency of occurrence, is not factored in by any of these comprehension models.

The DIR model assumed that non-decomposable idioms require a lexical entry to specify their idiomatic meaning. Decomposable idioms can be represented via constituent entries and may also be developed as idiom entries in the case of frequent and decomposable idioms. The more frequently the idiomatic configuration occurs, the more probable is the development of an idiom entry, independent of whether the idiom is decomposable or non-decomposable. Thus, frequency plays a vital role in language processing. Idiom entries of decomposable idioms are regarded as an additional piece of information. If decomposable idioms have no idiom entry at the lexical level, conceptual representations are accessed during comprehension. Evidence of this two-fold claim was gathered from native and non-native judgements of decomposability of idioms.

2.6. An overview of language development in children

The literature on language development in children suggests that the timeline to acquire the language competence required for communication is almost the same for children across cultures. Children are born with the ability to discriminate voices and also seem to be able to discriminate between the sound stream of all the languages. Therefore, along with the development of cognitive and social skills, children develop to fragment the sound streams into meaningful units, right from the stage of their infancy. This ability of children diminishes by the age of eight to ten months and gets confined to the language for which they get more exposure, i.e. their native language.

The conceptualisation ability to learn any language develops during the first year. Children need a conceptual base to allow the initiation of language understanding, as this will allow them to map it with the language(s) in the surrounding. The cognitive development of the children by the age of nine months becomes sufficient enough to conceptualise the language(s) in the surrounding. During this phase, children learn to develop the concepts of objects such as animals, actions like drinking, and spatial

relations like containment. This stage is considered as the preverbal phase by scholars like Piaget, Karmiloff-Smith (Mandler, 2004).³

The children utter their first recognisable word between the ages of ten to eighteen months. By the age of three, they develop the ability to convey simple messages using content words and try to speak long utterances as well. This stage is also seen as a developmental stage where children develop the ability to combine more than one clause into coordinate and subordinate clauses. The developmental studies have also evidenced that between the ages of four to seven years, there is a considerable advancement in the learning ability of the children. During this phase of cognitive development, children develop the perception ability and can understand the perspective of the listener; they can also produce coherent discourse.

2.6.1. Theories of cognitive development in children

Piaget's theory of cognitive development (1936, 1953) was a significant milestone in understanding the evolution of cognitive ability in children. His theory suggested that the cognitive development of children is a process, and it involves biological maturation and interaction with their environment. He termed children as 'little scientists', whose cognitive abilities increase as they explore and interact with their surroundings and denied the commonly-accepted misconception that children are just the miniature of adults with limited comprehension and thinking ability.

Piaget (1953) believed that knowledge is constructed in small units, and children construct their own knowledge based on their experiences and by adding these units to form concepts. Such a construction of knowledge in children can happen with or without the influence of adults. He emphasised the mental representation of a unit of knowledge (world) which he called a 'schema' (a mental framework), which according to him, was the organised pattern of thought and is the building block of knowledge by which we understand and link information and respond to situations. This means we develop cognitive patterns for the objects and concepts we recognise or understand, and use the available schema to compare the new objects or concepts we experience or encounter. According to Piaget, children are born with simple innate schemas that become elaborate

³ The concept of the preverbal stage where children develop the perceptual and conceptual ability is discussed in the review by Jean M. Mandler (2004) in the paper 'Thought before language'.

with the increase in cognitive age. The development of schemas in children, which results in intellectual growth, happens through ‘adaptation’ which in term can be explained through two processes: ‘assimilation’ and ‘accommodation’. When a new concept or object is encountered, a child tries to assimilate the knowledge by mapping it to the existing schemas, as long as this newly added knowledge stays in the ‘equilibration’. Equilibration is the balanced state where a relationship between what is known and what is seen exists, i.e. the situation matches the schemas of the child’s mind, and additional information is assimilated into an existing schema. However, a ‘disequilibrium’ state is reached when the new information cannot be explained either directly or by extension of an existing schema. When such disequilibrium occurs, the child ‘accommodates’ the new information by creating a new schema for the new information set.

For example, consider a child who sees the picture of a dog and builds a schema of the dog with certain defined features like ‘small animal with four legs, ears, two eyes, mouth, and a tail’. On encountering a dog, the child validates this understanding but realises that the dog can bark as well. This new information can be assimilated into the existing schema. However, if a squirrel is encountered, the information set ‘small animal with four legs, ears, two eyes, mouth, and a tail’ is still present, but the overall ‘object’ is still quite different, causing a state of discomfort for the child where the existing schema is failing to explain this new ‘object’. Hence, this ‘disequilibrium’ causes the child to create a new schema to account for the squirrel. This process was referred to as ‘accommodation’ by Piaget.

2.6.2. Stages of cognitive development

Piaget (1953) proposed four stages of cognitive development which every child goes through. He hypothesised that these stages occur in the same order as proposed, and no stage is missed. However, the rate at which an individual’s growth happens is subjective to the individual’s interaction with the environment. The age group mentioned for each stage is just an indication of when a child might reach that stage, as Piaget has not claimed that a particular stage is reached at a specific age.

- **Sensorimotor Stage (0-2 years):** The children at this stage learn through their senses, reflex actions, and movements; primarily, at this nascent stage of cognitive growth, they show imitative behaviour. Object permanence is the key achievement at this

stage which is missing until about eight months and is achieved by the age of nine to ten months. Before achieving this state, the child does not develop the sense of object existence and would not even cry or look for the object if we hide it; the perception of the child can be described plainly as ‘out of sight, out of mind’. However, the achievement of object permanence leads a child to have mental representation (‘schema’ of the object) as the object still exists even if it is hidden.

- **Preoperational Stage (2-7 years):** This stage is also known as the ‘pre-childhood’ or ‘toy stage’, where the children show ‘transductive’ or illogical reasoning as the logic has not developed yet. This is a crucial stage of language development as the children begin to think symbolically, learn to use words, and use pictures to represent objects. Piaget (1953) proposed that children learn to think first, and then language ability comes later. The children at this stage cannot appreciate ‘reversibility’ and lack the idea of constancy. For example, children will find it challenging to do the multiplication ‘ 5×2 ’ even if they have learnt ‘ 2×5 ’. Another example is that they get confused if the same amount of water is put in two different containers of different shapes or sizes; when they are asked to choose which container has more water, the children will typically choose the bigger container. The children at this stage show egocentrism and fail to understand the perspective of others; they also believe in animism (all objects such as toys have human feelings and behaviour) as they cannot concretely distinguish between animate and inanimate objects, e.g. ‘the car is tired’.
- **The Concrete Operational Stage (7 to 11 years):** This stage is also known as the ‘later childhood’ stage. In this stage, the children develop logical reasoning and start to think logically only for concrete events, which they can feel or see. They learn ‘reversibility’ and also develop the concept of ‘transitivity’. The children in this stage can do both ‘ 2×5 ’ and the reverse ‘ 5×2 ’ by understanding the reversible nature. Also, a child can produce logical operations like, if A is shorter than B and B is shorter than C, then A is shorter than C; but only when presented with visual representation, as the children cannot do this calculation in mind. The children can do operations only on the concrete objects as they still are in the process of developing abstract and hypothetical concepts. The children can better understand the concepts of shape, size, and volume, and understand that the quantity does not necessarily change with a change in size, unlike the previous stage. They also develop an understanding of arranging things in series, both in ascending and descending orders.

- **The Formal Operational Stage (12 years and above):** In this stage, the children are in the age of adolescence and develop abstract thinking and deductive reasoning. They develop an ability to see different perspectives and potential solutions to a problem and are able to test their hypotheses. Children in this stage develop divergent, creative, and convergent thinking. Children at this stage also show adolescent egocentrism and are emotionally sensitive.

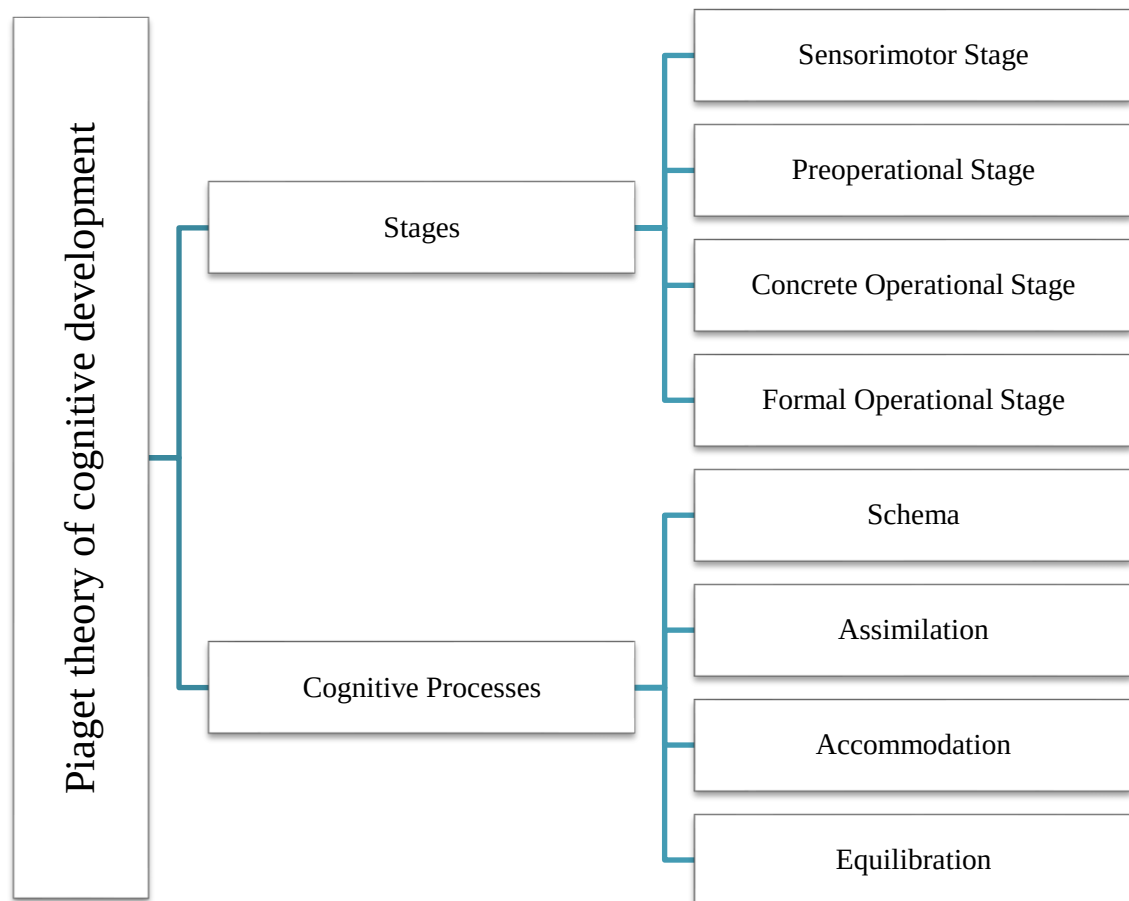


Figure 2.7: Cognitive developmental stages and cognitive processes in children adapted from Piaget (1936, 1953)

2.6.3. Idiom acquisition and comprehension process in children

Studies on idiom acquisition in children primarily dealt with two aspects: the cognitive age of children when figurative language competence gets built and the process of idiom comprehension (including the factors responsible), which facilitates the understanding of idioms. These studies produced mixed results, often contradicting each other. Some studies indicated that children do not understand idioms until the age of about

six years. Around six to seven years is the age when the ability to understand idioms develops (Abkarian et al., 1992). Multiple other studies proposed that figurative competence develops in the age group of seven to eleven years (Levorato and Cacciari, 1995; Cain et al., 2009) and increases significantly after the age of eleven (Kempfer et al., 1999). Lodge and Leach (1975) claimed that until the age of nine, the acquisition of idioms does not accelerate. Vosniadou and Ortony (1983) suggested that children at the age of four have already developed some basic metaphorical competence. Therefore, they can distinguish between literal, metaphorical, and anomalous comparisons for the tasks that include hierarchical ordering and class-inclusion relations. Levorato and Cacciari (1995) discussed that the dichotomy in the observations pertaining to figurative language development in children is due to the “methodological approaches and specific tasks employed in the experimental designs”. Despite differing on the age of idiomatic understanding, the research conducted so far has consistently agreed that comprehension of idioms precedes the production of idioms.

Piaget’s theory of cognitive development supported that the figurative competence in children is acquired in the concrete operational stage, and children may be able to produce figurative language in the formal operational stage. The factors affecting the comprehension of idioms are also relevant in idiom acquisition and have been discussed by multiple scholars. Such factors are ‘the degree of familiarity with the idioms’ (Schweigert, 1985; Nippold and Taylor, 2001; Levorato and Cacciari, 1992; Laval, 2003), ‘the degree of semantic analysability’ (Gibbs, 1987, 1991; Cain, Towse, and Knight, 2009; Levorato and Cacciari, 1999), ‘the context’ in which an idiom is used (Cain, Oakhill and Lemmon, 2005; Levorato and Cacciari, 1995; Nippold, Moran, and Schwarz, 2001) and ‘reading skill’ which can facilitate the inferential skills in children (Oakhill et al., 2012; Nesi et al., 2006; Levorato et al., 2004, 2007; Cain and Oakhill, 1999; Cain et al., 2001).

There are majorly two hypotheses discussed in literature which can account for idiom acquisition viz. ‘the language experience hypothesis’ (Ezell and Goldstein, 1991; Nippold and Martin, 1989; Prinz, 1983; Lodge and Leach, 1975) and ‘the global elaboration hypothesis’ (Levorato and Cacciari, 1992; Levorato, 1993). The language experience hypothesis emphasised the linguistic environment and proposed that familiar idioms are acquired in a rote manner. On the other hand, the global elaboration hypothesis was a more comprehensive model, which proposed that both comprehension and

production of idiomatic expressions do not require a special procedure and source knowledge; they basically utilise the same language skills which are applied to understand the literal language. This hypothesis discussed the importance of contextual information in idiom's comprehension: the comprehension mechanism of idiomatic expressions is based on the same linguistic ability which is required for decoding the literal as well as other figurative forms of language.

2.6.4. Challenges faced by children in understanding the figurative language

Children face difficulties in understanding figurative language because they cannot understand the communicative intentions of language users. As the cognitive and language ability of children is still developing, they find it difficult to conceive the understanding that a distinction exists between 'what is said' and 'what is meant'. The tendency to interpret sentence forms literally poses the first challenge towards understanding idioms. Secondly, the children are also unaware of the conventionality of the figurative expressions where the figurative meaning is mostly independent of the literal meaning and is instead governed by the associated convention. Lastly, children are also not aware of the ways in which they can utilise the available contextual information as the figurative expressions are heavily context-bound.

Levorato (1993:104) mentioned that: "Though idiomatic expressions are conventional and not creative, unlike metaphor and irony, I believe that they are not acquired by associating form with meaning, but rather are acquired together with the development of skills that allow the child to comprehend language as a whole, that is to create a semantic representation of the linguistic information". Levorato (1995:263) also observed that figurative competence is an outcome of the "coordinated set of abilities" which enables children to understand the primary meaning of the idiomatic expressions by suspending the literal meaning and using the available contextual information. This process involves the same cognitive mechanism, which is responsible for semantic competence and literal language comprehension. The acquisition of idioms, along with the other figurative forms like metaphors, proverbs, etc., is a gradual process and comes with the ability to derive the meaning with the help of context. The following skills were considered to be involved in the development of figurative competence (Levorato 1993:104; Levorato and Cacciari 1995:264).

- “The progressive broadening of word meaning accounting for its position in a given semantic domain and its paradigmatic and syntagmatic relations.”
- “The ability to understand the dominant peripheral and polysemous meanings of a word, and realise the connection between the given and related meanings.”
- “The ability to suspend a purely referential strategy which is a prerequisite not only for figurative language comprehension but also for other linguistic repertoires.”
- “The ability to understand the figurative uses of a word and the relationship between literal meaning and the figurative meaning.”
- “The ability to process copious amounts of language such as text or a dialogue sequence in order to identify the meaning of ambiguous or unknown expressions.”
- “The ability to use figurative language to create new figures of speech by means of lexical and syntactic transformation of pre-existing figures of speech.”
- “The ability to use contextual information in order to construct a coherent semantic representation of the ongoing information that must also integrate the lexical and semantic information carried by the figurative information.”
- “The awareness that there are strongly held conventions according to which ‘what is said’ and ‘what is meant’ does not always coincide.”

2.6.5. Models for idiom comprehension in children

We had introduced the models of idiom comprehension in Section 2.5. In this section, we have elaborated on the two models which have particular relevance for idiom competence in children. Levorato’s experiments on children provided evidence that the acquisition of idioms by children is far from simple learning of conventional expressions but is a process that involves complex linguistic and cognitive skill. This fact is little recognised because there has not been abundant research up to now on children (Lodge and Leach, 1975; Ackerman, 1982; Pinz, 1983; Gibbs, 1987; Cacciari and Levorato, 1989; Nippold and Martin, 1989).

2.6.5.1. Language Experience Hypothesis

The ‘language experience hypothesis’ or ‘acquisition via exposure hypothesis’ (Lodge and Leach, 1975; Prinz, 1983; Nippold and Martin, 1989; Ezell and Goldstein, 1991) proposed that children’s linguistic environment plays a significant role in the acquisition of idioms. This model proposed that idioms are acquired in a rote manner, i.e., through the constant exposure to idioms in the daily language discourse. Therefore, the more frequently used idioms (familiar idioms) in children’s environment will be easier to understand. The exposure to language was considered the primary factor of acquisition which, in a way, explains the ease of comprehension and improved performance of a child when exposed to familiar expressions. This hypothesis was challenged by Levorato and Cacciari (1992), who proposed that familiarity comes into the picture only when children are unable to use contextual information. Levorato and Cacciari claimed that familiarity has no role in the comprehension of idioms, especially in the children falling in the range of 6.9 to 11.9 years; they discussed that familiarity has a role in idiom production.

2.6.5.2. Global Elaboration Model

The ‘acquisition via exposure hypothesis’ could not explain the difficulty in the comprehension of unfamiliar idioms by children, and hence ‘global elaboration model’ (Levorato, 1993; Levorato and Cacciari, 1992, 1995, 2002) was proposed, which was meant to be an enhanced and comprehensive idiom acquisition model for children. The study discussed that figurative competence requires a coordinated set of cognitive abilities. Moreover, like literal language comprehension, figurative comprehension also requires the same language skills, world knowledge, and general linguistic and cognitive development. The ‘global elaboration model’ also suggested that the comprehension and production of idiomatic meanings are based on the ability to “go beyond a local, piece-by-piece elaboration of a text to search for a global and coherent meaning” (Levorato and Cacciari 1995:263). The model stressed the importance of cognitive and linguistic development of children in facilitating the comprehension of idiomatic expressions and emphasised the role of inferential skills to absorb the information presented in the supporting context.

Levorato (1993) proposed that “the development of skills and abilities to process and acquire figurative language takes place between seven and eleven years of age”.

However, she did not outline specific ages, as watertight compartments, which can be associated with each of the ‘phases’ or ‘levels’ of idiomatic competence; rather, for defining these levels she relied more on association with the language skills, ability to infer from context, stages of linguistic and cognitive development, and comprehension mechanisms used. She proposed that the acquisition of idioms is an ongoing process till adulthood. Context provides the required information, which enables children to derive the exact sense of the situation by integrating figurative language into the global representation of a text.

Levorato (1993) also suggested that “the ability to comprehend and produce idiomatic expressions is inseparable from the development of figurative language”. The model rejected the proposal of priority of literal language over figurative language, i.e. it disagreed with the hypothesis that figurative understanding happens as an afterthought once the literal understanding does not make any sense. The study also confirmed that idiom comprehension precedes idiom production. The initial stage of idiom acquisition is marked by a literal interpretation of idioms as children process the text piece by piece following the literal strategy and are not aware of searching the coherent global meaning of the text due to limited world knowledge (Ackerman, 1982; Nippold and Duthie, 2003; Abkarian et al., 1992; Levorato and Cacciari, 1992, 1995).

The GEM model discussed acquisition of idiom in six sequential developmental phases. These phases start at Level 0 which is a naïve stage where a child attempts to match an object with the name and ends at Level 5 which is a near-perfect metalinguistic competence. These stages are in a sequential progression where a child cannot skip any stage and cannot move to the next stage without mastering a preceding stage. This figurative model is based on a series of experiments conducted on English-speaking children. The different levels in children’s figurative language development are discussed below.

Level 0: This is the first phase in which very young children, age not specified by Levorato (1993), are not aware that language is conventional and cannot identify an object completely with its name without mediating the meaning, i.e. an object and its name are precisely the same for the children. For example, if the name of the ‘sun’ were changed for some reason, the children would believe that it will lose its heat as well (Piaget, 1923), i.e. the new name of ‘sun’ would not be associated with the heat aspect. Osherson and

Markman (1985) found that “young children will accept that the name of an object can be changed but believe that the object’s properties will change with the name”. Children in this phase associate a direct relationship between the object and its name.

Level 1: Children in this phase interpret language in a shallow way, where they have not mastered the art of drawing coherence and understanding a text in its entirety. They are at an advanced level compared to Level 0, as in this stage, they understand that ‘name’ refers to the meaning and understand that one linguistic item can have different referents and vice versa. This phase is predominant approximately until seven years, where morphological distinctions and syntactical realisation are established. This level is characterised by the tendency to apply a literal strategy of comprehension even for figurative forms, as the children tend to comprehend the meaning of an expression as the sum of the meaning of the component words. Children at this level have not yet grasped the creative and imaginative components of language, as their understanding is built mostly on concrete elements of the expression, and they lack the knowledge of conventionality.

Level 2: In this phase, children at an approximate age of seven to eight years start developing the skill to take advantage of contextual clues to reach the idiomatic meaning in a context. This phase is also marked by the achievement of ‘literal suspension’, as the child goes beyond the purely literal strategy and understands that symbolic meanings exist. A purely literal strategy means that a word will have only one referent; for example, ‘donkey’ refers to an animal and not any symbolic aspect, like ‘stupidity’. At this stage, children move beyond this understanding. In this phase, children show a greater tendency to select an idiomatic response when the idiom is presented in an idiomatic context than when it is presented out of context. Children in this phase start realising that certain expressions exhibit a discrepancy, where ‘what is said is not what is meant’, and this incongruity is not the communicative error or semantic anomaly. As stated by Levorato (1993:120), “This phase corresponds with the last phase of the cognitive pendulum in the linguistic realisation”. At this level, children accept a more flexible and open approach in which linguistic labels are used to form analogies and metaphors. This phase is also characterised by the ability to process the semantic information, thus making use of context to comprehend idioms. Children in this phase can realise the distinction between the intended meaning and the literal meaning due to world knowledge.

Level 3: Children in this phase discover the arbitrary nature of the language. By this stage, they acquire the knowledge which leads them to realise that language does not always need to be literal, and a sentence can have different realisations like idiomatic, sarcastic etc. There was no specific age group associated with this level; however, Levorato (1993) hinted that this level is reached in children over the age of nine to ten years. The children also realise that some expressions are more effective than others in communicating a given meaning, thereby acquiring a general rule that tells them not to depend too much on the surface form of linguistic expression for meaning. Therefore, they develop an ability to use language for diverse communicative purposes. In this phase, children attain a cognitive development level where they can realise the relationship between a word and its referent. Both at Level 2 and Level 3, children go beyond the information of the sentence and draw inferences by suspending the literal strategy. However, the awareness and skill levels vary in these two levels. At Level 2, the literal suspension is accomplished based on the recognition of an incongruity of an idiom's literal meaning (or the meaning of constituent words) with the surrounding context. At Level 3, the children develop the skill to understand the speaker's intention, and suspension of literal strategy is done to attain the specific communicative purpose, with the understanding that some expressions (idioms) are more effective than literal expressions.

Level 4: This level is the logical successor of Level 3, where a concrete realisation of all the potential developed in the preceding three levels is noticed. In this phase, children acquire figurative understanding and conventionalised expressions due to an adequate system of knowledge, which helps them link the figurative expressions to information and concepts already acquired. Level 2 and 3 are strongly influenced by the context; however, Level 4 is the one most influenced by the familiarity of idiomatic expressions. The limitation of this phase is that expressions are comprehended and produced in a holistic manner where units are undividable, and therefore, children cannot analyse the parts of these expressions. There was no specific age group associated with this level.

Level 5: A complete development of idiomatic understanding happens only at level 5, where children demonstrate a near-perfect figurative competence, i.e. an ability to reflect on the meaning of figurative expressions and analyse the relationship between the significant and the meaning. Metalinguistic ability is realised at this stage. At this

level, children develop an ability to decompose the idiom in order to make semantic inferences. Also, they can identify and interpret the meaning of idioms, even if the idioms have undergone lexical substitution or syntactic variations. Moreover, children at this level of understanding can generate new idioms and figurative language through syntactic and lexical variations on the existing idioms. Hence, in this stage, children have built a complete grasp of comprehending and producing the idioms. Producing the idioms is one of the last abilities to be developed in the course of idiom acquisition. There was no specific age group associated with this level.

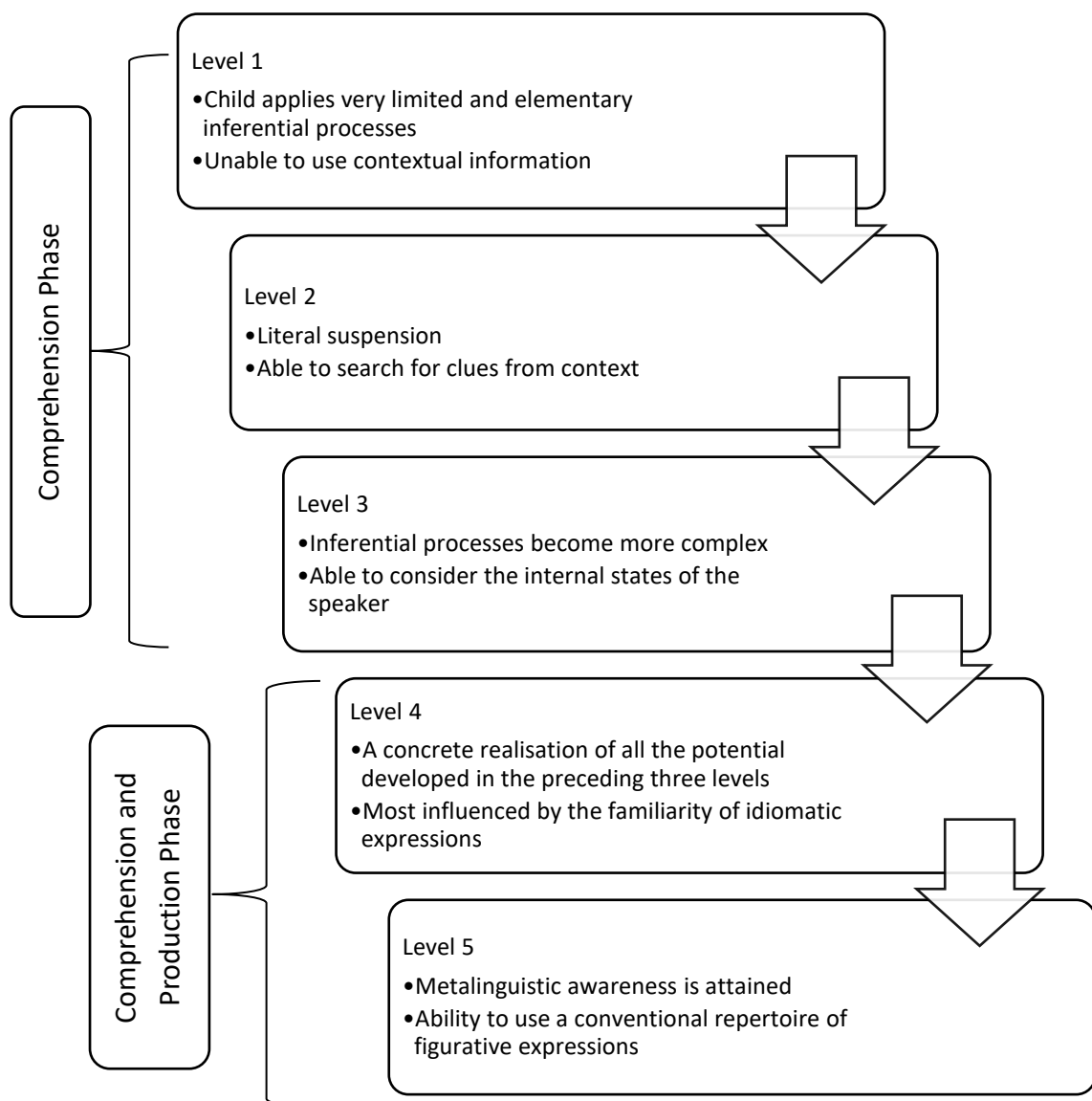


Figure 2.8: Phases of idiom acquisition adapted from Levorato and Cacciari (1992, 1993, 1995)

2.7. Dimensions of idioms which affect their comprehension

In this section, we have discussed the different factors and properties of idiomatic expressions, which can influence the ease of idiom comprehension in adults, and some factors which can influence idiom acquisition in children. We had discussed predictability and literality aspects of idioms and their influence on comprehension only in adults as these effects are yet to be explored in children. Various studies have consistently presented views that the degree to which these factors influence comprehension may vary for language users at different levels of cognitive development: children, adolescents, and adults. Overall, the findings presented regarding idiom interpretation and acquisition have provided invaluable insights into the mechanisms at play and made further research in this area possible. Most of the studies discussed have contradictory findings because one or more important factors have not been controlled in these studies. Titone and Connine (1994) pointed out the four essential dimensions of idioms (frequency, compositionality, predictability, and literality), which need to be controlled to develop a global comprehension model of idioms. These and some more critical dimensions of idioms have been discussed from Sections 2.7.1 to 2.7.7.

2.7.1. Context

One of the most critical factors, which influences the ease of idiom comprehension, thereby enabling correct interpretation in both adults and children, is the presence of a supportive linguistic context. The studies on idiom comprehension conducted on children and adolescents showed that both these groups performed better and gave more figurative responses when idioms appeared with a supportive context. Context provides clues to the language user and can facilitate the interpretation by releasing the lexical tension and decluttering the ambiguity in case of unfamiliar idioms and idioms with dual lexical representation, i.e. literal and figurative. It assists the language user to interpret the intended meaning by making a conceptual framework ready for interpretation.

Levorato and Cacciari (1992) defined contextual information as “constructing a coherent semantic representation and integrating it with the lexical and semantic information carried by the figurative expression”. They considered context as a facilitator for idiom comprehension, as it can provide vital semantic information required to extract

the figurative meaning appropriate for the situation. According to them, context plays a unidirectional and bidirectional role by creating a route that helps language users “go back and forth between contextual cues to solve the literal vs figurative dichotomy”. Levorato and Cacciari (1995) believed that ‘this mapping from idiom to context and back to idiom helps children to solve the tension between idioms strings (if taken literally) and the context’. They proposed that since contextual information acts globally around the sentence, therefore it prevents the child from interpreting an idiom literally in a rich, informative context. Studies on children acquiring figurative language have also shown that children interpret idioms literally at the age of 9-10 years if they are not provided in an information-rich context. Hence, context can provide excellent ground to study the developmental process of children both at the level of cognitive development and figurative competence. The GEM model (Levorato, 1993; Levorato and Cacciari, 1992, 1995, 2002) firmly supported the facilitatory aspect of context; it considered context as an essential factor that enables “children to progress from a local and piece-by-piece evaluation of linguistic items to a holistic and coherent meaning”.

However, the studies on very young children had not shown significant results regarding the ease of comprehension in the presence of a supportive context. In the current literature, the least age range for idiom comprehension was chosen by Abkarian et al. (1992). They tested 22 children in the age group from 3.5 to 6.5 years of age and based their study on comprehension through a picture selection task. The response of the children was collected on ten common idioms presented in context and no-context conditions. The task was assumed to be apt for the general cognitive levels of children of the chosen age group. Results of this task indicated “a significant linear trend for children to make more literal responses with increasing age” (Abkarian et al., 1992). The supporting context did not seem to help the children at a very young age interpret the figurative meaning of idioms, indicating that children are not sensitive to the figurative meaning at a very young age (at preschool age); hence their preference is towards the literal choices. The study also indicated that the children get sensitive towards the figurative choices (correct or incorrect) only around the age of six years, which is in line with the study conducted by Levorato and Cacciari (1989).

We have already discussed the GEM model, which proposed the role of context in developmental studies. Another study conducted by Ackerman (1982) showed “the effect of context on the interpretation of idioms” even when the idiom’s comprehension

was studied by using a different methodology. This study was conducted on three age groups of children (six, eight, and ten years) to understand the developmental pattern of figurative competency. The idioms were presented to the participants in a story context, and the context was biased towards different interpretations of the concluding sentence, viz. idiomatic, literal, and neutral. For example, a concluding sentence contained either an idiom (e.g. ‘fix his wagon’) or a modified form of the idiom (e.g. ‘repair his wagon’). It was observed that idiomatic interpretation occurred more frequently for the actual idioms than for the modified ones and that there were substantial developmental increases in making idiomatic interpretations of both forms (Ackerman, 1982). The result was interpreted as: due to the presence of context, the children would have observed an incongruence in literal interpretation and contextual information, and hence by applying a trial-and-error approach, would have arrived at the meaning.

2.7.2. Familiarity

In literature, the ‘familiarity’ of an idiom has been defined as the frequency of its usage in written or spoken forms. Familiarity is also an indicator of how closely one knows and understands the meaning of an expression. Therefore, it tends to have a positive effect on both the interpretation and the production of idiomatic expressions. Nippold and Martin (1989) and Nippold and Rudzinski (1993) discussed that the familiarity of idioms is a subjective variable. Social and cognitive factors such as age, educational background, and literacy skills determine idioms’ familiarity.

Schweigert (1985) explored the impact of familiarity of idioms on comprehension through his study on undergraduate students. He observed that there is a relationship between familiarity and comprehension when idiom comprehension is studied. Studies on the impact of familiarity on word recognition (Gernsbacher, 1984; Connine, Mullbx, Shemoff, and Yelen, 1990) and its importance in comprehending unknown metaphors (Blasko and Connine, 1993) indicated the vital role of familiarity in language comprehension theories. The studies conducted by Schweigert (1985) showed that sentences that contained more familiar idioms were read faster than the sentences containing the less familiar idioms. For conducting this experiment, Schweigert had chosen Glass’s (1983) familiarity list of idioms. Interestingly, this study observed that the subjects rated Glass’s idioms as less familiar. Hence, the theorisation of Glass’s study was challenged. Glass had used a phrase classification task, where he studied the

processing of a group of idioms, the results of which showed that the processing time between an idiom and its literal counterpart did not differ when the literal control was familiar. Hence, Schweigert challenged this generalisation and proposed that if the experiment used more familiar idioms, the results would have shown a significant processing difference. Schweigert and Cronk (1992) found that “highly familiar idioms were read faster than the less familiar idioms”. These studies pointed out that familiarity with idiomatic expressions played an important role in their comprehension. They implied that in order to examine the comprehension of idioms, the familiarity of the idioms (in the idiom-set used) should be controlled appropriately to get an unbiased result.

The ‘language exposure hypothesis’ had also stressed the usage frequency being an essential factor in children during their developmental phase. Children’s performance in idiom comprehension becomes better as age advances indicating that the accuracy in meaning interpretation improves in older children simply because, as their age increases, the children get more exposure to the idioms. Nippold and Rudzinski (1993) had also conducted a study on subjects in the age groups of eleven, fourteen, and seventeen years to test the effect of familiarity. The results indicated that age was a key factor contributing to good performance, and idioms with high familiarity were found easier to explain than moderate or low-familiar idioms. This study supported the language exposure hypothesis (Ortony et al., 1985) and established that familiarity has a vital role in idiom comprehension.

2.7.3. Compositionality

As discussed in Section 2.3.2, compositionality is a property of idioms that many studies have explored and have even defined categories of idioms based on this property. The idiom comprehension literature has presented much empirical evidence to show that the semantic structure has another important role in idiom comprehension. Compositionality denotes a relationship between the literal and figurative meanings of an idiom’s component and the idiom itself. The degree of compositionality and the idiom’s internal semantics have a logical connection as the words of the idiomatic expression form an association with logical inferences, and together they can have an impact on comprehension. Multiple studies, especially the literature on processing, highlighted the role of compositionality in idiom comprehension (Gibbs and Nayak, 1989; Gibbs, 1991; Subaşı-Uzun, 1992; Nippold and Rudzinski, 1993; Nippold and Taylor, 1995; Levorato

and Cacciari, 1999; Arıca-Akkök, 2007, 2008). The findings of these studies established that the speakers identify different categories of idioms based on the analysability.

Empirical studies conducted by Gibbs et al. (1989) confirmed that subjects could distinguish the three categories based on compositionality, viz. ‘normally decomposable’, ‘abnormally decomposable’, and ‘non-decomposable idioms’. A set of reading time experiments identified that sentences containing normally decomposable idioms, and abnormally decomposable idioms were read faster than the sentences containing non-decomposable idioms. These studies indicated that participants process the decomposable idioms by analysing in the same way as the literal language is processed, and the faster reading time indicates that participants make an initial compositional analysis of these categories of idioms. The literal meaning of the words, if related to the overall meaning of the idiomatic phrase, could ease the comprehension of idioms. An intriguing observation of this study was that subjects rated semantically non-decomposable idioms as less syntactically flexible (Gibbs and O’Brien, 1989) than either of the normally or abnormally decomposable idioms. Gibbs (1991) also conducted studies on children in the age group of five, six, eight, and nine years to test the comprehension process of idioms.

These studies showed that younger children (five-year-olds and six-year-olds) understood decomposable idioms better than non-decomposable idioms. The children in the age groups of eight and nine years understood both kinds of idioms equally well when the idioms were presented in supportive contexts. The results were different for these age groups when idioms were presented out of context; children interpreted decomposable idioms better than the non-decomposable idioms in this scenario. This result indicated that despite context being a key factor in idiom comprehension, children also use the compositionality of an idiom; they try to decompose the meaning of idioms during the comprehension process.

In contrast to Gibbs (1989, 1991), the earlier studies by Ackerman (1982) and Strand and Fraser (1979) had presented the view that “children learn idioms as single lexical units” which do not involve any compositional analysis. Studies conducted by Nippold and Taylor (1995) tried to look at the two variables, transparency (compositionality) and familiarity, and their effect on the development of idiomatic language. Their study included children belonging to the age groups of eleven, thirteen, and seventeen years. The experiment was a forced-choice task, and results indicated a

correlation between transparency, familiarity, and comprehension of idioms. The results further supported that the children (in age groups of eleven, thirteen, and seventeen years) comprehended familiar and transparent idioms better than the idioms belonging to the opaque and less familiar categories.

Another study by Levorato and Cacciari (1999) produced a similar result as that of Nippold and Taylor (1995). The only difference in this study was that it included children from younger age groups, i.e. from seven to nine years. The results of one of their experiments showed that, for idioms presented in a supportive context, children between seven to nine years of age could understand the meaning of semantically analysable idioms better than the non-semantically analysable idioms. Their second experiment showed a clear developmental pattern in the acquisition of idiomatic expressions in six-year-old, eight-year-old, and ten-year-old children, with the ability to identify the correct idiomatic answer slowly but surely increasing among the three age groups. The results also indicated that children with good reading skills, in general, tend to have a good comprehension of idioms as well, which increases with cognitive age.

Overall, these studies indicate that language users may use different strategies for comprehension when they encounter idioms. Some idioms may be learnt in a rote manner, while others are comprehended from the semantic analysis of the individual meanings of the components in an idiom.

2.7.4. Reading and comprehension skill

Studies conducted in relatively recent times (Cain and Oakhill, 1999; Levorato, Nesi, and Cacciari, 2004) indicated that children's language comprehension skills for interpreting a regular non-figurative text correlate with their ability to comprehend the idioms correctly. This assertion implies that children with better language comprehension skills will have a better understanding of idioms. The reason for this seems to arise from the fact that a skilled reader can draw inferences, construct coherence, integrate the meaning, and relate it with context. These skills are instrumental in developing ideas and integrating the figurative meaning when idioms are encountered in a discourse.

Cain and Oakhill (1999) discussed that "less-skilled children with poor comprehension skills construct incomplete representations of text, which could be a consequence of poor vocabulary, inadequate cognitive processing skills, poor general

knowledge, and a poor command of word-decoding”. The reason for not producing a correct interpretation by less-skilled participants could be that although they could arrange the textual information at a local level, they typically fail to integrate and form a coherent meaning of the text and cannot produce as many inferences as skilled participants.

Another study by Levorato, Nesi, and Cacciari (2004), on 101 Italian children in the age group of 7.4 years to 8.6 years, studying in second grade, presented the same results. They conducted three experiments on three groups with good, medium, and bad comprehension skills. In the first experiment, familiar idioms with plausible literal meaning were presented in a context where only idiomatic interpretation was plausible. The second experiment had idioms with two plausible answers, one idiomatic and another literal meaning of the idiom string, in a story context. Both the experiments indicated that children with good comprehension skills performed better at idiom comprehension. In the third experiment, they tested if a child ‘with improved comprehension skill can also show an improvement in figurative meaning comprehension’. The third experiment was conducted eight months after the first two experiments were conducted. The subjects of this experiment were the same students who previously had bad comprehension skills, but they had gotten promoted to the upper grade by then. This experiment showed the children who had improved in their comprehension of the regular text had also shown an improved performance in the idiom comprehension test. These studies indicated that a child’s proficiency level is also an important factor in idioms comprehension. A skilled reader who can understand a text can more often identify and comprehend the right idiomatic interpretation rather than misconstruing the idiom in a literal sense.

2.7.5. Predictability

In the study of idiomatic expressions, predictability can be understood as the likelihood or tendency to correctly complete an incomplete idiomatic phrase. This property of idioms may also be used to identify whether an expression under consideration is idiomatic, i.e. if it conveys a special meaning. Cacciari and Tabossi (1988) conducted reading time experiments to understand the influence of predictability in the activation of literal and figurative meaning in the course of idiomatic comprehension. They found that the idiomatic meaning of more predictable idioms, i.e. idioms in which the last word of the phrase was anticipated easily, was recovered sooner

than that of the less predictable idioms, i.e. idioms in which the last word could not be anticipated easily. They also found that the literal meaning of the last word was activated for the less predictable idioms but not for the more predictable idioms. One probable reason was that the literal meaning was rejected sooner for the more predictable idioms than for the less predictable idioms. Titone and Connine (1994) also studied the influence of predictability using cross-modal priming experiments and found a similar pattern of results.

2.7.6. Literality

Idioms vary in the degree of their literalness. Some idioms may have a dual representation, i.e. valid literal, and idiomatic meanings, while other idioms do not possess the same as they have only well-defined idiomatic meanings. Therefore, literality is the linguistic dimension of idioms that defines the potential of a phrase to have an idiomatic and literal interpretation. For example, the idiom ‘kick the bucket’ has two semantic representations. One is its literal interpretation, which is an act of kicking the bucket, and the other is its actual figurative meaning, i.e. ‘to die’. On the other hand, the idiom ‘chew the fat’ has only one representation of meaning which is to talk to someone in an informal and friendly way. The literal interpretation of ‘chew the fat’ is absurd and does not have any sense. Therefore, the idiom ‘kick the bucket’ has more literality than the idiom ‘chew the fat’.

The studies conducted so far to study the effect and importance of the literalness of idioms on its comprehension are not consistent in their findings. Branon (1975), as cited by Titone and Conine (1994), had conducted sentence classification and phrase classification tasks and found two conflicting results. Brannon (1975) had found that subjects took a longer time to perform a sentence classification task for idioms that had plausible literal meanings compared to sentences containing idioms that did not have plausible literal meanings. However, he did not find any significant difference in response times in the phrase classification task when idioms were presented with literal and non-literal interpretation. Titone and Conine (1994) studied the assertion made by Mueller and Gibbs (1987) which observed that subjects took longer to complete a paraphrase judgement task for idioms with no literal interpretation than for idioms with a valid literal interpretation. Titone and Conine (1994) discussed the cause of these contradictory results, explaining that the presence of a plausible literal meaning confuses the language

user and hence delays the idiomatic processing. In this case, there exists a competition between the two senses implied by the expression, i.e. the literal interpretation and the idiomatic meaning. This confusion and the subsequent selection of the correct meaning results in a longer processing time. Conversely, if the literal meaning is not very conspicuous, the idiomatic processing is not hindered, and hence the processing of such idiomatic expressions is quicker.

2.7.7. Conceptual knowledge

Conceptual knowledge can be defined as the pockets of knowledge which help in understanding any concepts. This involves an elaborate mental activity, and rote learning is insufficient for such a learning or understanding process. To understand it better, we have presented a brief overview of cognitive linguistics in this section. Cognitive linguistics is a relatively young and dynamic approach to study language, conceptual systems, human cognition, and general meaning construction. It is concerned with investigating the relationship between human language, the mind and socio-physical experience. It emerged in the 1970s and arose primarily out of dissatisfaction with the prevalent formal approaches to languages in the fields of linguistics and philosophy. Although its origin was philosophical, it was immensely enriched by allied fields like cognitive psychology since both these fields are interested in the question of human categorisation and conceptualisation (Fillmore, 1975; Lakoff, 1987). Other such examples are neurobiology (Kay and McDaniel, 1978) and the Neural Theory of Language (Gallese and Lakoff, 2005). Cognitive linguistics discussed the seemingly arbitrary meaning relationship of figurative expressions (like idioms) and asserted that language users use the conceptual domain of knowledge to comprehend idioms. In short, it suggests that the ability to learn and use languages is a product of “general cognitive abilities, kinaesthetic abilities, visual and sensorimotor skills, and human categorisation strategies, along with cultural, contextual, and functional parameters” (Barcelona, 1997). The two main branches of cognitive linguistics are cognitive semantics and cognitive approach grammar.

Studies conducted in the area of cognitive linguistics indicated that many idioms are the product of conceptual knowledge (Kövecses and Szabo, 1996). Conceptual structures are embodied, i.e. idiomatic meaning emerges from our more general knowledge of the world. The cognitive mechanisms at work, which help disambiguate

the idiomatic meanings, are conceptual metaphors, conceptual metonymy, and conventional knowledge. These motivate the meaning of idioms which are embodied in our conceptual system (Kövecses and Szabo, 1996; and Kövecses 2010). Studies in this discipline (Nayak and Gibbs, 1990; Gibbs and O'Brien, 1992; Gibbs, 1992, 1995) have indicated that many idioms are motivated by such conceptual knowledge. Depending on which domain the idioms are based on, these conceptual domains either trigger or constrain the comprehension of idioms.

2.8. Summary

In this chapter, we discussed the work done on idioms in the disciplines of linguistics and psycholinguistics, highlighting the diverse approaches of scholars to define idioms and their hypotheses regarding idiom comprehension and production processes. Indeed, a plethora of studies and the insights they offer seem to be interwoven with each other. While these studies report distinctly varying and sometimes contradictory findings when examined in isolation, it would be rather injudicious to ignore the obvious synergy between them, which produces invaluable insights into idiom processing and production processes. The study of a particular aspect or discipline surely helps in detangling the knots in other allied areas.

The initial studies on idioms were carried out by linguists to look for “the synchronic regularities and the diachronic changes of languages” (Cacciari and Tabossi, 1993). Studies initially aimed to define idioms while sticking to the traditional views according to which idioms were treated structurally as a rigid form devoid of structural variation. This view was challenged by linguists like Fraser, who proposed the ‘frozenness hierarchy’ of idioms. The traditional approaches also considered idioms as semantically non-compositional (Katz and Postal, 1963) which means that idioms consist of a set of words which can be considered as one unit where individual words have lost their original meaning, and the group of words denotes one meaning which is the figurative meaning. This view was also challenged, and a debate was initiated among linguists (Nunberg et al., 1983, 1994) and psycholinguists (Gibbs, 1985, 1991; Cacciari and Tabossi, 1988; Gibbs et al., 1989; Cacciari and Glucksberg, 1990), which provided a new dimension to the existing literature.

The studies further deep-dived into the different dimensions of idioms, starting with breaking the taboo of the non-compositionality aspect of idioms. Other dimensions were also explored as the studies attempted to read the minds of language users to understand the representation and conceptualisation of idioms, the meaning retrieval process acquisition of such expressions, and the production or recall of idioms. As more scholars presented their views, the status of idioms as ‘dead metaphor’ was criticised, making way to the understanding that not all idioms fall in such category. These studies explored the cognitive structure of idioms in speaker’s mind and concluded that “some idioms are still transparent to the speakers of a language community and shed light on how language users organise their conceptual and lexical knowledge, and establish connections across domains” (Cacciari and Tabossi, 1993).

Most of the theories related to the representation of idioms and their meaning retrieval process have made declarative statements about their entry in the lexicon and the comprehension process. Certain aspects like frequency, predictability, decomposability, etc., have been studied in isolation, but not collectively and comprehensively. Considering the dynamic nature of idioms, their usage, and the environment in which they are used, it is reasonable to incorporate all these aspects. To define the mechanism of the interpretation process, it also becomes essential to first understand these dimensions and their effect individually on comprehension and meaning retrieval processes and then work towards building a unified model which is not skewed towards any single factor. An integrated approach to study the processing of idioms is due in the area of idiom research. The acquisition literature also provided significant inputs indicating that to use idioms, learning them like regular words where we learn to ‘associate a string to its meaning’ (Cacciari and Tabossi, 1993) may not be the best approach. Instead, it is a lifelong process, and a child goes through different levels to acquire figurative competence and develop a good understanding of idioms. Levorato and Cacciari (1992) have also stressed the linguistic and communicative abilities of children, which increase their grasp of figurative language. They postulated that the comprehension and production skills of idioms grow simultaneously and increase with age and cognitive maturity.

The literature discussed in this chapter provided a glimpse of the rich linguistic discourse in the area of idiom research. Debates on compositionality, flexibility, conventionality, predictability, and many such dimensions and models have all added

many insights to demystify the comprehension and production processes of figurative language in general and idioms in particular. We aimed to build upon and consolidate the vast and diverse understanding of idioms developed through multiple studies over time and attempt to identify the key aspects of idiom comprehension by doing empirical research. We have also worked on idiom acquisition and tried to understand the idiom comprehension and production processes in children by studying the factors highlighted in these studies. In summary, this literature review enabled us to understand the different perspectives offered by multiple scholars in the area of idiom research, hence playing a pivotal role in shaping the objectives, scope, and methodology for this research.

Chapter 3: Methodology

3.1. Overview

In this chapter, we have summarised the methodology used for conducting the idiom comprehension studies on adult native speakers and idiom comprehension and production studies on children. We have used both qualitative as well as quantitative approaches in our study. The qualitative approach was used only in the preliminary stages of the study for the preparatory work for data collection. We have discussed this preparatory work in detail in this chapter. All the empirical studies conducted on adults and children were designed to adopt a quantitative approach.

3.2. Qualitative study

For doing the preparatory work of data collection (list of idioms) based on which we could design further empirical studies, we first collected an extensive list of nine hundred idioms from Bholanath Tiwari's (1991) '*Hindi Muhawara Kosh*' which is a dictionary of Hindi idioms. These Hindi idioms were selected in order to contain a good number of samples from each possible idiom category based on decomposability, flexibility, meaning familiarity, and having a predominantly similar constituent structure of V NP (NP V in Hindi), and having 3 to 6 constituent words. We created a set of 900 idioms at the end of this task. Following is a sample idiom from the idiom set, which possesses semantic ambiguity, contains 3 constituents, and follows the structure of NP V.

घोड़े बेचकर सोना

g^hore betʃkər sona

Literal meaning: To sleep after selling horses

Figurative meaning: To sleep peacefully / to have a deep sleep

3.2.1. Shortlisting the idiom set through focus group discussions

Next, we conducted qualitative research through focus group discussions. Identification of the most appropriate idioms for this study was a prerequisite for all the other empirical studies. We conducted and moderated the focus group discussions to shortlist 100 idioms out of the initially selected 900 and arrive at the idioms which would

be the most appropriate to be used in the empirical study and to check their views on the decomposability property of idioms (as it is a subjective aspect, as discussed in the literature). The other key objective of focus group discussions was to discuss the applicability of the idiomatic properties (compositionality, meaning familiarity, usage frequency, and predictability) in Hindi idioms. We have presented the process involved in sampling the data set and conducting the focus group discussions in this section.

We organised a focus group consisting of 5 native speakers of Hindi, who have also had 15+ years of formal education. All the participants had spent more than 20 years in the Hindi-speaking regions. 3 participants were from the University of Hyderabad, 1 participant was from NEERI, Nagpur and 1 participant was from Management Development Institute, Gurgaon. A total of eleven meetings were organised to conduct the focus group discussions. These discussions were conducted over a duration of six weeks. The first meeting was an introductory session of one hour, where the objective of the task and the parameters were discussed in detail. Post that, nine meetings, each of two hours' duration, were conducted to go through the 900 idioms (100 idioms in each meeting). The final (eleventh) meeting was to conclude on the final list of 100 idioms and was of two hours' duration.

The primary guideline to the group was that the shortlisted idioms should be universally accepted as idiomatic expressions by native speakers. Another guideline to the focus group was to choose idioms that are more familiar and avoid idioms whose meaning is not very well-known by native speakers, considering that the final study is to be conducted on children who are still in the language learning phase. The parameters used to identify these idioms were relative familiarity and simplicity. The participants made a judgement on the decomposability of idioms as per the instructions similar to those provided by Gibbs et al. (1989). A key observation from this task was that native speakers could distinguish idioms into 'decomposable' and 'non-decomposable' categories, and this distinction was quite acceptable to the speakers. Another crucial insight we got was that the additional task to further distinguish a decomposable category into normally and abnormally decomposable idioms, which Gibbs et al. (1989) followed in their study, created a bit of confusion, and also demanded additional time and attention. The participants suggested avoiding further refinement of the decomposable category (Titone and Connine, 1994), as it could cause confusion and error or biased judgement in defining the idiom categories. Therefore, taking this insight, we used the single

decomposable category instead of having two sub-categories of normally and abnormally decomposable idioms.

The classification of idioms proposed by Gibbs et al. (1989), based on the degree of compositionality and semantic transparency, provided some fascinating insights; however, scholars had also criticised some aspects of the study. For example, the category of ‘abnormally decomposable idioms’ was not clearly defined. We also feel that it is counterintuitive to assume that the ‘decomposable idioms’ category eventually accommodates the ‘abnormally decomposable idioms’. Also, the tests done on language speakers to test the decomposability seemed to have methodological glitches. For example, providing the figurative meaning and asking the subject for semantic judgement may not lead to very accurate results. The reason for such a remark is that we believe that providing the figurative meaning and then asking the subjects to do a decomposability test (as done by Gibbs et al.) retrospectively could quite naturally lead the speaker to try and decompose the meaning, thereby even a ‘non-decomposable’ idiom may find a place in ‘decomposable’ or an ‘abnormally decomposable’ category. We also believe that the decomposability of an idiom is a subjective call. Considering all these aspects, we devised our methodology to address such limitations in the decomposability test.

The data on Hindi idioms hint that there is a scope for another intermediary category between decomposable and non-decomposable categories. The degree of transparency of meaning in idioms indicates that a category ‘semi-transparent’ or ‘partially decomposable’ may find a fit. The example for such an idiom would be ‘*nak pər gussa hona*’ (literal meaning: ‘anger at nose’, figurative meaning: ‘to be short-tempered’). This expression is partially decomposable because anger (literal translation of ‘*gussa*’) is polysemous in this expression. It makes the expression partly transparent due to the evident transfer of meaning. The intermediary category is a thought which is in a nascent stage, and we need more brainstorming and evidence in this area to claim such a clear distinction. In our research, we have considered that the ‘decomposable’ category accounts for both the ‘normally’ and the ‘abnormally’ decomposable idioms defined by Gibbs et al. (1989). Therefore, we modified the instructions used by Gibbs et al. (1989) accordingly. The following list of 100 idioms was identified, and a subset of these (based on idiom categories subsequently identified) was used for each of the empirical studies on adult native speakers and children.

Table 3.1: List of 100 idioms

S. No.	Idiom	Literal Meaning	Figurative Meaning
1	घोड़े बेचकर सोना g ^h ore betʃkər sona	To sleep after selling horses	To sleep peacefully / To have a deep sleep
2	पेट में चूहे कूदना pet mə tʃuhe ku:ɖna	To have mice jumping in stomach	To be very hungry
3	घर की मुर्गी दाल बराबर g ^h ər ki: murgi: ɖal bərabər	Chicken of house is equal to pulses	To show less respect for homegrown or domestic talent
4	अपने पांव पर कुल्हाड़ी मारना əpne pāv pər kulhaɽi: marna	To strike axe on one's own foot	To cause harm to oneself / To act stupidly causing harm to oneself
5	खून पसीना एक करना k ^h u:n pəsi:na ek kərna	To make blood and sweat one	To work extremely hard
6	नाक पर गुस्सा होना nak pər gussa hona	To have anger on nose	To be short tempered
7	भैंस के आगे बीन बजाना b ^h ēis ke age bi:n bəɖʒana	To play a musical instrument in front of buffalo	To explain something to a foolish person
8	छप्पर फाड़कर देना tʃ ^h əppər p ^h aɽkər dena	To tear the roof and give	To earn a great fortune unexpectedly
9	तारीफ़ के पुल बांधना t̪ari:f ke pul bāɖ ^h na	To tie bridges of praise	To praise someone generously
10	आग बबूला होना ag bəbu:la hona	To be fire boil	To be extremely angry
11	अंधों में काना राजा əɖ ^h ō mə kana raɖʒa	One-eyed person being king among blind people	Less qualified person being the most prominent among a group of unqualified persons
12	टेढ़ी उंगली से घी निकालना teɖ ^h i: ungli: se g ^h i: nikalna	To take out clarified butter by bending finger	To do some work using an unconventional way
13	चुल्लू भर पानी में डूब मरना tʃullu: b ^h ər pani: mə ɖu:b mərna	To drown and die in a handful of water	To be very ashamed of oneself
14	खरी खोटी सुनाना	To make one hear raw (unfiltered) and defected	To scold someone

	kʰəɾi: kʰoɽi: sunana		
15	कैंची सी ज़बान चलना kə̃itʃi: si: zəban tʃəlna	Tongue moving like a pair of scissors	To have a harsh tone / a very rude person
16	दूध का धुला होना d̪u:ɖʱ ka ɖʱula hona	To be washed with milk	To be very pure / To act like a very pure and ethical person
17	तिल का ताड़ बनाना t̪il ka ɽaɽ bənana	To make palm tree out of sesame seed	To heavily exaggerate / To create a big fuss out of a small thing
18	अपने मुंह मियाँ मिट्टू बनना əpne m̪uḥ mijā mit̪ʰu: bənnə	To be self mouth parrot	To praise oneself
19	आसमान सिर पर उठाना asman sir pər uʈʰana	To lift sky on head	To create a huge ruckus
20	अकल घास चरने जाना əkɭ gʱas tʃərne dʒana	To have mind gone for grazing grass	To lose logical understanding or common sense
21	किताब का कीड़ा होना kit̪ab ka ki:ɽa hona	To be a bookworm	To be very studious / To be someone who reads a lot but has less practical knowledge
22	सिट्टी पिट्टी गुम होना sitti: pitti: gum hona	To lose senses (*no literal translation for sitti pitti)	To become extremely scared or frightened
23	अंधेरे में तीर चलाना ə̃ɖʱere m̪ẽ t̪i:r tʃəlana	To shoot arrows in the dark	To make a wild guess
24	एड़ी चोटी का ज़ोर लगाना eri: tʃoɽi: ka zor ləgana	To put strength from heel to hair braids	To put in all possible efforts
25	हाथ पीला होना haɽʱ pi:la hona	Hands being yellow	To get married
26	दांतों तले उंगली दबाना ɖāɽ̪õ t̪əle ungli: ɖəbana	To bite finger under one's teeth	To be astonished
27	घुटने टेक देना gʱuɽne tek d̪ena	To put knees on ground	To concede defeat
28	ऊंट के मुंह में जीरा ũ:t ke m̪uḥ m̪ẽ dʒi:ɽa	Cumin seed in camel's mouth	A miniscule or inconsequential amount
29	एक अनार सौ बीमार ek ənar sau bi:mar	One pomegranate, hundred sick people	Something very useful, but available in a limited quantity

30	डंके की चोट पर कहना d̪əŋke ki: tʃot̪ pər kəhna	To say on the beat of a drum	To be very loud and confident about something
31	कंधे से कंधा मिलाना kəṁd̪hə se kəṁd̪hə milana	To match shoulder with shoulder	To extend full cooperation
32	कटे पर नमक छिड़कना kət̪e pər nəmək tʃʰiɽəkna	To sprinkle salt on wound	To cause more pain or trauma for someone who is already in anguish
33	चादर के बाहर पांव पसारना tʃadər ke bahər pāu pəsarna	To spread legs outside bedsheet	To spend more than one's income
34	गड़े मुर्दे उखाड़ना gəɽe mur̪de uk̪hər̪na	To pull out buried corpses	To search for and reveal very old things from someone's past
35	कमर टूट जाना kəməɽ tu:t̪ dʒana	Waist breaking down	To be extremely tired
36	मुंह में घी शक्कर होना mũh mē ɡʰi: ʃəkkər hona	To have clarified butter and sugar in mouth	To wish someone who brings favourable news
37	आटे दाल का भाव मालूम होना aɽe d̪al ka bhav malu:m hona	To know the price of flour and pulses	To be aware of the realities of life
38	कोल्हू का बैल होना kolhu: ka bæil hona	To be the ox which is used to draw out water from well	To be extremely hard working/ To do inconsiderate amount of work
39	मिट्टी में मिला देना mitt̪i: mē mila d̪ena	To mix in mud	To defeat or completely eradicate someone or something
40	अक्ल का दुश्मन होना əkl ka d̪uʃmən hona	To be enemy of wisdom	To be very stupid
41	अपना उल्लू सीधा करना əpna ullu: si:d̪hə kər̪na	To straighten one's owl	To achieve one's selfish purpose
42	अधर में लटकाना əṁd̪hər mē lətkana	To hang something half-way	To leave someone or some task mid-way
43	आँखों का तारा होना āk̪h̪õ ka t̪ara hona	To be the star of eyes	To be very dear to someone
44	कान खड़े होना kan k̪h̪əɽe hona	Ears standing straight	To become very attentive / To give dedicated attention

45	अंग अंग टूटना əŋg əŋg tu:tna	To have body parts breaking	To be very tired
46	आँखों में पानी भर आना ākʰõ mē pani: bʰər ana	Water filled in eyes	To become very emotional
47	जान हथेली पर रखना dʒan hətʰeli: pər rəkʰna	To keep life on the palm of the hand	To perform a very risky or daring act
48	कब्र में पाँव लटकाये होना kəbr mē pāv lətkaje hona	Feet hanging in grave	A very old person who is nearing death
49	अंतिम घड़ियाँ गिनना ə̃tim gʰərijā ginna	To count last days	To be on the verge of death
50	कलेजे पर पत्थर रखना kələdʒe pər pətʰər rəkʰna	To keep stone on chest	To show strength at times of emotional turmoil
51	धरती पर पाँव ना पड़ना dʰər̥ti: pər pāv na pərna	Feet not landing on the ground	To be extremely happy / To be on cloud nine
52	अंगुली पर नाच नचाना əŋguli: pər natʃ nətfana	To make someone dance at one's fingers	To force someone to act as per one's directions / To control someone
53	खून का प्यासा होना kʰu:n ka pjasa hona	To be thirsty for blood	To intend to harm or kill someone
54	आस्तीन का साँप होना as̥ti:n ka sãp hona	To be snake of one's sleeves	To betray someone / To be an enemy in a friend's disguise
55	नाव पार लगाना nav par ləgana	To help the boat cross	To help someone immensely
56	चारों खाने चित करना tʃarõ kʰane tʃit̥ kərna	To make someone fall on the floor (with face facing skywards) on all the four corners	To comprehensively defeat someone
57	दिन अंगुलियों पर गिनना din əŋguliʃõ pər ginna	To count days on fingers	Impatiently waiting for something or someone
58	कठपुतली की तरह नचाना kətʰputli: ki: t̥ərəh nətfana	To make someone dance like puppets	To make someone act as per one's directions / To control someone
59	गले का हार होना gəle ka har hona	To be a necklace	To be very dear to someone

60	दुम दबाकर चल देना d̪um d̪əbakər tʃəl d̪ena	To lower the tail and walk away	To escape a situation in a cowardly manner
61	तारे दिखाई दे जाना t̪are d̪ikʰai: d̪e d̪ʒana	Stars being seen by someone	To feel dazed or bewildered
62	हवाई किला बनाना həvai: q̪ila bənana	To build a fort in air	To make unrealistic plans / To build castle in air
63	रास्ते पर आना rast̪e pər ana	To come on road	To become bankrupt / To lose all possessions
64	आँखें फेर लेना ākʰẽ pʰer lena	To change the direction in which the eyes are seeing	To worsen one's behaviour towards someone
65	आँखें चार होना ākʰẽ tʃar hona	Eyes becoming four	To meet someone / To fall in love with someone
66	हवा से बातें करना həva se bat̪ẽ kərna	To talk with air	To move very fast
67	घर में आग लगाना gʰər mẽ ag ləgana	To lay fire in house	To cause fights among family members
68	सिर आँखों पर बैठाना sir ākʰõ pər b̪eɪtʰana	To make someone sit on head and eyes	To hold someone in high esteem / To treat someone reverentially
69	आसमान के तारे तोड़ना asman ke t̪are t̪orna	To pluck stars of sky	To do an extremely challenging or near-impossible task
70	अंजर पंजर ढीला होना ə̃dʒər p̪ə̃dʒər d̪ʰi:la hona	To have all organs, even skeleton, getting loose	To be overfatigued
71	टका सा जवाब देना t̪əka sa d̪ʒəvab dena	To give a raw reply	To be very blunt/ Flat refusal
72	तोते उड़ जाना t̪ot̪e ur d̪ʒana	Parrots flying away	To get panic-stricken or scared
73	ईंट से ईंट बजाना ĩ:t se ĩ:t bə̃dʒana	To hit brick with brick	To cause extensive damage / To defeat someone comprehensively
74	अक्ल के घोड़े दौड़ाना əkl ke gʰore d̪aurana	To run horses of wisdom	To think of many solutions / To think in multiple aspects
75	चैन की बंसी बजाना tʃəin ki: b̪ɐ̃si: bə̃dʒana	To play flute of peace	To be in a very relaxed and peaceful state of mind

76	आँच ना आने देना āṭʃ na ane dēna	Not to let the heat come	To protect something or someone scrupulously
77	कुत्ते की दुम होना kuṭṭe ki: dūm hona	To be a dog's tail	To be very rigid or inflexible / To be unwilling to change
78	हाथ गरम करना haṭṭh gəɾəm kəɾna	To heat hand	To bribe someone
79	घोल कर पिला देना gʰol kər pila dēna	To mix and make someone drink	To brainwash someone completely
80	अंग अंग फूले ना समाना əŋg əŋg pʰu:le na səmana	To have organs swell in no limited way	To be deliriously happy
81	कानों में तेल डालकर बैठना kanō mē ṭel ḍalkər baitʰna	To sit after putting oil in ears	To be completely unwilling to listen
82	आँख भौं चढ़ाना ākʰ bʰāu tʃəḍʱana	To raise eye and eyebrow	To show anger on someone
83	मुँह में दही जमाना mūh mē ḍəhi: dʒəmana	To prepare curd in mouth	To stay silent / To be tongue-tied
84	अंधे के हाथ बटेर लगना āḍʰe ke haṭṭh bəṭər ləgna	A blind person catching a quail	Undeserving person getting a huge or unproportionate success
85	नाक पर मक्खी ना बैठने देना nak pər məkkʰi: na baitʰne dēna	To let a fly not sit on nose	To be completely unaffected
86	आँखों का कांटा होना ākʰō ka kāṭa hona	To be the thorn of eyes	To detest something or someone
87	कफन से सिर बांधना kəfən se sir baṇḍʰna	To tie white cloth (used for covering dead bodies) on head	To be extremely fearless
88	अंधेरे घर का दीपक āḍʰere gʰər ka ḍi:pək	To be the lamp (oil lamp made of clay) of dark house	To be the only hope
89	कलेजा मुँह तक आना kələdʒa mūh ṭək ana	Liver coming till mouth	To be shocked or scared
90	अपना सा मुँह लेकर रह जाना əpna sa mūh lekər rəh dʒana	To remain with just one's own mouth	To get embarrassed

91	छाती पर मूंग दलना tʃʰaʈi: pər mu:ŋg dəlna	To grind gram pulses on someone's chest	To trouble someone incessantly
92	अंगूठी का नगीना aŋgu:tʰi: ka nəgi:na	To be the jewel of ring	To be very precious or dear to someone
93	अंगुली पकड़कर पहुँचा पकड़ना əŋguli: pəkərkəɾ pəhũtʃa pəkəɾna	Catching finger and then catching wrist	To take undue advantage of someone after getting some initial help
94	गुदड़ी का लाल होना guḍri: ka lal hona	Worn-out clothes becoming red	To be an extraordinary person born in a poor family or locality
95	आँखों में खून उतरना ākʰõ mē kʰu:n utəɾna	To have blood egress from eyes	To become extremely angry
96	खूँटे से बाँध देना kʰũ:te se baṇḍʰ dēna	To tie to wooden stick buried in ground	To forcibly engage someone with something or someone
97	हथेली पर सरसों उगाना həʈʰeli: pər sərsõ ugana	To grow mustard on the palm of one's hand	To attempt an impossible task
98	गर्दन कट जाना gəɾdən kət dʒana	Neck getting cut	To be swindled by someone
99	खटाई में पड़ जाना kʰəʈai: mē pəɾ dʒana	To fall into sourness	Some task or work getting stuck because of some obstacles
100	अथ से इति तक əʈʰ se iti tək	From start to finish	From start to finish

3.3. Quantitative studies

To understand the acquisition process in the different age groups, we devised empirical studies to be conducted on adult native speakers of Hindi and children who have Hindi as their L1 language. We designed two empirical studies on adults to determine the factors which affect idiom comprehension and to consolidate the idiom data set for the next study on children. To understand the figurative competence of children and the factors responsible for the same, three empirical studies were conducted on children across the age groups from 7 to 13 years. Overall, to achieve the objectives set out in the previous section, we have used multiple tasks through the research methods outlined in the sections below.

3.3.1. Studies on adult native speakers of Hindi

We conducted two empirical studies on adult native speakers of the Hindi language as a preparatory work for the studies on children. We designed the tests to identify and isolate the effect of some key properties of idioms on the comprehension process. We also used this study to identify the possible idiom categories and the corresponding idiom set which could be reused in the comprehension and production studies on children. To focus only on the properties of the idioms and to control the effect of context, we studied the idiom comprehension without any sentential context. We used the survey method for the empirical studies on adults. To conduct the survey, we designed questionnaires and gathered responses using SurveyMonkey (www.surveymonkey.com), which is a web-based survey tool.

This study consisted of two empirical studies consisting of acceptability rating tasks (to understand the overall effect of idioms' properties) which included semantical judgement task (to analyse the effect of idiom transparency), familiarity judgement task (to analyse the effect of idioms' usage frequency and meaning familiarity) and literal meaning identification task (to analyse the effect of idioms' literal meaning). To understand the predictability aspect, we also conducted a point of idiom identification task (to analyse if certain words in an idiom are the key points of idiom recognition that enable early recognition of a phrase as an idiomatic expression).

3.3.1.1. Empirical Study 1

In Empirical Study 1, we conducted two familiarity judgement tasks and one semantical judgement task. The parameters studied through Empirical Study 1 were usage frequency, meaning familiarity, and decomposability of idioms.

3.3.1.2. Empirical Study 2

In Empirical Study 2, we conducted one semantical judgement task, one literal meaning identification task, and one point of idiom identification task. The parameters studied through Empirical Study 2 were usage decomposability of idioms, literality (tendency to interpret literal meaning), and predictability (through the point of idiom identification task).

3.3.1.3. Tasks conducted

Following is a summary of the tasks conducted as part of the above-mentioned empirical studies on adults. Details of the tasks conducted, and idioms used for each empirical study are presented in Chapter 4 (Section 4.4 and Section 4.5).

1. Acceptability rating tasks: These tasks were designed to test the responses of the participants on a 5-point Likert scale. The tasks test the representation of idioms on different linguistic dimensions, viz. compositionality, literalness, frequency, and meaning familiarity. As is true for the 5-point Likert scale, the highest and lowest ratings on the scale represent the extreme cases of the different categorisation of idioms regarding the idiom property being assessed by the respondent.
2. Semantic judgement: The semantic judgement task was designed to test the meaning transparency of the idioms. The design of the task expects semantic judgement from the respondents (native speakers of Hindi) on Hindi idioms. The data set provided to the subjects contains a mixed idiom set, as some idioms have a transparent relationship between the constituents of the idioms and the idioms' meaning. Other idioms do not exhibit a similar relationship. The dichotomy of transparency and opaqueness in meaning is measured as the compositionality of the idioms. The participants are instructed to make a semantic judgement on the expressions by categorising idioms as decomposable (transparent) and non-decomposable (opaque), using a 5-point Likert scale.
3. Familiarity judgement: This task was designed to understand the effect of idioms' usage frequency and meaning familiarity on the comprehension process. The task requires respondents to assess how frequently they encounter or use an idiom by responding on a 5-point scale. Similarly, the task also requires respondents to assess how well they know the meaning of the idiom on a 5-point scale. This task aims to find if, for frequent and familiar idioms, do the comprehension mechanisms involve compositional analysis or rely more on memory retrieval. The objective of this task is to look for such patterns in the comprehension process.
4. Literal meaning identification: This task was designed to understand the literalness of idioms. The participants had to make a judgment on a 5-point Likert scale to assess if the literal meaning of the idiom is also retrieved in the process of interpreting idioms.

This exercise may indicate the role of the literal meaning of the idioms in the idiom comprehension, i.e. if at all literal meaning is computed and has any role to play in comprehending idioms of different categories.

5. Point of idiom identification – This task was designed to analyse if certain words in an idiom are the key points of idiom recognition, which enable early comprehension. The literature suggests that many phrases are recognised as idioms, and idiomatic comprehension is triggered as soon as certain keywords are encountered. These keywords, termed as the points of idiom identification, may aid the idiom comprehension process. Respondents were asked to indicate the identification point at the word where the meaning of the idioms is uniquely defined.

3.3.2. An empirical study to test the idiom comprehension skills in Hindi-speaking children

This empirical study was designed to test the comprehension of idioms by children in the language learning age across the age groups of 7 to 12 years. This study was executed in the form of a controlled experiment with close-ended questions (MCQ based).

3.3.2.1. MCQ Task

Different categories of idioms were embedded in a story context where the correct meaning of the idioms was to be identified by the children. The participants were provided with test booklets containing instructions as well as printed narratives for each of the 24 idioms used for this study, followed by the options to execute this task and were asked to mark responses on the same test booklet from the four different choices provided at the end of each narrative. The objective was to assess which types of idioms were more accurately comprehended and if the error analysis can also provide insights into how children comprehend idioms. Details of the task conducted, and idioms used are presented in Chapter 5 (Section 5.3.2).

3.3.3. An empirical study to test production skills in Hindi-speaking children

This empirical study was designed to test the production of idioms by children in the language learning age, across the age groups of 8 to 13 years. This study was executed as a controlled experiment using two tasks, a ‘picture identification’ task and a ‘fill in the blanks’ task. The participants were provided with test booklets containing the picture narratives and sentences with the blanks (to be filled in using idioms) to execute this task.

3.3.3.1. Picture Identification task

The ‘picture identification’ task was designed to analyse the idiom production competency of children when presented with a picture as the stimulus for production. The objective of the task was to evaluate the competency of children to produce suitable idioms when presented with images that could closely be associated with some idioms. By analysing the responses, we aimed to understand which type or category of idioms are easy to produce and which categories of idioms were more error-prone or difficult to produce. Pictures used for this task were designed for 16 idioms chosen for the comprehension task (MCQ task) on children, as that would help us compare trends between production and comprehension processes for idioms.

3.3.3.2. Fill in the Blanks task

The ‘fill in the blanks’ task was used to study children’s idiom production competency by providing them with an incomplete sentence and testing their ability to fill an apt idiom that can make the sentence complete and meaningful. We also provided the first-word cues corresponding to these idioms. This task was designed to evaluate the production of idioms by children so as to understand the complete acquisition path and ascertain which factors aid or impede idiom production. The 8 idioms chosen for this task were a subset of those used for comprehension task (MCQ task) on children in order to allow a comparative study. Details of the task conducted, and the idioms used are presented in Chapter 6 (Section 6.3.2).

3.4. Summary

In this chapter, we detailed the preparatory work done to fulfil the prerequisites of data collection (collecting initial idiom list and understanding the perspective of native speakers on idiom properties). Furthermore, to maintain coherence and provide an easy reference, we provided a summary of the methodologies used for all the empirical studies conducted as part of this thesis. Complete information about these empirical studies, including the tasks designed, the methods followed, the profiles of respondents, the material used, the analysis done, and the observations made, are presented in the respective chapters. Chapter 4 discusses the empirical studies conducted on adult native speakers. Chapter 5 and Chapter 6 discuss the empirical studies conducted on children in their language learning phase.

Chapter 4: Demystifying the Process of Idiom Comprehension: An Exploratory Study on Adult Native Speakers of the Hindi Language

4.1. Introduction

As a preparatory work for the empirical studies on children, we conducted two empirical studies on adult native speakers of the Hindi language. In this chapter, we have presented the studies conducted along with their findings, which helped us derive meaningful insights about the comprehension process of idioms. The significance of this study in our research was that it enabled us to explore the four dimensions of idioms, i.e. usage frequency, compositionality, the role of literal meaning, and predictability (through the ‘point of idiom identification’) in idiom comprehension. This study also aimed to identify the right mix of idioms to be used in the idiom comprehension and production studies on children (Chapters 5 and 6).

The present chapter is organised as follows. In Section 4.2, we have discussed the missing pieces in the idiom’s research and the need to develop a comprehensive idiom comprehension model. The two experiments conducted on adult native speakers of Hindi and the corresponding findings and discussions are presented in Sections 4.3 and 4.4. In these sections, we have tried to understand the dimensions of idioms’ meaning familiarity, usage frequency, decomposability, literality, recognition point, and the incongruence of literal and figurative meaning. Also, we have discussed the findings and the applicability of the insights gained. The study is summarised in Section 4.5.

4.2. Conceptualisation of idioms and the gaps in literature

In Chapter 2, we discussed the different models of idiom processing in adults, but none of them could satisfactorily explicate a standard comprehension model of figurative comprehension. The literature dealing with the comprehension of idiomatic expressions is inconclusive. The comprehension models of idioms have presented different isolated findings, due to which a complete model of idioms conceptualisation is not available. The reason behind this seems to be that all the different linguistic dimensions of idioms have

not been controlled and assimilated in any of the earlier empirical studies. In Chapter 2, we discussed that idioms belong to a heterogeneous set and could be classified into multiple categories based on the classification criteria. For instance, based on compositionality, we could categorise idioms into decomposable and non-decomposable idioms, considering the role of internal semantics (transparency of the idiomatic phrase). Another categorisation could be based on syntactic flexibility, leading to syntactically frozen and flexible categories. The idioms in each of these categories may show different comprehension mechanisms, strategies, and processes involved in the interpretation of idioms.

The processing models of idioms have majorly focussed on the heterogeneous nature of idioms. However, the different dimensions of idioms (frequency, compositionality, predictability, and literality) were not considered in a coordinated manner, and hence, different empirical results could not provide a global theoretical model discussing the conceptualisation of idioms. The different models have represented the conceptualisation and comprehension of idioms differently. These models have pointed out that the comprehension of idioms envisages one of the two fundamental processes. Either the idioms have a literal meaning built from the individual words in the phrase which helps arrive at the idiomatic meaning, or the idiomatic meanings are directly stored in and recalled from memory. The only difference in the models of idiom comprehension is the order in which these processes occur.

The aspect of idioms' non-compositionality has been discussed in the Literal Processing model (Bobrow and Bell, 1973), the Lexical Representation model (Swinney and Cutler, 1979), and the Direct Access model (Gibbs, 1980, 1986). The Literal Processing model and Lexical Representation model are similar as they concentrate on the computation of the literal meaning, which is not precluded in idiom processing. These models only differ in their approaches in defining how and when the activation of the idiomatic meaning takes place. On the other hand, the Direct Access model (Gibbs, 1980, 1986) assumes that "only an idiomatic meaning of the phrase is available during comprehension". These three models support each other to only some extent. Cacciari and Tabossi (1988) conducted a series of cross-modal priming experiments to accurately measure the activation of an idiom's literal and figurative interpretations. They proposed that the idiom's meaning is a distributed representation rather than a lexical entry. Cacciari and Glucksberg (1991) have termed this as 'configuration hypothesis' which

represents that the idiomatic meaning is activated only when the speaker recognises the idiom through certain keywords. Flores d' Arcais (1993:81) suggested that language users, after going through a "sufficient portion of the idiom", encounter an "idiomatic key", which he referred to as "the point of idiom recognition".

The empirical studies conducted to derive these theories used different tasks and idioms of different dimensions, which tapped into the idiom comprehension process at different points and by varying means. Recent work by Schweigert and Moates (1988), Titone and Connine (1994) pointed out shortcomings in the models proposed. Schweigert (1985) and Titone and Connine (1994) attempted to talk about the influence of these factors in psycholinguistic research of idioms through their experiments. The gaps and the contradictory results across idiom literature leave sufficient scope for reconciliation. Taking insights from work done by Schweigert (1985), and Flores d'Arcais (1993), Titone and Connine (1994), we have studied the effect of multiple linguistic dimensions to understand their effect on comprehension of idioms when they appear in isolation (not embedded in any supporting context).

4.3. Empirical Study 1: Establishing the idiom categories (based on usage frequency, meaning familiarity, and decomposability)

In this empirical study, we have tried to understand and quantify the parameters that can affect the comprehension of idiomatic expressions to derive meaningful insights into the comprehension process. We aimed to analyse the usage frequency, meaning familiarity, and decomposability (if constituents of an idiom contribute to its idiomatic meaning) of idioms in Hindi to ascertain a relationship between these parameters. Through this empirical study, we attempted to get the list of most and least frequently used idioms, and the most and least familiar idioms, spread across the decomposable and less-decomposable categories. It helped us classify the idioms into the possible idiom categories and quantify how representative an idiom is of its category. This refined and categorised data set was used to study each category throughout our study, to understand the interpretation of idiomatic expressions by children and adults for each category of idioms.

4.3.1. Methodology

This study consisted of one semantic judgement task (where participants had to make a yes/no judgement) and two rating tasks (where participants had to rate their responses on a 5-point Likert scale). From the focus group discussions explained in Section 3.2, we had prepared a list of 100 idioms. For this empirical study (all three tasks), we prepared two questionnaires for idioms, with 50 idioms in each questionnaire. Idioms were randomly distributed into these two questionnaires, as we had not done any quantitative assessment of decomposability, meaning familiarity, and usage frequency till now. We have used the survey method for this empirical study.

4.3.1.1. Participants

The study was undertaken on native speakers of Hindi, having 15+ years of formal education in Hindi. All the participants had spent more than 20 years in the Hindi-speaking regions. The respondents were in the age group of 22 to 33 years and included students, salaried professionals working in the information technology industry, and homemakers. The study was conducted on 72 participants, with 44 male and 28 female participants. Questionnaires were distributed so that 36 participants answered Questionnaire 1, and the remaining 36 participants answered Questionnaire 2. Therefore, each idiom was presented to 36 participants for each of the tests mentioned. Students who participated were predominantly from the Banaras Hindu University, Varanasi and the University of Hyderabad, Hyderabad. All the participants knew more than two languages and were native speakers of Hindi. The participants also had formal education in Hindi (studied Hindi as a subject in their academic curriculum until their graduation). All the participants were proficient in reading, writing, speaking, and understanding Hindi.

4.3.1.2. Method

To conduct the survey and capture the responses, we have used SurveyMonkey (www.surveymonkey.com), which is a web-based survey tool. In both the questionnaires, the only difference was in the idioms used. Each participant was sent one questionnaire. The target audience of this survey were from Bihar, and at the time of this study were settled in different parts of India, so it was a prerequisite that the survey had to be done online. We ensured that we have an equal number of respondents for both the questionnaires. Along with mentioning the instructions in the survey, we wanted to be

sure that the respondents understand all the instructions thoroughly and hence, we interacted with respondents over the phone, e-mail, and social media sites, to make sure they understand the survey instructions.

The individual responses were collected through web links and e-mails sent using SurveyMonkey (a web-based survey tool). The SurveyMonkey web tool was also used to consolidate and summarise the responses also. To analyse the responses, we used Microsoft Excel and PivotTables. To identify patterns in the data, and to establish correlation between the various properties of idioms being studied, we executed linear regression tests using the IBM SPSS Statistics (version 20.0) tool. To make sure that each participant carries out the task attentively, we did ask each respondent to write the meaning of idioms on the last page of the questionnaire, although we did not intentionally assess these responses as correct or incorrect (not in the scope of this study).

4.3.1.3. Material

As discussed earlier, two sets of idioms containing 50 idioms each were chosen for this study. We devised two questionnaires corresponding to these two sets of idioms. Both questionnaires had all three tasks, one semantic judgement task and two rating tasks. Detailed instructions to fill the respondents' demographic profile and submit responses for the tasks were provided at the beginning of both the questionnaires. Along with the detailed instructions, we tried to impart more clarity by providing appropriate examples. The questionnaires had two sections to which the participants had to respond. All the instructions were provided in English, while the Hindi idioms used for this study were typed in the Devanagari script.

The first section was related to the demographic profile of the participants and collected information pertaining to their language proficiency, bi-or-multilingualism, years of stay in a Hindi-speaking zone, years of formal education, etc. (details are available in Appendix 1). A 5-point Likert scale was used in the questionnaire to collect information pertaining to the language proficiency of the participants. This section helped us ascertain the language proficiency of participants in order to be indubitably sure that only native speakers with 15+ years of formal education in Hindi were part of this empirical study. The second section of the questionnaire had the two rating tasks to evaluate the usage frequency and meaning familiarity of the Hindi idioms under

consideration, and the semantic judgement task to test the compositionality or analysability (transparency in meaning) of idioms. In the instructions preceding the tasks, it was made clear that the tasks are not meant to evaluate the responses as right or wrong, and therefore the responses should be marked as per the understanding or judgement of native speakers of the Hindi language.

4.3.1.4. Rating tasks to compute meaning familiarity and usage frequency

In the rating tasks, respondents were asked to mark their responses on a 5-point Likert scale based on their exposure to idioms in day-to-day conversations or reading (usage frequency) and awareness of the meanings of idioms (meaning familiarity). Both the tasks were presented together for each idiom throughout the questionnaire for ease of navigation. In order to avoid any confusion, respondents were provided with detailed instructions, including examples. Moreover, it was explicitly called out that idioms whose meaning is known quite well may or may not be used or encountered frequently in one's day-to-day life.

Before presenting the tasks and idiom set, detailed instructions on how to rate and make a judgement were provided in the questionnaire. The participants were required to read the instructions carefully and then rate the idioms. We used the 'previous' and 'next' buttons provided by the tool for easy navigation. As each participant had to respond to 50 idioms, we kept the pagination as 10 idioms per subsection (10 idioms = 1 subset, presented in 2 pages) so that respondents could find it easy to focus on the list on the screen. Also, for allowing easy reference to the rating guide, we presented it for every subset. The snippets of instructions used and a few relevant snapshots from the questionnaires are provided below (for easy reference). The entire questionnaires used are available in Appendix 1.

Instructions used for the rating tasks:

There are certain idioms that we are exposed to frequently, as well as their meanings are well known to us. But there are also some idioms of which we have not heard. We are trying to identify both kinds of idioms in this survey.

For every idiom, we want you to make two judgments:

- Decide how frequently YOU have seen, heard or used the phrase - Usage Frequency.
- Decide how well YOU know the idiomatic meaning of the phrase – Meaning Familiarity (knowing the meaning of idiom)

Note:

1. The 2 tests can give different results. You may be very familiar with an idiom (i.e., you know the meaning very well) but may not use it very frequently.
2. Most importantly, don't respond thinking what any other Hindi speaker may respond. Provide your response, i.e. how frequently YOU use the idiom and how well YOU understand the idiom.
3. Just to reiterate, these tests are not meant to assess you. These are meant to come to some conclusions regarding the idioms in this survey.

The 5-point Likert scale used for usage frequency test was presented in the questionnaire, as mentioned in Table 4.1.

Table 4.1: Rating scale for usage frequency test

Rating Scale	Rating Guide
Rating 1	Never heard, never read, and have never used it
Rating 2	Heard or read rarely, and have never used it
Rating 3	Heard or read sometimes, and also used it, rarely though
Rating 4	Read, heard, and used moderately often (at least once in a month)
Rating 5	Read, heard, and used frequently (at least once in a week)

The 5-point Likert scale used for meaning familiarity test was presented in the questionnaire as mentioned in Table 4.2.

Table 4.2: Rating scale for meaning familiarity test

Rating Scale	Rating Guide
Rating 1	I have no clue what this phrase means
Rating 2	Probably this is an idiom, but don't know the meaning
Rating 3	Recognised this as an idiom, can guess the meaning
Rating 4	I know the meaning of this idiom, but not very confident if it's correct
Rating 5	I am 100% sure that I know the correct meaning of this idiom

Two idioms: ‘ $\tilde{e}d^here\ m\tilde{e}\ t\ddot{i}:r\ t\ddot{s}\acute{e}lana$ ’ (literal meaning: ‘to shoot arrows in the dark’, figurative meaning: ‘to make a wild guess’) and ‘ $t\ddot{o}t\acute{e}\ ur\ d\ddot{z}ana$ ’ (literal meaning: ‘parrots flying away’, figurative meaning: ‘to get panic-stricken or scared’), included in the set are reproduced below as examples.

* 1. अँधेरे में तीर चलाना					
	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 2. तोते उड़ जाना					
	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

Figure 4.1: Sample snapshot of rating tasks for usage frequency and meaning familiarity tests

4.3.1.5. Semantic judgement task for decomposability test

In the judgement task for assessing decomposability of the idioms in our dataset, respondents were asked to mark yes/no responses based on their assessment of the idioms’ decomposability or meaning transparency, i.e. to make a judgment on the semantic analysability of the idioms by deciding whether the words used in the idioms contribute to the figurative meaning or not. In both the questionnaires, this task was presented after the rating tasks for usage frequency and meaning familiarity, and was explained using detailed instructions (including examples).

The task and instructions for assessing the compositionality were inspired by the work done by Gibbs, Nayak, and Cutting (1989), and Gibbs and Nayak (1989), to define compositionality, with few modifications. We considered only two dichotomies for idiom’s decomposability which were ‘decomposable’ and ‘non-decomposable as recommended by native speakers in our pilot study (Section 3.2). We avoided subcategorising the decomposable category into ‘normally’ and ‘abnormally decomposable’ idioms, which Gibbs et al. (1989) have followed in their study. This measure was taken to avoid confusion for the participants while reducing the chances of error. The instructions were hence modified, keeping the scope limited to identifying only

‘decomposable’ and ‘non-decomposable’ idioms. With the modified instructions, it was implicit that the decomposable category would account for the abnormally decomposable idioms. The instructions were also simplified to make sure all the respondents understand the task correctly. The instructions for making a judgement on the decomposability of idioms are presented below for ready reference. Examples from the decomposable and non-decomposable categories, along with an explanation, were also provided to the participants in the following manner. In the questionnaire, instead of specifying the idioms as decomposable and non-decomposable idioms, we provided the corresponding definitions and explained the distinction with examples.

You have to now make a judgement whether the words used in the idioms contribute to the figurative meaning.	
There are idioms that are transparent in nature and the words used in the idiomatic expression/idioms will directly or indirectly help in understanding the idiomatic meaning of the idioms. E.g.: ‘angar barasnaa’ (अंगार बरसना) Here ‘अंगार’ is closely related/refer to heat. This combination leads to figurative meaning ‘Very hot sunny day’.	There are idioms that are not transparent, and the individual words used in idioms will not make any contribution in figurative understanding of idioms. E.g.: ‘gaal bajaanaa’ (गाल बजाना). Here neither of the word is related/refer to its figurative meaning ‘to argue’. Therefore, it is purely idiomatic in nature.

As mentioned above the idioms explained for this task included both decomposable (e.g. ‘əŋgar bəɾəsna’, literal meaning: ‘raining of hot coal’, figurative meaning: ‘very hot sunny day’) and non-decomposable idioms (e.g. ‘gal bədʒana’, literal meaning: ‘to play cheeks’, figurative meaning: ‘to argue’). After a brief note explaining the meaning transparency property associated with idioms, participants were asked to provide judgements about the transparency of the idioms listed in the questionnaire. They were instructed to mark ‘yes’ if they agree that the idiom presented has a transparent meaning and ‘no’ if they find it semantically opaque. Two idioms from the questionnaire are presented below for reference.

1. ‘əḍʰere mə tʃi:ɾ tʃəlana’, literal meaning: ‘to shoot arrows in the dark’, figurative meaning: ‘to make a wild guess’
2. ‘tɔtɐ ur dʒana’, literal meaning: ‘parrots flying away’, figurative meaning: ‘to get panic-stricken or scared’

1. Are the idioms in the left transparent or not?		
	Yes (Idiomatic meaning can be guessed from the words of the phrase)	No (Idiomatic meaning can NOT be guessed from the words of the phrase)
1. अँधेरे में तीर चलाना	☐	☐
2. तोते उड़ जाना	☐	☐

Figure 4.2: Sample snapshot of the judgement task for decomposability test

4.3.2. Analysis

In this section, we have described the approach taken for analysing the responses given by the participants in the survey conducted for all three tests: usage frequency test, meaning familiarity test, and decomposability test. We developed three indices, (a) usage frequency index, (b) meaning familiarity index, and (c) decomposability index, to quantify the responses of all respondents across all idioms. These indices were used to understand the measures related to each of the idiom properties discussed above.

4.3.2.1. Defining the usage frequency index and the meaning familiarity index

We converted the responses gathered in the rating tasks (usage frequency and meaning familiarity tests) on Likert scales to ratio scale by applying appropriate weights to different points of the Likert scale.⁴ Quantifying these Likert scale variables by converting to ratio scale helped us analyse each idiom's usage frequency, meaning familiarity and decomposability (also quantified by calculating the percentage). This approach helped us understand the dependency among these variables and the other already quantified variables (in ratio scale) like age, years of formal education, etc. We quantified the responses of all respondents across all the idioms⁵ to summarise the measures and do further regression analysis using the IBM SPSS Statistics tool. The rating scales used have been mentioned in Table 4.1 and Table 4.2.

⁴ The rating of 5 on the scale (which is the highest positive response) was assigned a weight of +2, the rating of 4 on the scale (slightly favourable response) was assigned a weight of +1, the rating of 3 on the scale (a neutral response) was assigned a weight of 0, the rating of 2 on the scale (a slightly negative response) was assigned a weight of -1, and the rating of -2 on the scale (strongly negative response) a weight of -2. This way, we could capture both the direction and magnitude of responses across the whole set of respondents on the entire idiom set and assign a definite quantitative measure for each idiom.

⁵ Using the formula mentioned, a unique usage frequency index and a unique meaning familiarity index was computed for each idiom.

$$\begin{aligned} \text{Usage Frequency Index / Meaning Familiarity Index} = & \\ & \text{Count of Rating 5 responses} * 2 + \text{Count of Rating 4 responses} * 1 + \\ & \text{Count of Rating 3 responses} * 0 + \\ & \text{Count of Rating 2 responses} * -1 + \text{Count of Rating 1 responses} * -2 \end{aligned}$$

From the definition of the usage frequency index and the meaning familiarity index mentioned above, it is evident that:

- A higher value of the usage frequency index would mean that the idiom is more frequently used by native speakers
- A higher value of the meaning familiarity index would mean that the idiom's meaning is well known to native speakers

4.3.2.2. Creating the decomposability index

The respondents marked their responses for the decomposability of idioms on a 2-point nominal scale, using a yes/no input parameter. Our objective was not to make the judgement regarding decomposability per the inputs of a single respondent; instead, we aimed to account for the judgement of all respondents and summarise them to define the decomposability characteristic of each idiom under consideration in our selected data set⁶. Therefore, for calculating the decomposability index of an idiom, we consolidated the responses and averaged the number of responses for 'yes' responses for each idiom using the following formula.

$$\begin{aligned} \text{Decomposability Index} = & \text{Count of Yes responses for the idioms} / \\ & \text{Count of All responses for the idiom} \end{aligned}$$

From the definition of the decomposability index mentioned above, it is evident that a higher value of the decomposability index would mean that the idiom's meaning is more transparent, and it is a decomposable idiom.

⁶ Through the formula mentioned, for each idiom, a unique decomposability index was computed across 36 respondents.

4.3.2.3. Quantifying the linguistic dimensions of idioms using indices

We collected the responses for each idiom using the SurveyMonkey tool and consolidated them in Microsoft Excel. Based on the consolidated responses, usage frequency and meaning familiarity indices were calculated using the formulae mentioned in Section 4.3.2.1. Similarly, the decomposability index was computed using the formula mentioned in Section 4.3.2.2. Table 4.3 represents the values of the usage frequency index, the meaning familiarity index, and the decomposability index for each idiom.

Table 4.3: Idioms used in dataset and the corresponding indices

S. No.	Idiom	Usage Frequency Index	Meaning Familiarity Index	Decomposability Index
1	g ^h oɾe betʃkəɾ sona Literal Meaning: To sleep after selling horses Figurative Meaning: To sleep peacefully / To have a deep sleep	52	70	0.69
2	peɽ mə tʃu:he ku:ɖna Literal Meaning: To have mice jumping in stomach Figurative Meaning: To be very hungry	50	69	0.58
3	g ^h əɾ ki: murgi: ɖal bəɾabəɾ Literal Meaning: Chicken of house is equal to pulses Figurative Meaning: To show less respect for homegrown or domestic talent	50	70	0.75
4	əpne pāu pəɾ kulhaɾi: maɾna Literal Meaning: To strike axe on one's own foot Figurative Meaning: To cause harm to oneself / To act stupidly causing harm to oneself	47	66	0.89
5	k ^h u:n pəsi:na ek kəɾna Literal Meaning: To make blood and sweat one Figurative Meaning: To work extremely hard	45	69	0.69
6	nak pəɾ gussa hona Literal Meaning: To have anger on nose Figurative Meaning: To be short tempered	44	69	0.75
7	b ^h ēĩs ke age bi:n bəɖʒana Literal Meaning: To play a musical instrument in front of buffalo Figurative Meaning: To explain something to a foolish person	42	68	0.67

8	tʃ ^h əppər p ^h aɾkər dena Literal Meaning: To tear the roof and give Figurative Meaning: To earn a great fortune unexpectedly	42	70	0.67
9	ɬari:f ke pul bāɖ ^h na Literal Meaning: To tie bridges of praise Figurative Meaning: To praise someone generously	42	68	0.86
10	ag bəbu:la hona Literal Meaning: To be fire boil Figurative Meaning: To be extremely angry	41	69	0.64
11	ẽɖ ^h õ mē kana raɖʒa Literal Meaning: One-eyed person being king among blind people Figurative Meaning: Less qualified person being the most prominent among a group of unqualified persons	41	64	0.83
12	teɖ ^h i: ungli: se g ^h i: nikalna Literal Meaning: To take out clarified butter by bending finger Figurative Meaning: To do some work using an unconventional way	39	71	0.67
13	tʃullu: b ^h ər pani: mē du:b mərna Literal Meaning: To drown and die in a handful of water Figurative Meaning: To be very ashamed of oneself	39	67	0.72
14	k ^h əri: k ^h oɬi: sunana Literal Meaning: To make one hear raw (unfiltered) and defected Figurative Meaning: To scold someone	39	70	0.86
15	kẽĩtʃi: si: zəban tʃəlna Literal Meaning: Tongue moving like a pair of scissors Figurative Meaning: To have a harsh tone / a very rude person	39	65	0.94
16	ɖu:ɖ ^h ka ɖ ^h ula hona Literal Meaning: To be washed with milk Figurative Meaning: To be very pure / To act like a very pure and ethical person	38	70	0.50
17	ɬil ka ɬaɾ bənana Literal Meaning: To make palm tree out of sesame seed Figurative Meaning: To heavily exaggerate / To create a big fuss out of a small thing	38	65	0.67

18	əpne mūh mijã mit̪t̪ʰu: bənnə Literal Meaning: To be self mouth parrot Figurative Meaning: To praise oneself	38	68	0.69
19	asman sir pər ut̪ʰana Literal Meaning: To lift sky on head Figurative Meaning: To create a huge ruckus	37	65	0.58
20	əkl ɡʰas t̪fərne dʒana Literal Meaning: To have mind gone for grazing grass Figurative Meaning: To lose logical understanding or common sense	37	63	0.61
21	kiṭab ka ki:ɾa hona Literal Meaning: To be a bookworm Figurative Meaning: To be very studious / To be someone who reads a lot but has less practical knowledge	37	67	0.67
22	sitt̪i: pit̪ti: gum hona Literal Meaning: To lose senses Figurative Meaning: To become extremely scared or frightened	37	62	0.72
23	ẽḍʰere mẽ t̪i:ɾ t̪fəlana Literal Meaning: To shoot arrows in the dark Figurative Meaning: To make a wild guess	37	62	0.78
24	eɾi: t̪foɽi: ka zor ləɡana Literal Meaning: To put strength from heel to hair braids Figurative Meaning: To put in all possible efforts	36	63	0.53
25	haṭʰ pi:la hona Literal Meaning: Hands being yellow Figurative Meaning: To get married	36	66	0.58
26	ḍāṭṭō t̪əle unɡli: ḍəbana Literal Meaning: To bite finger under one's teeth Figurative Meaning: To be astonished	35	69	0.69
27	ɡʰut̪ne t̪ek ɖena Literal Meaning: To put knees on ground Figurative Meaning: To concede defeat	35	66	0.83
28	ũ:t̪ ke mūh mẽ dʒi:ɾa Literal Meaning: Cumin seed in camel's mouth Figurative Meaning: A miniscule or inconsequential amount	34	61	0.69
29	ek ənar sau bi:mar Literal Meaning: One pomegranate, hundred sick people Figurative Meaning: Something very useful, but available in a limited quantity	33	69	0.53

30	dəŋke ki: tʃot pər kəhna Literal Meaning: To say on the beat of a drum Figurative Meaning: To be very loud and confident about something	33	64	0.67
31	kəḍḍʰe se kəḍḍʰa milana Literal Meaning: To match shoulder with shoulder Figurative Meaning: To extend full cooperation	33	67	0.81
32	kəte pər nəmək tʃʰirəkna Literal Meaning: To sprinkle salt on wound Figurative Meaning: To cause more pain or trauma for someone who is already in anguish	33	63	0.83
33	tʃadər ke bahər pāu pəsarna Literal Meaning: To spread legs outside bedsheet Figurative Meaning: To spend more than one's income	32	67	0.53
34	gəre murḍe ukʰaɾna Literal Meaning: To pull out buried corpses Figurative Meaning: To search for and reveal very old things from someone's past	32	64	0.58
35	kəməɾ tu:t dʒana Literal Meaning: Waist breaking down Figurative Meaning: To be extremely tired	32	66	0.61
36	mūh mē ɡʰi: ʃəkkər hona Literal Meaning: To have clarified butter and sugar in mouth Figurative Meaning: To wish someone who brings favourable news	32	58	0.69
37	aɽe ɖal ka bhav malu:m hona Literal Meaning: To know the price of flour and pulses Figurative Meaning: To be aware of the realities of life	32	63	0.92
38	kolhu: ka bæil hona Literal Meaning: To be the ox which is used to draw out water from well Figurative Meaning: To be extremely hard working/ To do inconsiderate amount of work	31	66	0.67
39	mit̪ti: mē mila ɖena Literal Meaning: To mix in mud Figurative Meaning: To defeat or completely eradicate someone or something	31	67	0.72
40	əkl ka ɖuɟmən hona Literal Meaning: To be enemy of wisdom Figurative Meaning: To be very stupid	31	62	0.89

41	əpna ullu: si:q̣ha kərna Literal Meaning: To straighten one's owl Figurative Meaning: To achieve one's selfish purpose	30	66	0.56
42	əq̣hər mē lətkana Literal Meaning: To hang something half-way Figurative Meaning: To leave someone or some task mid-way	29	62	0.58
43	āḳhō ka ṭara hona Literal Meaning: To be the star of eyes Figurative Meaning: To be very dear to someone	29	69	0.81
44	kan ḳhəre hona Literal Meaning: Ears standing straight Figurative Meaning: To become very attentive / To give dedicated attention	28	60	0.69
45	əng əng ṭu:ṭna Literal Meaning: To have body parts breaking Figurative Meaning: To be very tired	28	54	0.81
46	āḳhō mē pani: ḅhər ana Literal Meaning: Water filled in eyes Figurative Meaning: To become very emotional	28	61	0.89
47	ḍzan həṭheli: pər rəḳhna Literal Meaning: To keep life on the palm of the hand Figurative Meaning: To perform a very risky or daring act	27	67	0.69
48	kəbr mē pāv lətkaje hona Literal Meaning: Feet hanging in grave Figurative Meaning: A very old person who is nearing death	26	58	0.47
49	ēṭim g̣hərijā ginna Literal Meaning: To count last days Figurative Meaning: To be on the verge of death	26	60	0.94
50	kəleḍze pər pətṭhər rəḳhna Literal Meaning: To keep stone on chest Figurative Meaning: To show strength at times of emotional turmoil	25	69	0.58
51	q̣həṛti: pər pāv na pərna Literal Meaning: Feet not landing on the ground Figurative Meaning: To be extremely happy / To be on cloud nine	25	57	0.64
52	ənguli: pər naṭ nəṭfana Literal Meaning: To make someone dance at one's fingers	25	65	0.69

	Figurative Meaning: To force someone to act as per one's directions / To control someone			
53	k ^h u:n ka pjasə hona Literal Meaning: To be thirsty for blood Figurative Meaning: To intend to harm or kill someone	25	63	0.72
54	asṭi:n ka sāp hona Literal Meaning: To be snake of one's sleeves Figurative Meaning: To betray someone / To be an enemy in a friend's disguise	24	58	0.44
55	nav par ləgana Literal Meaning: To help the boat cross Figurative Meaning: To help someone immensely	24	61	0.53
56	tʃarō k ^h ane tʃiṭ kərna Literal Meaning: To make someone fall on the floor (with face facing skywards) on all the four corners Figurative Meaning: To comprehensively defeat someone	24	56	0.72
57	ḡin əṅguliḡ pər ḡinna Literal Meaning: To count days on fingers Figurative Meaning: Impatiently waiting for something or someone	24	56	0.75
58	kəṭ ^h puṭli: ki: tərəh nəṭʃana Literal Meaning: To make someone dance like puppets Figurative Meaning: To make someone act as per one's directions / To control someone	24	56	0.94
59	gəle ka har hona Literal Meaning: To be a necklace Figurative Meaning: To be very dear to someone	23	58	0.42
60	ḡum ḡəbakər tʃəl ḡena Literal Meaning: To lower the tail and walk away Figurative Meaning: To escape a situation in a cowardly manner	23	63	0.56
61	ṭare ḡik ^h ai: ḡe dʒana Literal Meaning: Stars being seen by someone Figurative Meaning: To feel dazed or bewildered	23	55	0.56
62	həvai: ḡila bənana Literal Meaning: To build a fort in air Figurative Meaning: To make unrealistic plans / To build castle in air	23	59	0.75
63	raste pər ana Literal Meaning: To come on road	23	59	0.81

	Figurative Meaning: To become bankrupt / To lose all possessions			
64	āk ^h ē p ^h er lena Literal Meaning: To change the direction in which the eyes are seeing Figurative Meaning: To worsen one's behaviour towards someone	23	61	0.86
65	āk ^h ē t ^h ar hona Literal Meaning: Eyes becoming four Figurative Meaning: To meet someone / To fall in love with someone	22	60	0.53
66	həva se baṭ ^h ē kərna Literal Meaning: To talk with air Figurative Meaning: To move very fast	21	52	0.67
67	g ^h ar mē ag ləgana Literal Meaning: To lay fire in house Figurative Meaning: To cause fights among family members	21	57	0.69
68	sir āk ^h ō pər bēit ^h ana Literal Meaning: To make someone sit on head and eyes Figurative Meaning: To hold someone in high esteem / To treat someone reverentially	21	54	0.69
69	asman ke ṭare ṭorna Literal Meaning: To pluck stars of sky Figurative Meaning: To do an extremely challenging or near-impossible task	20	59	0.72
70	ēdžər pēdžər d ^h i:la hona Literal Meaning: To have all organs, even skeleton, getting loose Figurative Meaning: To be overfatigued	20	60	0.78
71	ṭəka sa džəvab dena Literal Meaning: To give a raw reply Figurative Meaning: To be very blunt/ Flat refusal	19	51	0.81
72	ṭoṭe ur džana Literal Meaning: Parrots flying away Figurative Meaning: To get panic-stricken or scared	18	52	0.33
73	ī:t se ī:t bədžana Literal Meaning: To hit brick with brick Figurative Meaning: To cause extensive damage / To defeat someone comprehensively	18	58	0.42
74	əkl ke g ^h ore džurana Literal Meaning: To run horses of wisdom	18	57	0.56

	Figurative Meaning: To think of many solutions / To think in multiple aspects			
75	tʃəin ki: bēsi: bədʒana Literal Meaning: To play flute of peace Figurative Meaning: To be in a very relaxed and peaceful state of mind	18	51	0.61
76	ātʃ na ane ɖena Literal Meaning: Not to let the heat come Figurative Meaning: To protect something or someone scrupulously	18	59	0.67
77	kuṭṭe ki: ɖum hona Literal Meaning: To be a dog's tail Figurative Meaning: To be very rigid or inflexible / To be unwilling to change	18	59	0.81
78	haṭʰ gərəm kərna Literal Meaning: To heat hand Figurative Meaning: To bribe someone	17	51	0.31
79	gʰol kər pila ɖena Literal Meaning: To mix and make someone drink Figurative Meaning: To brainwash someone completely	17	49	0.61
80	əŋg əŋg pʰu:le na səmana Literal Meaning: To have organs swell in no limited way Figurative Meaning: To be deliriously happy	16	58	0.50
81	kanō mē ɖel ɖalkər baitʰna Literal Meaning: To sit after putting oil in ears Figurative Meaning: To be completely unwilling to listen	16	56	0.58
82	ākʰ bʰāu tʃəɖʰana Literal Meaning: To raise eye and eyebrow Figurative Meaning: To show anger on someone	16	48	0.83
83	mūh mē ɖəhi: dʒəmana Literal Meaning: To prepare curd in mouth Figurative Meaning: To stay silent / To be tongue- tied	14	47	0.39
84	ēɖʰe ke haṭʰ bəṭer ləɖna Literal Meaning: A blind person catching a quail Figurative Meaning: Undeserving person getting a huge or unproportionate success	13	52	0.50
85	nak pər məkkʰi: na baitʰne ɖena Literal Meaning: To let a fly not sit on nose Figurative Meaning: To be completely unaffected	11	52	0.56

86	āk ^h ō ka kāt̪a hona Literal Meaning: To be the thorn of eyes Figurative Meaning: To detest something or someone	9	59	0.69
87	kəfən se sir band ^h na Literal Meaning: To tie white cloth (used for covering dead bodies) on head Figurative Meaning: To be extremely fearless	8	54	0.56
88	ēd ^h ere g ^h ər ka di:pək Literal Meaning: To be the lamp (oil lamp made of clay) of dark house Figurative Meaning: To be the only hope	8	59	0.89
89	kəledʒa mūh t̪ək ana Literal Meaning: Liver coming till mouth Figurative Meaning: To be shocked or scared	7	47	0.58
90	əpna sa mūh lekər rəh dʒana Literal Meaning: To remain with just one's own mouth Figurative Meaning: To get embarrassed	7	52	0.61
91	tʃ ^h aʈi: pər mu:ŋg d̪elna Literal Meaning: To grind gram pulses on someone's chest Figurative Meaning: To trouble someone incessantly	5	47	0.36
92	aŋgu:t ^h i: ka nəgi:na Literal Meaning: To be the jewel of ring Figurative Meaning: To be very precious or dear to someone	3	46	0.50
93	əŋguli: pəkərəkər pəhūtʃa pəkərna Literal Meaning: Catching finger and then catching wrist Figurative Meaning: To take undue advantage of someone after getting some initial help	-2	36	0.58
94	guḍri: ka lal hona Literal Meaning: Worn-out clothes becoming red Figurative Meaning: To be an extraordinary person born in a poor family or locality	-3	42	0.39
95	āk ^h ō mē k ^h u:n uʈərna Literal Meaning: To have blood egress from eyes Figurative Meaning: To become extremely angry	-4	47	0.61
96	k ^h ū:t̪e se band ^h qena Literal Meaning: To tie to wooden stick buried in ground Figurative Meaning: To forcibly engage someone with something or someone	-5	38	0.56

97	hət ^h eli: pər sərsõ ugana Literal Meaning: To grow mustard on the palm of one's hand Figurative Meaning: To attempt an impossible task	-7	22	0.28
98	gərɖən kət̪ dʒana Literal Meaning: Neck getting cut Figurative Meaning: To be swindled by someone	-14	19	0.50
99	k ^h ət̪ai: mē pər dʒana Literal Meaning: To fall into sourness Figurative Meaning: Some task or work getting stuck because of some obstacles	-15	25	0.36
100	ət̪ ^h se iti t̪ək Literal Meaning: From start to finish Figurative Meaning: From start to finish	-28	16	0.44

4.3.2.4. Understanding the data using the IBM SPSS Statistics software

To understand the data in detail, first, we did a basic analysis of descriptive statistics using the IBM SPSS Statistics software. After summarising the data set using measures of central tendency and measures of variability (spread), we did a linear regression analysis to model the relationship or correlation between the different linguistic dimensions of idioms to understand how and to what degree they influence the idiom comprehension process.

4.3.2.5. Understanding the data through descriptive statistics

Descriptive statistics provide a high-level understanding of the consolidated data. These metrics helped us to understand the mean or central points, how spread-out or diverse the distribution is, which are the extremes, and how the distribution looks. In our analysis, the results are indicative of the interpretation of idiomatic expressions in adult native speakers of Hindi. In Table 4.4, the measures of central tendency, the variance, and the distribution of data for each idiom are mentioned. We have explained Table 4.4 in the subsections below to develop an understanding of the values we got through these statistics. To help focus on one measure at a time, we have split Table 4.4 into smaller tables: Table 4.5 to Table 4.9, and Figure 4.3 to Figure 4.5. The results and interpretation of the data have been discussed in detail in this section.

Table 4.4: Descriptive Statistics

Statistics		Decomposability Index	Usage Frequency Index	Meaning Familiarity Index
N	Valid	100	100	100
	Missing	0	0	0
Mean		.6511	24.62	58.33
Median		.6667	25.00	61.00
Std. Deviation		.15201	14.803	10.880
Variance		.023	219.127	118.385
Range		.67	80	55
Minimum		.28	-28	16
Maximum		.94	52	71

4.3.2.5.1. Describing the dataset through mean and median analysis

Table 4.5 shows that the mean values of the usage frequency index and the meaning familiarity index are positive (positive values indicating that the idioms selected for this study were in general more frequently used by native speakers, and most of them had familiar meanings (by design, the ideal central value for any 5-point Likert Scale spanning from -2 to +2 is 0). Furthermore, the mean value of 0.65 for the decomposability index indicates that this data set has more transparent or decomposable idioms (by design, the ideal central value for any 'Yes=1/No=0' scale is 0.5).

As discussed in Chapter 3 (Section 3.2.1), we had made a choice to consider those idioms that are simpler and more familiar, because such idioms would be more suited to test idiom comprehension and production in children. Hence, the high mean values of these indices validated our selection of idioms.

Table 4.5: Mean and Median

	Decomposability Index	Usage Frequency Index	Meaning Familiarity Index
Mean	.6511	24.62	58.33
Median	.6667	25.00	61.00

4.3.2.5.2. Measuring the variance of the defined indices

Table 4.6 shows that the variance in the usage frequency index is much higher than the variance in the meaning familiarity index, which can be an indication that although the speakers may know the meaning of idioms quite well, the frequency of usage of those idioms varies a lot. One of the possible reasons is that certain idioms may tend to be more frequently used because of the relevance of the concepts they represent in day-to-day communication contexts.

Table 4.6: Variance

	Decomposability Index	Usage Frequency Index	Meaning Familiarity Index
Variance	.023	219.127	118.385

Table 4.7: Descriptive Statistics for Decomposability Index

Statistics	Decomposability Index
Mean	.6511
Median	.6667
Range	.67
Minimum	.28
Maximum	.94
Variance	.023

Tables 4.6 and 4.7 show that for the decomposability index, the range is high, but the variance is extremely low. This observation gives us valuable insight regarding the compositionality of idioms in our data set. The low measurement of variance is an indicator that respondents were confident in marking a seemingly decomposable idiom as decomposable and similarly for non-decomposable idiom, i.e. each idiom which is marked as decomposable (or non-decomposable) is marked so by most respondents consistently. It is an important observation, as it increases the confidence level when selecting decomposable and non-decomposable idioms. Based on the above observation, we can also conclude that compositionality is a property exhibited by Hindi idioms and that decomposable and non-decomposable categories do exist for Hindi idioms.

4.3.2.5.3. Checking for skewness to understand the distribution of data

Table 4.8 shows that the skewness of the decomposability index is closest to 0, meaning the distribution is a very close approximation of the Normal distribution curve (statistically, skewness value 0 implies an ideal Normal distribution), and therefore, mean is a good measure of central tendency for the decomposability index metric. The usage frequency and meaning familiarity indices have comparatively higher skewness, so their distribution has a lesser resemblance to Normal curve but can still be used for the purpose of linear regression as the entire data set is quite large (100 idioms over 72 participants).

Table 4.8: Skewness

	Decomposability Index	Usage Frequency Index	Meaning Familiarity Index
Skewness	-.182	-.933	-1.818

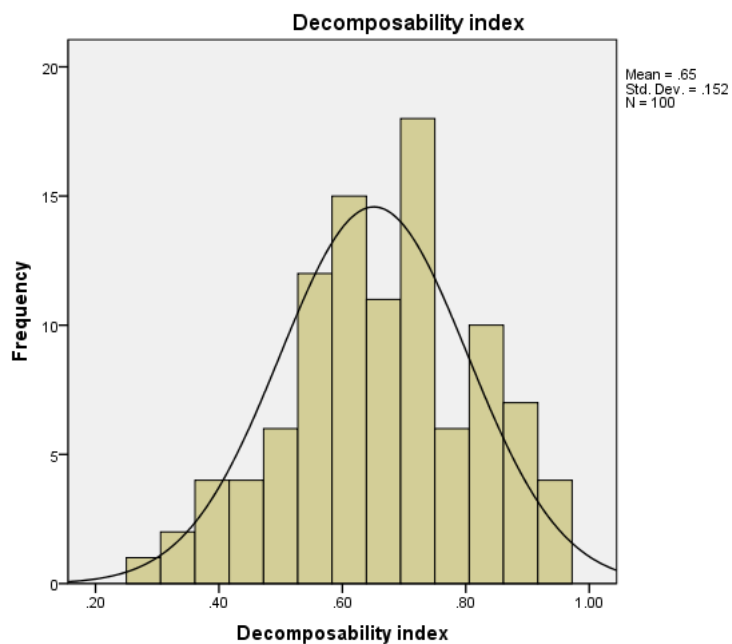


Figure 4.3: Skewness of Decomposability Index

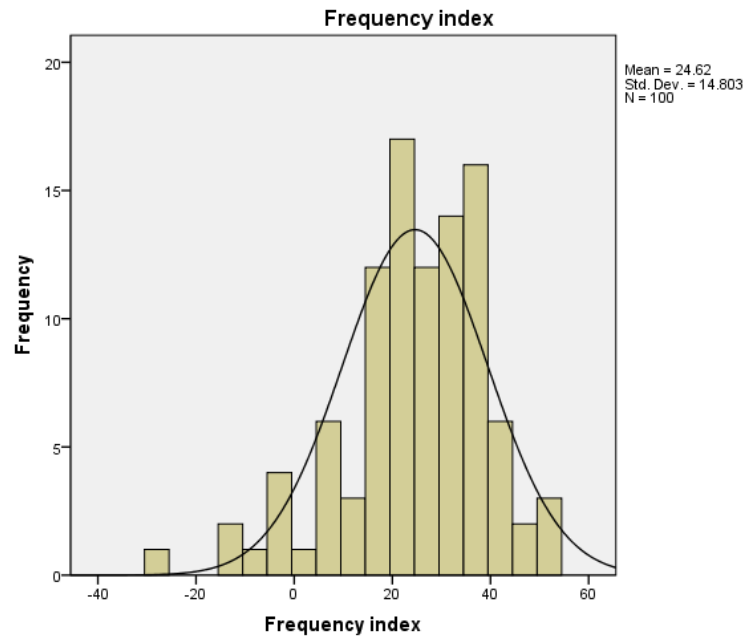


Figure 4.4: Skewness of Usage Frequency Index

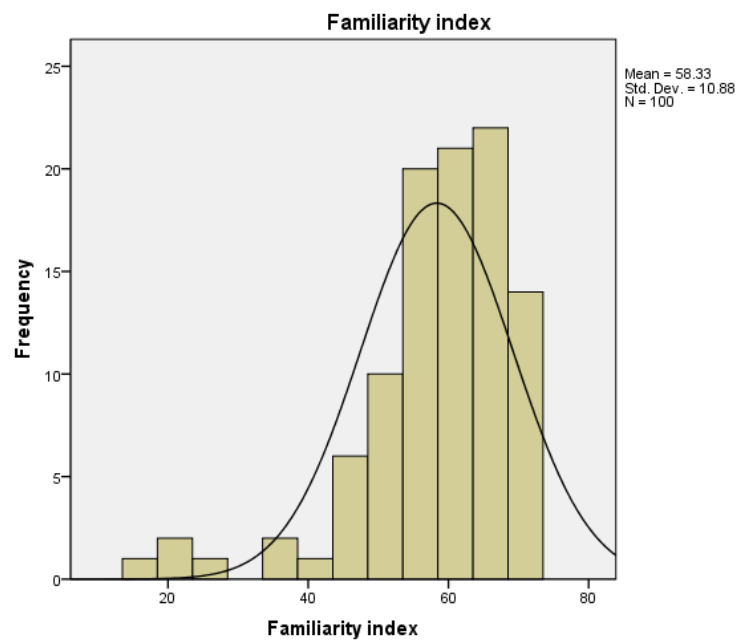


Figure 4.5: Skewness of Meaning Familiarity Index

We can also observe the skewness of the defined indices for idioms in Figure 4.3 to Figure 4.5, which gives us an understanding of the data set under consideration.

4.3.2.5.4. Identifying the range for the defined indices

Table 4.9 shows that the range of values for the usage frequency index is much higher than the range of the meaning familiarity index. It indicates that the usage frequency of the idioms varies more than their meaning familiarity. The range and other related measures for the decomposability index have been already presented in Table 4.7, along with the possible explanation.

Table 4.9: Range

	Decomposability Index	Usage Frequency Index	Meaning Familiarity Index
Range	.67	80	55
Minimum	.28	-28	16
Maximum	.94	52	71

4.3.3. Results

Using the IBM SPSS Statistics tool, we performed three linear regression tests to find a correlation among the defined indices: the usage frequency index, the meaning familiarity index, and the decomposability index. As is the accepted standard in statistics, we considered the value of p to check whether the results are statistically significant or not and Adjusted R Square values to check the fitment of the linear regression model. For any linear regression model, $p < 0.05$ confirms that the relationship found between the independent variables (predictor variables) and the dependent variable (response variable) is statistically significant, and the model created considering such parameters can be considered a valid linear regression model.

Adjusted R Square is a statistical measure to indicate how close the observed data points are to the fitted/predicted regression line. It is also known as the coefficient of determination. Mathematically, it is the percentage of the response variable variation that a linear regression model explains. Adjusted R Square is always between 0% and 100%; 0% indicates that the model explains none of the variability of the response data around its mean, and 100% indicates that the model explains all the variability of the response data around its mean. The general understanding of this statistical measure is the higher the Adjusted R Square, the better the model fits the data.

For a linear regression model to be conclusive, it is important that $p < 0.05$ and Adjusted R Square is reasonably high. For this work, we have considered 40% as the threshold to pass this criterion, i.e. at a minimum, the independent variables should be able to explain at least 40% of the variation in the dependent variable.

4.3.3.1. Linear Regression 1: Correlation between meaning familiarity, usage frequency, and decomposability

We executed a multiple linear regression test to find the correlation between idioms' meaning familiarity, usage frequency and decomposability. This regression test was done to investigate if the meanings of idioms are more widely known to native speakers if they are more decomposable and frequently used or encountered in day-to-day communication scenarios. The dependent variable was set as the meaning familiarity index, and the independent variables were the usage frequency index and the decomposability index. We could explore the causality if this correlation were found to be statistically significant. Following are the results of this regression.

Table 4.10: Correlation between the meaning familiarity index, the usage frequency index, and the decomposability index

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Frequency Index, Decomposability Index ^b	.	Enter

a. Dependent Variable: Meaning Familiarity Index

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.914 ^a	.835	.832	4.486

a. Predictors: (Constant), Frequency Index, Decomposability Index

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9781.294	2	4890.647	243.062	.000 ^b
	Residual	1931.615	96	20.121		
	Total	11712.909	98			

a. Dependent Variable: Meaning Familiarity Index

b. Predictors: (Constant), Frequency Index, Decomposability Index

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	41.424	1.990		20.819	.000
	Decomposability Index	.709	3.352	.010	.212	.833
	Frequency Index	.669	.034	.909	19.419	.000

a. Dependent Variable: Meaning Familiarity Index

From Table 4.10, it can be observed that this linear regression model is statistically significant ($p = 0.000$). On closer observation, we find that for the usage frequency index $p = 0.000$ (< 0.05) and hence statistically significant, while for decomposability index $p = 0.833$ (> 0.05) and hence not significant. This implies that even if an idiom is transparent, it may not be correct to assume that its meaning will be more familiar or known to the native speakers. On the contrary, if an idiom is more frequently used or encountered by native speakers, it is reasonable to assume that its meaning would also be widely known and understood. To firmly this correlation between meaning familiarity and usage frequency, we executed another linear regression as explained in Section 4.3.3.2.

4.3.3.2. Linear Regression 2: Correlation between meaning familiarity and usage frequency

We executed a second linear regression test to find the correlation between idioms' meaning familiarity and usage frequency. The dependent variable was set as the meaning familiarity index, and the independent variable was the usage frequency index. The objective of this linear regression was to reconfirm the relationship between the frequency of usage of an idiom by native speakers and familiarity with its meaning (eliminating the effect of the decomposability variable as it was found to be non-significant). Following are the results of this linear regression test.

Table 4.11: Correlation between the meaning familiarity index and the usage frequency index

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Frequency Index ^b	.	Enter

a. Dependent Variable: Meaning Familiarity Index

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.914 ^a	.835	.833	4.464

a. Predictors: (Constant), Frequency Index

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9780.394	1	9780.394	490.914	.000 ^b
	Residual	1932.515	97	19.923		
	Total	11712.909	98			

a. Dependent Variable: Meaning Familiarity Index

b. Predictors: (Constant), Frequency Index

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	41.802	.869		48.080	.000
	Frequency Index	.673	.030	.914	22.157	.000

a. Dependent Variable: Meaning Familiarity Index

Table 4.11 shows that the Adjusted R Square statistic of this linear regression is remarkably high at 0.835 or 83.5%. As explained earlier, a high Adjusted R Square value means the model is able to explain most of the variability of the dependent variable. In this case, the usage frequency index is able to explain around 83.5% of the variation in the meaning familiarity index, establishing a strong correlation between idioms' usage frequency and meaning familiarity. Table 4.11 indicates the *ps* of the overall regression model and the frequency index are 0.000. Therefore, this regression model can be considered statistically significant ($p < 0.05$) in predicting the outcome variable.

The results thus indicated that, if native speakers encounter or use an idiom more frequently, it is likely that the meaning of that idiom is more known to the speakers. In other words, a high usage frequency would be generally associated with idioms whose meanings are more familiar. It also indicates that either of these parameters can be taken as a definitive measure of idioms familiarity. A scatter plot between the usage frequency

index and the meaning familiarity index shows that the relationship between usage frequency and meaning familiarity is linear (Figure 4.6).

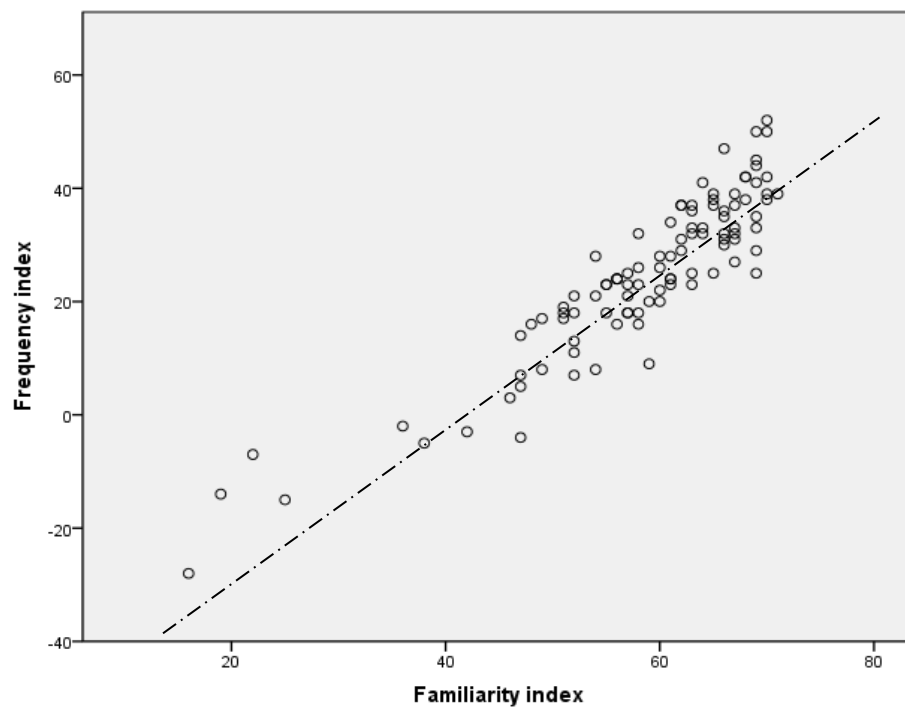


Figure 4.6: Scatter plot between the Frequency Index and Familiarity Index

We also used Microsoft Excel to create a chart to show the observed vs predicted values of the usage frequency index on the Y-axis. Figure 4.7 presents the visual representation of the closeness of the observed values and the values predicted by the regression model for the usage frequency of each idiom.

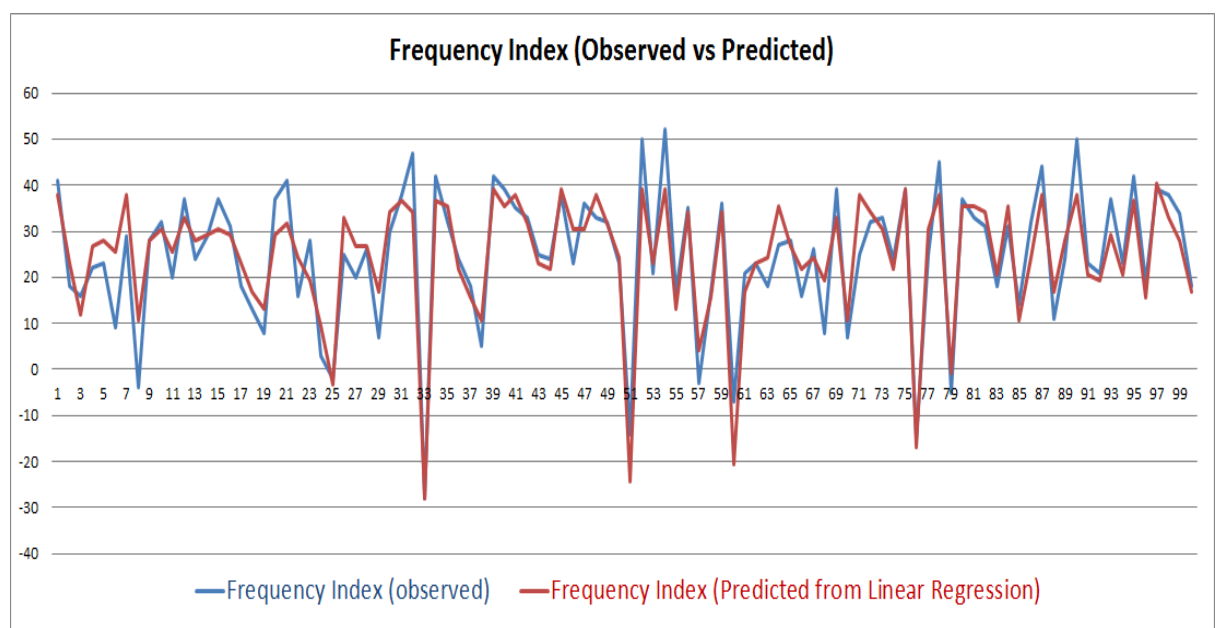


Figure 4.7: Observed vs Predicted values of Usage Frequency Index

4.3.3.3. Shortlisting and categorising Idioms

One of the objectives of this study was to categorise the idioms using the linguistic dimensions of usage frequency, meaning familiarity, and decomposability. However, as observed in Section 4.3.3.2, the usage frequency dimension could account for the meaning familiarity dimension being strongly correlated. One note of caution is that the idiom, being referred to as less-decomposable in the sections below, is less-decomposable when observed in this set of idioms selected for this empirical study. By the definition of the decomposability index, any idiom with a decomposability index of 0.5 or higher could ideally be considered more decomposable when considered in isolation. However, as the mean of the decomposability index in our data set is 0.65, an idiom with a decomposability index higher than 0.65 is referred to as more decomposable. Any idiom with a decomposability index lower than 0.65 is referred to as ‘less decomposable’ for the purposes of our study.

For categorising idioms, we have used the dimensions of usage frequency (which in turn accounts for meaning familiarity as well) and decomposability. Based on these two parameters, we categorised our idiom data set into (a) ‘frequent and decomposable’ idioms, (b) ‘frequent and less-decomposable’ idioms, (c) ‘less-frequent and decomposable’ idioms, and (d) ‘less-frequent and less-decomposable’ idioms. We have attempted to shortlist 60 idioms and classify them into these categories, selecting the best representative for each category identified. These representative idioms are required as the data set for the next empirical study to understand the effect of idiom’s literalness and check if certain keywords exist in idioms that help language users to recognise an idiom. We ranked idioms based on the usage frequency index and the decomposability index for shortlisting idioms in the respective categories, using the measures of central tendency. 40 idioms were discarded in this process, where the values of the usage frequency index and the decomposability index were very close to the mean of the sample set, i.e. they could not be unambiguously identified with any particular category.

Table 4.12: Means of the defined indices

	Decomposability Index	Usage Frequency Index	Meaning Familiarity Index
Mean	.6511	24.62	58.33

4.3.3.3.1. ‘Frequent and Decomposable’ idioms

Table 4.12 indicates that the following criteria should be applied for identifying idioms belonging to this category.

First, the mean value of the usage frequency index is 24.62, and as mentioned earlier, a higher value of the usage frequency index would mean that native speakers use and encounter the idiom more frequently. Therefore, we ensured that we are selecting only the more frequent idioms by taking idioms with a frequency index higher than the mean (usage frequency index > 24).

Second, the decomposability index’s mean value is 0.6511, and a higher value of the decomposability index would mean that the idiom is more transparent and is compositional in nature. Therefore, by taking idioms with a decomposability index higher than the mean (decomposability index > 0.65), we ensured that we are considering only the more decomposable idioms.

Third, the mean value of the meaning familiarity index is 58.33, and therefore, we also considered those idioms with the meaning familiarity index higher than the mean (meaning familiarity index > 58). This ensured that the idioms chosen are familiar idioms whose meaning is known to native speakers. With the correlation between usage frequency and meaning familiarity established, this additional selection was a reinforced criterion to ensure we have the most appropriate idioms selected in this group.

Filtering as mentioned above, we got the following subset of idioms for this category (sorted high to low based on the decomposability index).

Table 4.13: List of ‘frequent and decomposable’ idioms

S. No.	Idiom	Usage Frequency Index	Meaning Familiarity Index	Decomposability Index
1	kēĩtʃi: si: zəban tʃəlna Literal Meaning: Tongue moving like a pair of scissors Figurative Meaning: To have a harsh tone / a very rude person	39	65	0.94
2	ēṭim ɡʰərijā ginna Literal Meaning: To count last days Figurative Meaning: To be on the verge of death	26	60	0.94

3	aṭe ḍal ka bhav malu:m hona Literal Meaning: To know the price of flour and pulses Figurative Meaning: To be aware of the realities of life	32	63	0.92
4	əpne pāu pər kulhaṛi: marna Literal Meaning: To strike axe on one's own foot Figurative Meaning: To cause harm to oneself / To act stupidly causing harm to oneself	47	66	0.89
5	əkl ka ḍufmən hona Literal Meaning: To have mind gone for grazing grass Figurative Meaning: To lose logical understanding or common sense	31	62	0.89
6	ākḥō mē pani: bḥər ana Literal Meaning: Water filled in eyes Figurative Meaning: To become very emotional	28	61	0.89
7	ṭari:f ke pul bāḍḥna Literal Meaning: To tie bridges of praise Figurative Meaning: To praise someone generously	42	68	0.86
8	kḥəri: kḥoṭi: sunana Literal Meaning: To make one hear raw (unfiltered) and defected Figurative Meaning: To scold someone	39	70	0.86
9	ēḍḥō mē kana radṣa Literal Meaning: One-eyed person being king among blind people Figurative Meaning: Less qualified person being the most prominent among a group of unqualified persons	41	64	0.83
10	gḥuṭne ṭek ḍena Literal Meaning: To put knees on ground Figurative Meaning: To concede defeat	35	66	0.83
11	kəṭe pər nēmək tʃḥirəkna Literal Meaning: To sprinkle salt on wound Figurative Meaning: To cause more pain or trauma for someone who is already in anguish	33	63	0.83
12	kēḍḥe se kēḍḥa milana Literal Meaning: To match shoulder with shoulder Figurative Meaning: To extend full cooperation	33	67	0.81
13	ākḥō ka ṭara hona Literal Meaning: To be the star of eyes Figurative Meaning: To be very dear to someone	29	69	0.81
14	ēḍḥere mē ṭi:r tʃəlana Literal Meaning: To be the star of eyes Figurative Meaning: To be very dear to someone	37	62	0.78

	Literal Meaning: To shoot arrows in the dark Figurative Meaning: To make a wild guess			
15	g ^h ər ki: murgi: ɖal bərabər Literal Meaning: Chicken of house is equal to pulses Figurative Meaning: To show less respect for homegrown or domestic talent	50	70	0.75
16	nak pər gussa hona Literal Meaning: To have anger on nose Figurative Meaning: To be short tempered	44	69	0.75
17	tʃullu: b ^h ər pani: mē du:b mərna Literal Meaning: To drown and die in a handful of water Figurative Meaning: To be very ashamed of oneself	39	67	0.72
18	sitti: pitti: gum hona Literal Meaning: To lose senses (*no literal translation for sitti pitti) Figurative Meaning: To become extremely scared or frightened	37	62	0.72
19	mitti: mē mila ɖena Literal Meaning: To mix in mud Figurative Meaning: To defeat or completely eradicate someone or something	31	67	0.72
20	k ^h u:n ka pɜsa hona Literal Meaning: To be thirsty for blood Figurative Meaning: To intend to harm or kill someone	25	63	0.72
21	g ^h ore betʃkər sona Literal Meaning: To sleep after selling horses Figurative Meaning: To sleep peacefully / To have a deep sleep	52	70	0.69
22	k ^h u:n pəsi:na ek kərna Literal Meaning: To make blood and sweat one Figurative Meaning: To work extremely hard	45	69	0.69
23	əpne mūh mijā mitt ^h u: bənnā Literal Meaning: To be self-mouth parrot Figurative Meaning: To praise oneself	38	68	0.69
24	ɖāṭō ṭele ungli: ɖəbana Literal Meaning: To bite finger under one's teeth Figurative Meaning: To be astonished	35	69	0.69
25	ɖʒan həṭ ^h eli: pər rək ^h na Literal Meaning: To keep life on the palm of the hand	27	67	0.69

	Figurative Meaning: To perform a very risky or daring act			
26	əŋguli: pər natʃ nətʃana Literal Meaning: To make someone dance at one's fingers Figurative Meaning: To force someone to act as per one's directions / To control someone	25	65	0.69
27	kan kʰəɾe hona Literal Meaning: Ears standing straight Figurative Meaning: To become very attentive / To give dedicated attention	28	60	0.69
28	tʃʰəppər pʰaɾkər dena Literal Meaning: To tear the roof and give Figurative Meaning: To earn a great fortune unexpectedly	42	70	0.67
29	bʰəĩs ke age bi:n bədʒana Literal Meaning: To play a musical instrument in front of buffalo Figurative Meaning: To explain something to a foolish person	42	68	0.67
30	ʈedʰi: ŋgli: se gʰi: nikalna Literal Meaning: To take out clarified butter by bending finger Figurative Meaning: To do some work using an unconventional way	39	71	0.67
31	kiṭab ka ki:ɾa hona Literal Meaning: To be a bookworm Figurative Meaning: To be very studious / To be someone who reads a lot but has less practical knowledge	37	67	0.67
32	ṭil ka ṭaɾ bənana Literal Meaning: To make palm tree out of sesame seed Figurative Meaning: To heavily exaggerate / To create a big fuss out of a small thing	38	65	0.67
33	dənke ki: tʃot pər kəhna Literal Meaning: To say on the beat of a drum Figurative Meaning: To be very loud and confident about something	33	64	0.67
34	kolhu: ka bəil hona Literal Meaning: To be the ox which is used to draw out water from well Figurative Meaning: To be extremely hard working	31	66	0.67

4.3.3.3.2. ‘Frequent and Less-Decomposable’ idioms

To identify the ‘frequent and less-decomposable’ idioms, we have prepared the list in a similar way as described in Section 4.3.3.3.1; the list was based on the usage frequency index, the meaning familiarity index, and the decomposability index. To categorise the idioms, we have used the mean values of these indices. By selecting idioms with the usage frequency index and the meaning familiarity index higher than their respective mean values (frequency index > 24.62 and familiarity index > 58.33), we ensured that we are identifying the more frequent (and familiar) idioms. Further, by selecting idioms with a decomposability index lower than the mean (decomposability index < 0.65), we ensured that we are considering only the less decomposable idioms.

Table 4.14: List of ‘frequent and less-decomposable’ idioms

S. No.	Idiom	Usage Frequency Index	Meaning Familiarity Index	Decomposability Index
1	kəbr mē pāu lətkaje hona Literal Meaning: Feet hanging in grave Figurative Meaning: A very old person who is nearing death	26	58	0.47
2	ḡu:ḡ ^h ka ḡ ^h ula hona Literal Meaning: To be washed with milk Figurative Meaning: To be very pure / To act like a very pure and ethical person	38	70	0.50
3	eṛi: tʃoṭi: ka zor ləgana Literal Meaning: To put strength from heel to hair braids Figurative Meaning: To put in all possible efforts	36	63	0.53
4	ek ənar sau bi:mar Literal Meaning: One pomegranate, hundred sick people Figurative Meaning: Something very useful, but available in a limited quantity	33	69	0.53
5	tʃaḡər ke bahər pāu pəsarna Literal Meaning: To spread legs outside bedsheet Figurative Meaning: To spend more than one’s income	32	67	0.53
6	əpna ullu: si:ḡ ^h a kərna Literal Meaning: To straighten one’s owl	30	66	0.56

	Figurative Meaning: To achieve one's selfish purpose			
7	peɪ mə tʃu:he ku:ɔna Literal Meaning: To have mice jumping in stomach Figurative Meaning: To be very hungry	50	69	0.58
8	asman sɪr pər utʰana Literal Meaning: To lift sky on head Figurative Meaning: To create a huge ruckus	37	65	0.58
9	haɪʰ pi:la hona Literal Meaning: Hands being yellow Figurative Meaning: To get married	36	66	0.58
10	gəre mʊɾe ukʰaɾna Literal Meaning: To pull out buried corpses Figurative Meaning: To search for and reveal very old things from someone's past	32	64	0.58
11	əɖʰər mə lətʃkana Literal Meaning: To hang something half-way Figurative Meaning: To leave someone or some task mid-way	29	62	0.58
12	kəledʒe pər pətʃʰər rəkʰna Literal Meaning: To keep stone on chest Figurative Meaning: To show strength at times of emotional turmoil	25	69	0.58
13	əkɪ ɡʰas tʃərne dʒana Literal Meaning: To have mind gone for grazing grass Figurative Meaning: To lose logical understanding or common sense	37	63	0.61
14	kəmər ɬu:ɬ dʒana Literal Meaning: Waist breaking down Figurative Meaning: To be extremely tired	32	66	0.61
15	ag bəbu:la hona Literal Meaning: To be fire boil Figurative Meaning: To be extremely angry	41	69	0.64

4.3.3.3.3. 'Less-Frequent and Less-Decomposable' idioms

For this category of idioms also, we have done the categorisation on similar lines. We have considered idioms with the usage frequency index, the meaning familiarity index, and the decomposability index lower than their respective mean values (frequency index < 24.62, familiarity index < 58.33, and decomposability index < 0.65).

Table 4.15: List of ‘less-frequent and less-decomposable’ idioms

S. No.	Idiom	Usage Frequency Index	Meaning Familiarity Index	Decomposability Index
1	hət ^h eli: pər sər sō ugana Literal Meaning: To grow mustard on the palm of one’s hand Figurative Meaning: To attempt an impossible task	-7	22	0.28
2	haṭ ^h gərəm kərna Literal Meaning: To heat hand Figurative Meaning: To bribe someone	17	51	0.31
3	ṭoṭe ur dʒana Literal Meaning: Parrots flying away Figurative Meaning: To get panic-stricken or scared	18	52	0.33
4	k ^h ətai: mē pər dʒana Literal Meaning: To fall into sourness Figurative Meaning: Some task or work getting stuck because of some obstacles	-15	25	0.36
5	tʃ ^h aṭi: pər mu:ŋg dəlna Literal Meaning: To grind gram pulses on someone’s chest Figurative Meaning: To trouble someone incessantly	5	47	0.36
6	guḍri: ka lal hona Literal Meaning: Worn out clothes becoming red Figurative Meaning: To be an extraordinary person born in a poor family or locality	-3	42	0.39
7	mūh mē qəhi: dʒəmana Literal Meaning: To prepare curd in mouth Figurative Meaning: To stay silent / To be tongue-tied	14	47	0.39
8	ī:ṭ se ī:ṭ bədʒana Literal Meaning: To hit brick with brick Figurative Meaning: To cause extensive damage / To defeat someone comprehensively	18	58	0.42
9	gəle ka har hona Literal Meaning: To be a necklace Figurative Meaning: To be very dear to someone	23	58	0.42
10	əṭ ^h se iṭi ṭək Literal Meaning: From start to finish Figurative Meaning: From start to finish	-28	16	0.44
11	aṣṭi:n ka sāp hona Literal Meaning: To be snake of one’s sleeves Figurative Meaning: To betray someone / To be an enemy in a friend’s disguise	24	58	0.44

4.3.3.3.4. ‘Less-Frequent and Decomposable’ idioms

For this category, we used the following criteria to shortlist the idioms: frequency index < 24 , meaning familiarity index < 58 , and decomposability index > 0.65 . With these criteria applied, there were no idioms found in this set. This could be either because we have not chosen such idioms in our dataset or the 2-point (yes/no) scale for the decomposability test needs to be improved. Therefore, we decided to do another decomposability test on a 5-point Likert scale in the next empirical study and then evaluate the idioms for this category.

For the Empirical Study 1, we followed the instructions used by Gibbs for the decomposability test (Gibbs et al., 1989), which used a yes/no scale to test the compositionality judgement. However, a 5-point Likert scale may be a better measure to ensure higher accuracy for decomposability judgement because it can account for both the direction and magnitude of responses. On a 2-point scale, the only possible responses are ‘yes’ or ‘no’, but a 5-point Likert scale can assimilate the various responses corresponding to ‘strong agreement’, ‘mild agreement’, ‘neutral response’, ‘mild disagreement’, and ‘strong disagreement’. Hence, it captures user response better and will give more accurate decomposability index values. As we recalculate the decomposability index in the next empirical study, it is possible that some of the idioms may be reclassified to another category based on the updated decomposability index values. We have analysed and reported the results for this category in the next empirical study discussed under Section 4.4.

4.4. Empirical Study 2: Factors which facilitate comprehension for different categories of idioms

In this empirical study, we conducted three tasks to explore the effects of decomposability, predictability, and the role of literal meaning in the comprehension of idioms. This study can be considered an extension of the Empirical Study 1, as we conducted the decomposability test on a 5-point Likert scale (detailed explanation in Section 4.3.3.3.4). Also, we reused usage frequency index and the meaning familiarity index from Empirical Study 1 with a slight modification. We also tried to understand if any correlation exists between all these idiom properties, so that we could derive insights pertaining to the idiom comprehension process in adult native speakers of Hindi.

In the simplest of terms, an idiom can be considered a phrase with a special figurative meaning, which may be marginally or substantially different from the literal meaning of the expression. A language speaker may need to differentiate idioms from a regular literal expression. Therefore, this perspective leads us to consider if the existence of the literal meaning of an idiom impacts idiom comprehension, i.e. if the literal meaning is also evaluated during the idiom comprehension process. As discussed in Chapter 1, some studies on idioms talked about the process of rejecting the literal meaning when comprehending idiomatic expressions. However, there was no consensus on the activation of the literal meaning. Through this study, we have made efforts to understand if the interpretation of idioms has any relationship with the compositionality and the literal meaning of the idiomatic phrase. We checked if there is a tendency among native speakers to evaluate the literal meaning of the idiom string during comprehension. We have also analysed if such a computation of literal meaning happens for all idioms or is confined to only specific categories of idioms.

Another aspect of the study is to gather insights regarding the ‘point of idiom identification’. Some studies have pointed out that idiomatic expressions possess a unique point of idiom identification (Cacciari and Glucksberg, 1991). These unique points or words are the indicators or keywords within idiomatic phrases that help the speakers to recognise the phrase as an idiomatic expression. To explain this, we can consider the following examples. The transparent idiom ‘haṭṭⁿ ka mail hona’ (literal meaning: ‘to be the dust of hand’, figurative meaning: ‘something inconsequential and transient’) has a valid literal meaning in addition to the idiomatic meaning. Hence, there is a possibility of confusion during the idiom comprehension process. This idiom may have the ‘point of idiom identification’ at the word ‘mail’ (literal meaning: ‘dust’) or any other constituent word. The word ‘mail’ (literal meaning: ‘dust’), or any other word which is the ‘point of idiom identification’, may help the language user to recognise this expression as an idiomatic one. Another example is ‘həvai: qila bənana’ (literal meaning: ‘to build a fort in air’, figurative meaning: ‘to make unrealistic plans’), which is purely idiomatic with the literal meaning being non-existent or absurd. Here, either the word ‘həvai:’ (literal meaning: ‘located in air’) or ‘qila’ (literal meaning: ‘fort’) may be the ‘point of identification’ and therefore help in idiom recognition.

As discussed in Section 2.5.2.1 and Section 2.7.5, both types of idioms, with or without a valid literal meaning, may have words that can be the points of idiom identification. Such unique points or keywords can help ease the comprehension process to an extent where the regular comprehension process can be circumvented.

4.4.1. Methodology

This empirical study consisted of three judgment tasks: the ‘decomposability test’, ‘the role of literal meaning’ task, and the ‘point of idiom identification’ task. The ‘decomposability test’ was a semantic judgement task designed to assess the decomposability of Hindi idioms on a 5-point Likert scale. As discussed in Section 4.3.3.3.4, this test was redesigned to address the limitation of the decomposability judgement test used in Empirical Study 1. The ‘role of literal meaning’ task was designed to understand if respondents retrieve the literal meaning when they encounter idioms in spoken or written mediums. The ‘point of idiom identification’ task was designed to ascertain if certain trigger points, or points of idiom identification, are found to exist consistently for most idioms.

4.4.1.1. Participants

The study was conducted on 54 participants, who were in the age group of 21-35 years and were native speakers of the Hindi language. All the participants had marked Hindi as their mother tongue and had spent more than 20 years in the Hindi-speaking region. All the participants had 15+ years of formal education in Hindi as well, along with having Hindi as a major or minor subject until graduation. All the participants were proficient in reading, writing, speaking, and understanding Hindi. All participants knew more than two languages. The participants marked their responses on 60 idioms in this study. Questionnaires were distributed and shared in a controlled manner using the SurveyMonkey tool. 27 participants answered Questionnaire 1, and the remaining 27 participants answered Questionnaire 2. Therefore, considering the distribution of tasks in the two questionnaires, the ‘decomposability test’ and ‘the role of literal meaning’ tasks were conducted on 27 participants, while the ‘point of idiom identification’ task was conducted on all the 54 participants (32 male and 22 female participants).

4.4.1.2. Method

Similar to Empirical Study 1, we adopted the survey method for this study and executed using the web-based survey tool SurveyMonkey to conduct the survey and gather (collect and consolidate) responses for the questionnaires created for this empirical study. We interacted with respondents over phone, e-mail, and social media sites to make sure they understand the survey instructions clearly and explain the instructions in the survey questionnaires to avoid any error or bias in understanding the tasks. Also, to make sure that each participant carries out the task attentively, we did ask each respondent to write the meaning of idioms on the last page of the questionnaire, although we did not intentionally assess these responses as correct or incorrect (not in the scope of this study).

One of the considerations in the design of this task was to control the effect of context. As it is established firmly in literature, context aids comprehension. Presenting the idioms in a context could have diluted the effect of the dimension being studied in each of these tasks. Hence, we presented idioms in all the tasks without any sentential context. We also did not provide the figurative meanings of the idioms to allow for a natural comprehension process to play out its due course. The instructions to fill the questionnaires were provided in Hindi as well as English. This modification was done so that all participants can understand the task clearly by going through the instructions in either language.

4.4.1.3. Material

For this study, we used the 60 idioms shortlisted from Empirical Study 1, which were categorised across the dimensions of usage frequency and decomposability (Tables 4.13 to 4.15). This empirical study included three judgement tasks for which we created two questionnaires. Questionnaire set 1 had ‘decomposability test’ and ‘point of idiom identification’ as the tasks for the respondents, while questionnaire set 2 had ‘the role of literal meaning’ and ‘point of idiom identification’ as the tasks for the respondents. This division of tasks was done to ensure that the questionnaire does not become too long or challenging for any respondent, as that could lead to false or rushed responses, thereby inducing an error in our study. As the ‘point of idiom identification’ task is designed to capture an instinctive response, it was expected to be done in relatively lesser time. Therefore, it was included in both the questionnaires.

The questionnaires had Hindi instructions followed by English instructions, which was another improvement we did in this empirical study (Empirical Study 1 had instructions only in English). The language proficiency test was also a part of this questionnaire where respondents responded to the questions, which included the count of years they spent in a Hindi-speaking zone, their formal education, language proficiency for all four skills: reading, writing, speaking, and listening. In the instructions, it was also made clear that the task does not contain any wrong and right answers; therefore, the responses are supposed to just reflect the understanding of the respondents without worrying about providing the ‘right answer’. We also gave some examples for enabling a better understanding of tasks.

Both the questionnaires had two sections. The first section was designed to gather information regarding the respondent’s profile, including the respondent’s age, gender, region, formal education, and language proficiency. To capture the proficiency in and familiarity with the Hindi language, a detailed set of questions related to the following aspects were presented: respondents’ L1 language, their Hindi proficiency, years of formal education, demographic profile, bi/multilingualism, and usage of the Hindi language in day-to-day life. The second section of the questionnaire was designed around the tasks, as explained in Sections 4.4.1.4 to 4.4.1.6. The idioms lists were typed in Devanagari script. We prepared detailed instructions for filling up the questionnaire and gave a separate page of instructions corresponding to each set of questions for easy reference before responding (details are available in Appendix 2).

4.4.1.4. Task 1: Decomposability Test

For this task, the subjects were presented with 60 idioms to mark their responses for decomposability. Similar to Empirical Study 1, we presented idioms in their conventional lexical form without embedding them in any sentential context. The instructions for the decomposability test were slightly rephrased but were along the lines of the instructions used by Gibbs et al. (1989). As discussed in Section 4.3.3.3.4, we used a 5-point Likert scale, which accounts for both the direction and magnitude of responses.

We structured the section of the questionnaire dealing with this task in the following manner. First, the definitions for decomposable and non-decomposable idioms were provided and elucidated with relevant examples. The subjects were required to

understand both these categories and then make a semantic judgement to rate the idioms. For this task, we presented the terminology of decomposability-based categorisation, viz. decomposable and non-decomposable idioms. As advised through the focus-group discussions (Section 3.2.1), we presented the decomposable category idioms using a broader definition that also encompasses the abnormally decomposable idioms by accounting for both direct and indirect relationships of the meanings of idioms with their constituents. We explained the categories through appropriate examples of direct association, indirect association, and no association of the meanings of idioms with their constituents. Following is the description of the instructions provided in English (Table 4.16). The questionnaire used is provided in Appendix 2.

Table 4.16: Instructions for Decomposability Test

Decomposability Test In this task, we would like you to judge whether the idioms are decomposable or non-decomposable. For this we would like you to judge - If there is any contribution of the words in the idioms to the phrase’s figurative meaning (Decomposable idioms). - If there is no contribution of the words in the idioms to the phrase’s figurative meaning (Non-decomposable idioms).
Please go through the definitions below to make your judgment. Decomposable Idioms: For such idioms, the individual words/constituents used in the idiomatic expression will directly or indirectly help in understanding the overall idiomatic meaning of the idioms. Example 1: angaar barasnaa (अंगार बरसना) Literal meaning: Raining of hot coal Idiomatic meaning: Very hot sunny day This idiom has two words that are metaphorically related to the idiomatic meaning. The word, ‘अंगार’ (angaar) refers to the concept of heat whereas ‘barasnaa’ is the evidence of an action. This combination leads to the idiomatic meaning. Example 2: angaaron par pair rakhnaa (अंगारों पर पैर रखना) Literal meaning: To keep feet on hot coal Idiomatic meaning: To perform a difficult task This idiom’s literal meaning is closely related to the idiomatic meaning. The action of putting one’s feet (‘पैर रखना’) on hot charcoal (‘अंगारों’) can be considered an exceedingly difficult and dangerous task. Therefore, there is meaning transparency in this idiom.

Non-decomposable Idioms:

Some idioms are non-decomposable in nature. For them, there is no relation between the words of the idiomatic expression and the meaning this idiom has. Therefore, the individual words/constituents do not make any contribution to the overall idiomatic meaning.

Example 1:

gaal bajaana (गाल बजाना).

Literal meaning: To play cheeks

Idiomatic meaning: To argue

Here, neither of the words is directly or indirectly related/refers to its idiomatic meaning 'to argue'. Therefore, it is a non-decomposable idiom.

Example 2:

anguthe par maarnaa (अंगूठे पर मारना).

Literal meaning: To hit on thumb

Idiomatic meaning: To not worry about

Here, neither of the words is directly or indirectly related/refers to its idiomatic meaning 'to not worry about'. Therefore, there is no meaning transparency here, and so it is a non-decomposable idiom.

Post the instructions and definitions, the next sub-section consisted of the questions which required the respondents to mark their judgement on the meaning transparency of idiomatic phrase on a 5-point Likert scale. The respondents were required to mark their responses to a statement that defines the compositionality of idioms, as shown below. The semantic judgement was warranted in agreement or disagreement with the statement on a 5-point Likert scale.

Rating Judgement:

Provide your response for the following statement as per the rating guide mentioned below.

Statement:

I can deduce the idiomatic meaning of this phrase because the individual words contribute to the overall meaning.

Rating - Rating Guide

- 1 - I strongly disagree with the above statement
- 2 - I disagree with the above statement
- 3 - I am not sure; I am confused
- 4 - I agree with the above statement
- 5 - I strongly agree with the above statement

Two idioms: ‘əpne pāu pər kulhəri: marna’ (literal meaning: ‘to strike axe on one’s own foot’, figurative meaning: ‘to cause harm to oneself’ / ‘to act stupidly and cause harm to oneself’) and ‘kẽĩtʃi: si: zəban tʃəlna’ (literal meaning: ‘tongue moving like a pair of scissors’, figurative meaning: ‘to have a harsh tone’ / ‘a very rude person’), included in the set are reproduced in Figure 4.8 as examples.

* 1. I can deduce the idiomatic meaning of this phrase because the individual words contribute to the overall meaning / मैं इस मुहावरे का अर्थ समझ पा रहा हूँ क्योंकि मुहावरे में प्रयुक्त शब्दों का मुहावरे के अर्थ में योगदान है

	1 – Strongly Disagree / पूर्णतः असहमत	2 – Disagree / असहमत	3 – Not sure / संशय है	4 – Agree / सहमत	5 – Strongly Agree / पूर्णतः सहमत
अपने पांव पर कुल्हाड़ी मारना	☐	☐	☐	☐	☐
कैंची सी ज़बान चलना	☐	☐	☐	☐	☐

Figure 4.8: Decomposability Test questions (sample)

4.4.1.5. Task 2: Literal Meaning Identification task (the role of literal meaning)

This task was designed to identify if respondents considered the literal meaning of the idiom at any stage of the idiom comprehension process, i.e. the task required the respondents to think and mark if they have retrieved and analysed the literal meaning of the idiom in the process of arriving at the figurative meaning. The instructions clearly mentioned that there is a possibility that the participants may not retrieve the literal meaning while interpreting the meaning of the idiom. In either case, they can mark their judgements on a 5-point Likert scale. To rule out any confusion regarding the objective of this task, it was explicitly made clear that the task is not to measure if the idiom has a literal meaning. Instead, it warranted a judgement regarding the retrieval of the literal meaning of an idiom during idiom interpretation.

Through this task, we wanted to develop an insight into the role of an idiom’s literal meaning. The instructions explained the nature of the task with appropriate examples to eliminate any possibility of misunderstanding the test. Similar to the other tasks in this study, the instructions were provided both in Hindi and English. The responses were collected for 60 idioms on a 5-point Likert scale varying from ‘strongly agree’ to ‘strongly disagree’. Following is the description of the task and the instructions given in English. Details of the questionnaire are given in Appendix 2.

Table 4.17: Instructions for Literal Meaning Identification task

The Role of Literal Meaning

In this task, you have to mark if you think you have retrieved the literal meaning of the idiom as well while interpreting the idiomatic meaning of idioms. Or did you not retrieve the literal meaning of the idioms at all?

Note: This task is NOT to measure if the idiom has a literal meaning. The focus is on you, if you actually try to retrieve the literal meaning during idiom interpretation.

Example: taang khincnaa (टांग खींचना)

In this task, we would like to know that while interpreting the meaning of idioms like the above did you also retrieve the literal meaning, which is ‘to pull the legs of somebody’ or you retrieved only its idiomatic meaning which is ‘to tease someone’. Please mark your response by rating the statement below.

The respondents were required to mark their inputs on the retrieval of literal meaning of the mentioned idioms on a 5-point Likert scale, by responding to a statement that defined the literality of idioms, as shown below.

Rating Judgement:

Provide your response for the following statement as per the rating guide mentioned below.

Statement:

While interpreting the idiomatic meaning of this phrase, I have also retrieved the literal meaning of the phrase.

Rating - Rating Guide

1 - I strongly disagree with above statement

2 - I disagree with above statement

3 - I am not sure; I am confused

4 - I agree with above statement

5 - I strongly agree with above statement

Two idioms: ‘ $\dot{q}u:\dot{q}^h$ ka $\dot{q}^hula$ hona’ (literal meaning: ‘to be washed in milk’, figurative meaning: ‘to be very pure / to act like a very pure and ethical person’) and ‘ $\text{ək}l$ g^has t $\text{ʃ}\text{ə}rne$ d $\text{ʒ}ana$ ’ (literal meaning: ‘to have mind gone for grazing grass’, figurative meaning: ‘to lose logical understanding or common sense’), included in the set are reproduced in Figure 4.9 as examples.

4. While interpreting the idiomatic meaning of this phrase, I have also retrieved the literal meaning of the phrase / मुहावरा पढ़ते और समझते समय मुझे मुहावरे का शाब्दिक अर्थ भी ज्ञात हुआ

	1 – Strongly Disagree / पूर्णतः असहमत	2 – Disagree / असहमत	3 – Not sure / संशय है	4 – Agree / सहमत	5 – Strongly Agree / पूर्णतः सहमत
दूध का धुला होना	☐	☐	☐	☐	☐
अक्ल घास चरने जाना	☐	☐	☐	☐	☐

Figure 4.9: Literal Meaning Identification task: questions (sample)

4.4.1.6. Task 3: Point of Idiom Identification task

This task was designed to identify if there are any points of idiom identification or keywords in an idiom, which aid in identifying the phrase as an idiom. This judgement task required the participants to think and make a judgement on such points of idiom identification. The test was administered for 60 idioms and on 54 respondents. The instructions clarified that such a keyword does not necessarily need to be the first word of an idiom. Participants may identify the keyword at the beginning, middle, or towards the end of the phrase. Therefore, any word of an idiom can be the point of identification.

The respondents were instructed to mark the last word of the idiom as the keyword if they do not find a point of identification for any idiom. The reason behind doing this was, for an idiom, even if there is no clear point of idiom identification, the phrase will be recognised as an idiom by the time participants finish reading the entire phrase. Following is the description of the task and the instructions given in English. Details of the questionnaire are given in Appendix 2.

Table 4.18: Instructions for Point of Idiom Identification task

Point of idiom identification Do you think there is any particular trigger point, or point of idiom identification, or keyword in an idiom, which makes a major impact in recognising that the phrase is an idiom? In the idioms given below, try to identify the keyword, at which the idioms become actually identified, i.e. at that point, do you identify that this expression should be interpreted as an idiom. It is possible that you identify this as an idiom at the beginning, middle, or end of the phrase. Therefore, any point can be the point of identification or keyword.

Example: 'aankhon mein dhool jhonknaa' (आँखों में धूल झोंकना)

In this case, there are probably three possible points of idiom identification.

- When we read 'aankhon mein dhool jhonknaa' (आँखों में धूल झोंकना), probably we have identified this phrase as an idiom by the time we have read 'aankhon mein dhool' (आँखों में धूल झोंकना). Therefore, 'dhool' (धूल) is the point of idiom identification, and anything post it just adds confirmation and completes the phrase.
- You can identify this as an idiom when you come to the last word of the phrase 'aankhon mein dhool jhonknaa' (आँखों में धूल झोंकना). In this case, 'jhonknaa' (झोंकना) will be the point of idiom identification.
- Another possibility is in the beginning itself. Therefore, either 'aankhon' or 'aankhon mein' can be the point of idiom identification in 'aankhon mein dhool jhonknaa' (आँखों में धूल झोंकना)

Note:

If you do not find a point of identification for any idiom mentioned below, you can mark the last word of the idiom. In such cases, it is assumed that even if you don't think there is a clear point of identification, you will definitely recognize that these phrases are idioms by the time you finish reading the entire phrase.

Two idioms: 'əpne pāu pər kulhaṛi: maṛna' (literal meaning: 'to strike axe on one's own foot', figurative meaning: 'to cause harm to oneself / to act stupidly causing harm to oneself') and 'kẽĩtʃi: si: zəbaṇ tʃəlna' (literal meaning: 'tongue moving like a pair of scissors', figurative meaning: 'to have a harsh tone / a very rude person'), included in the set are reproduced in Figure 4.10 as examples.

* 1. अपने पांव पर कुल्हाड़ी मारना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ अपने ☐ पांव ☐ पर ☐ कुल्हाड़ी ☐ मारना

* 2. कैची सी ज़बान चलना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ कैची ☐ सी ☐ ज़बान ☐ चलना

Figure 4.10: Point of Idiom Identification task: questions (sample)

4.4.2. Analysis

Similar to the approach pursued in Empirical Study 1, we created two indices to quantify the dimensions of ‘decomposability’ (‘decomposability index’) and ‘the role of literal meaning’ (‘literal meaning identification index’ or ‘LMI index’). We reused the usage frequency index and the meaning familiarity index from Empirical Study 1 with a minor modification, as explained in Section 4.4.2.1. Based on these indices, idioms were categorised and shortlisted for the remaining studies designed for exploring idiom comprehension and production in children (Chapters 5 and 6). We collected and consolidated the responses for each of the tasks on a 5-point Likert scale and converted these responses to a ratio scale for analysis. A most favourable response was assigned a weight of +2, a slightly favourable response a weight of +1, a neutral response a weight of 0, a slightly negative response a weight of -1, and a strongly negative response a weight of -2.

4.4.2.1. Analysis 1: Computing the indices

To reuse the usage frequency index and the meaning familiarity index (from Empirical Study 1), we had to account for the unequal number of respondents across the two studies. Empirical Study 1 was conducted on 72 respondents (36 respondents for each idiom), and Empirical Study 2 was conducted on 54 respondents (27 respondents for each idiom). To keep the values of these indices consistent for calculations across these two studies, we have divided the weighted score by the number of respondents performing the task. The process and an essential modification in computing these indices can be explained with an example.

Let us consider an idiom for which we aggregated the responses to the decomposability task to create the decomposability index. As there were 27 respondents for the decomposability task in this study for an idiom, their responses may be aggregated along with their weights to create an absolute decomposability index of value X. However, in the previous empirical study, 36 respondents answered questions about the same idiom’s meaning familiarity, resulting in an absolute meaning familiarity index of value Y. The indices X and Y hence computed cannot be directly compared and regressed against each other because there is a third variable changing, which is the number of respondents, and will cause an error if these indices are used in absolute terms. However,

if we average out the values per respondent, these two averaged out indices can be analysed together, without any error caused by the different number of respondents for each task. Hence, all the indices (including the ‘decomposability index’ and ‘LMI index’) are calculated as an averaged-out value per respondent.

Table 4.19: Computation of indices created to quantify idiom properties

Usage Frequency Index = $\frac{(\text{Count of Rating 5 responses} * 2 + \text{Count of Rating 4 responses} * 1 + \text{Count of Rating 3 responses} * 0 + \text{Count of Rating 2 responses} * -1 + \text{Count of Rating 1 responses} * -2)}{\text{Number of responses}}$
Meaning Familiarity Index = $\frac{(\text{Count of Rating 5 responses} * 2 + \text{Count of Rating 4 responses} * 1 + \text{Count of Rating 3 responses} * 0 + \text{Count of Rating 2 responses} * -1 + \text{Count of Rating 1 responses} * -2)}{\text{Number of responses}}$
Decomposability Index = $\frac{(\text{Count of Rating 5 responses} * 2 + \text{Count of Rating 4 responses} * 1 + \text{Count of Rating 3 responses} * 0 + \text{Count of Rating 2 responses} * -1 + \text{Count of Rating 1 responses} * -2)}{\text{Number of responses}}$
Literal Meaning Identification (LMI index) = $\frac{(\text{Count of Rating 5 responses} * 2 + \text{Count of Rating 4 responses} * 1 + \text{Count of Rating 3 responses} * 0 + \text{Count of Rating 2 responses} * -1 + \text{Count of Rating 1 responses} * -2)}{\text{Number of responses}}$

The above definitions indicate that the values for all indices will span across -2 (lowest) to +2 (highest), and:

- A higher value of ‘usage frequency index’ implies that the idiom is more frequently used.
- A higher value of ‘meaning familiarity index’ implies that the idiom’s meaning is more well-known.
- A higher value of ‘decomposability index’ implies that the idiom’s meaning is more transparent, and the idiomatic meaning can be possibly derived from its constituent words.
- A higher value of ‘LMI index’ implies that the idiom is more prone to a word-by-word analysis of literal meaning by language users.

4.4.2.1.1. Computed values of indices developed

Table 4.20 shows the indices computed for 60 idioms as defined in the previous section (Section 4.4.2.1).

Table 4.20: Values of the indices for each idiom

S. No.	Idioms	Usage Frequency Index	Meaning Familiarity Index	LMI Index	Decomposability Index
1	ag bəbu:la hona Literal Meaning: To be fire boil Figurative Meaning: To be extremely angry	1.14	1.91	0.43	0.85
2	āk ^h ō ka ṭara hona Literal Meaning: To be the star of eyes Figurative Meaning: To be very dear to someone	0.81	1.75	0.56	0.81
3	āk ^h ō mē pani: b ^h er ana Literal Meaning: Water filled in eyes Figurative Meaning: To become very emotional	0.78	1.69	0.78	1.04
4	aṭe ḍal ka bhav malu:m hona Literal Meaning: To know the price of flour and pulses Figurative Meaning: To be aware of the realities of life	0.89	1.75	0.85	0.62
5	asman sir pēr uṭ ^h ana Literal Meaning: To lift sky on head Figurative Meaning: To create a huge ruckus	1.03	1.81	-0.11	0.04
6	aṣṭi:n ka sāp hona Literal Meaning: To be snake of one's sleeves Figurative Meaning: To betray someone / To be an enemy in a friend's disguise	0.67	1.69	0.11	0.08
7	əḍ ^h er mē ləṭkana Literal Meaning: To hang something half-way Figurative Meaning: To leave someone or some task mid-way	0.81	1.24	0.15	0.38
8	əkl g ^h as tṣerne dḷana Literal Meaning: To have mind gone for grazing grass Figurative Meaning: To lose logical understanding or common sense	1.03	1.75	0.19	0.15
9	əkl ka ḍuṣmən hona Literal Meaning: To be enemy of wisdom Figurative Meaning: To be very stupid	0.86	1.72	0.30	0.62

10	ẽḍ ^h ere mẽ ɬi:r tʃəlana Literal Meaning: To shoot arrows in the dark Figurative Meaning: To make a wild guess	1.03	1.72	1.04	0.77
11	ẽḍ ^h õ mẽ kana radʒa Literal Meaning: One-eyed person being king among blind people Figurative Meaning: Less qualified person being the most prominent among a group of unqualified persons	1.14	1.85	0.81	0.85
12	əŋguli: pər natʃ nətʃana Literal Meaning: To make someone dance at one's fingers Figurative Meaning: To force someone to act as per one's directions / To control someone	0.69	1.81	0.26	0.19
13	ẽɬim ɣ ^h əriʒã ginna Literal Meaning: To count last days Figurative Meaning: To be on the verge of death	0.72	1.67	0.63	0.96
14	əpna ullu: si:ḍ ^h a kərna Literal Meaning: To straighten one's owl Figurative Meaning: To achieve one's selfish purpose	0.83	1.83	-0.22	-0.35
15	əpne mũh mijã mit ^h u: bənnā Literal Meaning: To be self-mouth parrot Figurative Meaning: To praise oneself	1.06	1.89	0.07	0.42
16	əpne pāv pər kulhaɾi: maɾna Literal Meaning: To strike axe on one's own foot Figurative Meaning: To cause harm to oneself / To act stupidly causing harm to oneself	1.31	1.83	1.15	1.00
17	əɬ ^h se iɬi ɬək Literal Meaning: From start to finish Figurative Meaning: From start to finish	-0.78	0.44	0.07	0.27
18	b ^h ẽĩs ke age bi:n bəḍʒana Literal Meaning: To play a musical instrument in front of buffalo Figurative Meaning: To explain something to a foolish person	1.17	1.89	0.52	0.27
19	tʃaḍər ke bahər pāv pəsarṇa Literal Meaning: To spread legs outside bedsheet Figurative Meaning: To spend more than one's income	0.89	1.86	0.85	0.12
20	tʃ ^h aɬi: pər mu:ŋg ḍəlṇa Literal Meaning: To grind gram pulses on someone's chest Figurative Meaning: To trouble someone incessantly	0.14	1.31	-0.19	-0.04

21	tʃ ^h əppər p ^h arkər dena Literal Meaning: To tear the roof and give Figurative Meaning: To earn a great fortune unexpectedly	1.17	1.95	0.15	0.23
22	tʃullu: b ^h ər pani: mē du:b mərna Literal Meaning: To drown and die in a handful of water Figurative Meaning: To be very ashamed of oneself	1.08	1.86	0.07	0.50
23	ḡātō t̄əle ungli: ḡəbana Literal Meaning: To bite finger under one's teeth Figurative Meaning: To be astonished	0.97	1.92	0.37	0.50
24	dəŋke ki: tʃot pər kəhna Literal Meaning: To say on the beat of a drum Figurative Meaning: To be very loud and confident about something	0.92	1.78	0.22	0.50
25	ḡu:ḡ ^h ka ḡ ^h ula hona Literal Meaning: To be washed with milk Figurative Meaning: To be very pure / To act like a very pure and ethical person	1.06	1.94	0.52	0.19
26	eri: tʃoti: ka zor ləgana Literal Meaning: To put strength from heel to hair braids Figurative Meaning: To put in all possible efforts	1.00	1.75	0.19	0.46
27	ek ənar sau bi:mar Literal Meaning: One pomegranate, hundred sick people Figurative Meaning: Something very useful, but available in a limited quantity	0.92	1.92	0.22	0.00
28	gəre murḡe uk ^h arḡa Literal Meaning: To pull out buried corpses Figurative Meaning: To search for and reveal very old things from someone's past	0.89	1.78	0.56	0.50
29	gəle ka har hona Literal Meaning: To be a necklace Figurative Meaning: To be very dear to someone	0.64	1.34	0.22	0.46
30	ḡ ^h ər ki: murgi: ḡal bərabər Literal Meaning: Chicken of house is equal to pulses Figurative Meaning: To show less respect for homegrown or domestic talent	1.39	1.90	0.48	0.35
31	ḡ ^h ore betʃkər sona Literal Meaning: To sleep after selling horses Figurative Meaning: To sleep peacefully / To have a deep sleep	1.44	1.93	0.33	0.00

32	g ^h utne tek dena Literal Meaning: To put knees on ground Figurative Meaning: To concede defeat	0.97	1.83	1.00	0.85
33	gudri: ka lal hona Literal Meaning: Worn out clothes becoming red Figurative Meaning: To be an extraordinary person born in a poor family or locality	-0.08	1.17	-0.56	-0.12
34	haṭṭ ^h gərəm kərna Literal Meaning: To heat hand Figurative Meaning: To bribe someone	0.47	1.42	0.37	-0.19
35	haṭṭ ^h pi:la hona Literal Meaning: Hands being yellow Figurative Meaning: To get married	1.00	1.83	0.22	-0.15
36	həṭṭ ^h eli: pər sərso ugana Literal Meaning: To grow mustard on the palm of one's hand Figurative Meaning: To attempt an impossible task	-0.19	0.61	-0.11	0.23
37	ĩ:t se ĩ:t bədzana Literal Meaning: To hit brick with brick Figurative Meaning: To cause extensive damage / To defeat someone comprehensively	0.50	1.61	-0.07	0.23
38	dzan həṭṭ ^h eli: pər rəkḥna Literal Meaning: To keep life on the palm of the hand Figurative Meaning: To perform a very risky or daring act	0.75	1.53	0.19	0.73
39	kan kḥəre hona Literal Meaning: Ears standing straight Figurative Meaning: To become very attentive / To give dedicated attention	0.78	1.67	0.41	0.23
40	kəbr mē pāv lətkaje hona Literal Meaning: Feet hanging in grave Figurative Meaning: A very old person who is nearing death	0.72	1.61	0.59	0.89
41	kēĩtʃi: si: zəban tʃəlna Literal Meaning: Tongue moving like a pair of scissors Figurative Meaning: To have a harsh tone / a very rude person	1.08	1.81	0.37	0.54
42	kəledze pər pəṭṭ ^h ər rəkḥna Literal Meaning: To keep stone on chest Figurative Meaning: To show strength at times of emotional turmoil	0.69	1.92	0.37	0.04

43	kəməɾ tu:t dʒana Literal Meaning: Waist breaking down Figurative Meaning: To be extremely tired	0.89	1.83	0.63	0.54
44	kəte pəɾ nəmək tʃʰiɾəkna Literal Meaning: To sprinkle salt on wound Figurative Meaning: To cause more pain or trauma for someone who is already in anguish	0.92	1.75	0.81	0.62
45	kʰəɾi: kʰoɽi: sunana Literal Meaning: To make one hear raw (unfiltered) and defected Figurative Meaning: To scold someone	1.08	1.94	0.33	0.88
46	kʰəɽai: mē pəɾ dʒana Literal Meaning: To fall into sourness Figurative Meaning: Some task or work getting stuck because of some obstacles	-0.42	0.69	-0.26	-0.12
47	kʰu:n ka pʒasa hona Literal Meaning: To be thirsty for blood Figurative Meaning: To intend to harm or kill someone	0.59	1.47	0.33	0.78
48	kʰu:n pəsi:na ek kərna Literal Meaning: To make blood and sweat one Figurative Meaning: To work extremely hard	1.25	1.92	0.41	0.46
49	kiɽab ka ki:ɾa hona Literal Meaning: To be a bookworm Figurative Meaning: To be very studious / To be someone who reads a lot but has less practical knowledge	1.03	1.86	0.74	0.58
50	kēḍʰe se kēḍʰa milana Literal Meaning: To match shoulder with shoulder Figurative Meaning: To extend full cooperation	0.92	1.86	0.52	1.04
51	kolhu: ka bəil hona Literal Meaning: To be the ox which is used to draw out water from well Figurative Meaning: To be extremely hard working/ To do inconsiderate amount of work	0.50	1.45	0.27	0.50
52	mitti: mē mila ḡena Literal Meaning: To mix in mud Figurative Meaning: To defeat or completely eradicate someone or something	0.86	1.86	0.70	-0.04
53	mūh mē ḡəhi: dʒəmana Literal Meaning: To prepare curd in mouth Figurative Meaning: To stay silent / To be tongue-tied	0.39	1.31	-0.41	0.04
54	nak pəɾ gussa hona Literal Meaning: To have anger on nose	1.02	1.92	0.30	0.73

	Figurative Meaning: To be short tempered				
55	pet mē tʃu:he ku:ɔna Literal Meaning: To have mice jumping in stomach Figurative Meaning: To be very hungry	1.39	1.92	0.34	0.12
56	sitti: pitti: gum hona Literal Meaning: To lose senses (*no literal translation for sitti pitti) Figurative Meaning: To become extremely scared or frightened	1.03	1.72	-0.04	0.23
57	ɽari:f ke pul bāɖhna Literal Meaning: To tie bridges of praise Figurative Meaning: To praise someone generously	1.17	1.89	0.26	0.92
58	teɖhi: ungli: se g ^{hi} : nikalna Literal Meaning: To take out clarified butter by bending finger Figurative Meaning: To do some work using an unconventional way	1.08	1.97	0.78	0.54
59	ɽil ka ɽar bənana Literal Meaning: To make palm tree out of sesame seed Figurative Meaning: To heavily exaggerate / To create a big fuss out of a small thing	1.06	1.81	0.30	0.54
60	ɽote ur dʒana Literal Meaning: Parrots flying away Figurative Meaning: To get panic-stricken or scared	0.50	1.44	-0.11	0.00

4.4.2.2. Analysis 2: Understanding data through descriptive statistics

Table 4.21 summarises the measure of central tendency for this dataset. We can observe that a total of 60 idioms were used in this empirical study. From the means of the indices, we can see that all the indices have positive means (0 is the ideal central value of the 5-point Likert scale), and hence the idioms selected in the data set were, in general, more frequent, more decomposable, and more familiar. Also, as we have redefined the indices for a comparative and correlation analysis, we find that the values of these indices for all idioms (and their mean, median, and range) lie between -2 to +2, which are the extremes of the 5-point Likert scale.

Table 4.21: Descriptive statistics for the indices

Statistics		Usage Frequency Index	Meaning Familiarity Index	LMI Index	Decomposability Index
N	Valid	60	60	60	60
	Missing	0	0	0	0
Mean		.831944	1.685056	.337667	.403000
Median		.916667	1.805556	.330000	.460000
Range		2.2222	1.5278	1.7100	1.3900
Minimum		-.7778	.4444	-.5600	-.3500
Maximum		1.4444	1.9722	1.1500	1.0400

4.4.2.3. Analysis 3: Linear Regression between the meaning familiarity index and the usage frequency index on complete dataset

Using the IBM SPSS Statistics tool, we executed a linear regression test to find the correlation between idioms' meaning familiarity and usage frequency. The dependent variable was set as the meaning familiarity index, and the independent or predictor variable was the usage frequency index. We conducted this linear regression test to reconfirm the results obtained of Empirical Study 1 because the individual respondents, number of respondents, and number of idioms had changed for this empirical study.

Table 4.22: Linear Regression between meaning familiarity and usage frequency

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Usage Frequency Index ^b	.	Enter

a. Dependent Variable: Meaning Familiarity Index

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.916 ^a	.839	.836	.1302848

a. Predictors: (Constant), Usage Frequency Index

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.119	1	5.119	301.552	.000 ^b
	Residual	.984	58	.017		
	Total	6.103	59			

a. Dependent Variable: Meaning Familiarity Index

b. Predictors: (Constant), Usage Frequency Index

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.094	.038		28.819	.000
	Usage Frequency Index	.710	.041	.916	17.365	.000

a. Dependent Variable: Meaning Familiarity Index

We found this linear regression to be statistically significant with $p = 0.000$. The Adjusted R Square statistic of this linear regression was observed to be very high at 0.836, or 83.6%, suggesting a strong correlation between usage frequency and meaning familiarity of idioms. This result is intuitive as well, as it says that the idioms, whose meanings are more familiar to language users, are likely to be more frequently used. For the purpose of analysis and categorisation of idioms, we can go ahead with either meaning familiarity or usage frequency as one dimension for analysing the effect on idiom comprehension and production because both these properties are tightly correlated. We chose usage frequency as one of the variables for the categorisation of idioms because of this finding.

4.4.2.4. Analysis 4: Categories of idioms developed

We followed the same procedure as Empirical Study 1 to identify the categories based on the usage frequency index and the decomposability index. Table 4.21 shows the mean values for all the indexes created, using which we have defined the categories which are (a) ‘frequent and decomposable’, (b) ‘frequent and less-decomposable’, (c) ‘less-frequent and decomposable’, and (d) ‘less-frequent and less-decomposable’. As observed in Table 4.21, the mean value of the usage frequency index is 0.83, and the mean value for the decomposability index is 0.40. For the idiom comprehension and production studies on children, we had planned to limit the entire idiom set to 24 idioms. Hence, we aimed to identify the 6 most representative idioms of each category. Hence, we have shortlisted the idioms in each category using the criteria mentioned from Sections 4.4.2.4.1 to 4.4.2.4.4.

4.4.2.4.1. ‘Frequent and Decomposable’ (F-D) idioms

By selecting idioms with these indices higher than the mean (usage frequency index > 0.83 and decomposability index > 0.40), we ensured that we are considering only

those idioms that are more frequent and more decomposable in nature. The 6 most representative idioms (both usage frequency index and decomposability index are high) of this category are listed in Table 4.23.

Table 4.23: List of ‘frequent and decomposable’ idioms (F-D)

S. No.	Idioms	Usage Frequency Index > 0.83	Decomposability Index > 0.40
1	आग बबूला होना ag bəbu:lə hona Literal Meaning: To be fire boil Figurative Meaning: To be extremely angry	1.14	0.85
2	आटे दाल का भाव मालूम होना aːtə ɖal ka bhav malu:m hona Literal Meaning: To know the price of flour and pulses Figurative Meaning: To be aware of the realities of life	0.89	0.62
3	अक्ल का दुश्मन होना əkl ka ɖuʃmən hona Literal Meaning: To be enemy of wisdom Figurative Meaning: To be very stupid	0.86	0.62
4	अंधेरे में तीर चलाना ə̃ɖʰere mē t̪i:r tʃəlana Literal Meaning: To shoot arrows in the dark Figurative Meaning: To make a wild guess	1.03	0.77
5	अंधों में काना राजा ə̃ɖʰō mē kana raɖʒa Literal Meaning: One-eyed person being king among blind people Figurative Meaning: Less qualified person being the most prominent among a group of unqualified persons	1.14	0.85
6	अपने मुंह मियाँ मिट्टू बनना əpne mūh mijā miṭṭʰu: bənnə Literal Meaning: To be self-mouth parrot Figurative Meaning: To praise oneself	1.06	0.42
7	अपने पांव पर कुल्हाड़ी मारना əpne pāu pər kulhaɽi: maɾna Literal Meaning: To strike axe on one's own foot Figurative Meaning: To cause harm to oneself / To act stupidly causing harm to oneself	1.31	1.00
8	चुल्लू भर पानी में डूब मरना tʃullu: bʰər pani: mē ɖu:b məɾna Literal Meaning: To drown and die in a handful of water	1.08	0.50

	Figurative Meaning: To be very ashamed of oneself		
9	दांतों तले उंगली दबाना ḍāṅṭō̃ ṭəle uṅgli: ḍəbana Literal Meaning: To bite finger under one's teeth Figurative Meaning: To be astonished	0.97	0.50
10	डंके की चोट पर कहना ḍəŋke ki: tʃot̪ pər kəhna Literal Meaning: To say on the beat of a drum Figurative Meaning: To be very loud and confident about something	0.92	0.50
11	एड़ी चोटी का ज़ोर लगाना eṛi: tʃoṭi: ka zor ləgana Literal Meaning: To put strength from heel to hair braids Figurative Meaning: To put in all possible efforts	1.00	0.46
12	गड़े मुर्दे उखाड़ना gəṛe murḍe uk̐harna Literal Meaning: To pull out buried corpses Figurative Meaning: To search for and reveal very old things from someone's past	0.89	0.50
13	घुटने टेक देना gʰuṭne tek̐ dena Literal Meaning: To put knees on ground Figurative Meaning: To concede defeat	0.97	0.85
14	कैंची सी ज़बान चलना kəĩtʃi: si: zəban tʃəl̪na Literal Meaning: Tongue moving like a pair of scissors Figurative Meaning: To have a harsh tone / a very rude person	1.08	0.54
15	कमर टूट जाना kəməɾ tu:t̪ dʒana Literal Meaning: Waist breaking down Figurative Meaning: To be extremely tired	0.89	0.54
16	कटे पर नमक छिड़कना kəṭe pər nəmək tʃʰiṛəkna Literal Meaning: To sprinkle salt on wound Figurative Meaning: To cause more pain or trauma for someone who is already in anguish	0.92	0.62
17	खरी खोटी सुनाना kʰəri: kʰoṭi: sunana Literal Meaning: To make one hear raw (unfiltered) and defected Figurative Meaning: To scold someone	1.08	0.88

18	खून पसीना एक करना kʰu:n pəsi:na ek kərna Literal Meaning: To make blood and sweat one Figurative Meaning: To work extremely hard	1.25	0.46
19	किताब का कीड़ा होना kiṭab ka ki:ṛa hona Literal Meaning: To be a bookworm Figurative Meaning: To be very studious / To be someone who reads a lot but has less practical knowledge	1.03	0.58
20	कंधे से कंधा मिलाना kēḍʰe se kēḍʰa milana Literal Meaning: To match shoulder with shoulder Figurative Meaning: To extend full cooperation	0.92	1.04
21	नाक पर गुस्सा होना nak pər gussa hona Literal Meaning: To have anger on nose Figurative Meaning: To be short tempered	1.02	0.73
22	तारीफ़ के पुल बांधना ṭari:f ke pul bāḍʰna Literal Meaning: To tie bridges of praise Figurative Meaning: To praise someone generously	1.17	0.92
23	टेढ़ी उंगली से घी निकालना ṭeḍʰi: ungli: se gʰi: nikalna Literal Meaning: To take out clarified butter by bending finger Figurative Meaning: To do some work using an unconventional way	1.08	0.54
24	तिल का ताड़ बनाना ṭil ka ṭar bənana Literal Meaning: To make palm tree out of sesame seed Figurative Meaning: To heavily exaggerate / To create a big fuss out of a small thing	1.06	0.54

4.4.2.4.2. 'Frequent and Less-Decomposable' (F-LD) idioms

For the F-LD (frequent and less-decomposable) category, we have selected idioms with usage frequency index higher than the mean (usage frequency index > 0.83) and the decomposability index lower than the mean (decomposability index < 0.40). By filtering with these criteria, we ensured that we are taking only those idioms into consideration that are more frequently used and less decomposable in nature. There were 13 idioms

identified for this category, of which we have highlighted below the 6 most representative idioms (usage frequency index is high and decomposability index is low).

Table 4.24: List of ‘frequent and less-decomposable’ idioms (F-LD)

S. No.	Idioms	Usage Frequency Index > 0.83	Decomposability Index < 0.40
1	आसमान सिर पर उठाना asman sir pər utʰana Literal Meaning: To lift sky on head Figurative Meaning: To create a huge ruckus	1.03	0.04
2	अक्ल घास चरने जाना əkl gʰas tʃərne dʒana Literal Meaning: To have mind gone for grazing grass Figurative Meaning: To lose logical understanding or common sense	1.03	0.15
3	भैंस के आगे बीन बजाना bʰē̃s ke age bi:n bədʒana Literal Meaning: To play a musical instrument in front of buffalo Figurative Meaning: To explain something to a foolish person	1.17	0.27
4	चादर के बाहर पांव पसारना tʃaɖər ke bahər pāv pəsarna Literal Meaning: To spread legs outside bedsheet Figurative Meaning: To spend more than one's income	0.89	0.12
5	छप्पर फाड़कर देना tʃʰəppər pʰarkər dena Literal Meaning: To tear the roof and give Figurative Meaning: To earn a great fortune unexpectedly	1.17	0.23
6	दूध का धुला होना d̪uːd̪ʰ ka d̪ʰula hona Literal Meaning: To be washed with milk Figurative Meaning: To be very pure / To act like a very pure and ethical person	1.06	0.19
7	एक अनार सौ बीमार ek ənər sau bi:mar Literal Meaning: One pomegranate, hundred sick people Figurative Meaning: Something very useful, but available in a limited quantity	0.92	0.00

8	घर की मुर्गी दाल बराबर gʰər ki: murgi: dāl bərabər Literal Meaning: Chicken of house is equal to pulses Figurative Meaning: To show less respect for homegrown or domestic talent	1.39	0.35
9	घोड़े बेचकर सोना gʰore betʃkər sona Literal Meaning: To sleep after selling horses Figurative Meaning: To sleep peacefully / To have a deep sleep	1.44	0.00
10	हाथ पीला होना haṭʰ pi:la hona Literal Meaning: Hands being yellow Figurative Meaning: To get married	1.00	-0.15
11	मिट्टी में मिला देना mitti: mē mila dēna Literal Meaning: To mix in mud Figurative Meaning: To defeat or completely eradicate someone or something	0.86	-0.04
12	पेट में चूहे कूदना pet mē tʃu:he ku:dna Literal Meaning: To have mice jumping in stomach Figurative Meaning: To be very hungry	1.39	0.12
13	सिट्टी पिट्टी गुम होना sitti: pitti: gum hona Literal Meaning: To lose senses (*no literal translation for sitti pitti) Figurative Meaning: To become extremely scared or frightened	1.03	0.23

4.4.2.4.3. ‘Less-Frequent and Decomposable’ (LF-D) idioms

For the LF-D (less-frequent and decomposable) category, we have selected idioms with usage frequency index lower than the mean (usage frequency index < 0.83) and decomposability index higher than the mean (decomposability index > 0.40). By filtering with these criteria, we ensured that we are taking only those idioms into consideration that are less frequently used and more decomposable in nature. There were 8 idioms identified for this category, of which we have highlighted below the 6 most representative idioms (usage frequency index is low and decomposability index is high).

Table 4.25: List of ‘less-frequent and decomposable’ idioms (LF-D)

S. No.	Idioms	Usage Frequency Index < 0.83	Decomposability Index > 0.40
1	आँखों का तारा होना ākʰõ ka t̪ara hona Literal Meaning: To be the star of eyes Figurative Meaning: To be very dear to someone	0.81	0.81
2	आँखों में पानी भर आना ākʰõ mē pani: bʰər ana Literal Meaning: Water filled in eyes Figurative Meaning: To become very emotional	0.78	1.04
3	अंतिम घड़ियाँ गिनना ə̃t̪im gʱəɽijã ginna Literal Meaning: To count last days Figurative Meaning: To be on the verge of death	0.72	0.96
4	गले का हार होना gəle ka har hona Literal Meaning: To be a necklace Figurative Meaning: To be very dear to someone	0.64	0.46
5	जान हथेली पर रखना dʒan hətʰeli: pər rəkʰna Literal Meaning: To keep life on the palm of the hand Figurative Meaning: To perform a very risky or daring act	0.75	0.73
6	कब्र में पाँव लटकाये होना kəbr mē pāv lətkaje hona Literal Meaning: Feet hanging in grave Figurative Meaning: A very old person who is nearing death	0.72	0.89
7	खून का प्यासा होना kʰu:n ka pjasa hona Literal Meaning: To be thirsty for blood Figurative Meaning: To intend to harm or kill someone	0.59	0.78
8	कोल्हू का बैल होना kolhu: ka bəil hona Literal Meaning: To be the ox which is used to draw out water from well Figurative Meaning: To be extremely hard working/ To do inconsiderate amount of work	0.50	0.50

4.4.2.4.4. ‘Less-Frequent and Less-Decomposable’ (LF-LD) idioms

For LF-LD (less-frequent and less-decomposable) category idioms, we have selected idioms with low usage frequency and decomposability indices (usage frequency index < 0.83 and decomposability index < 0.40). There were 15 idioms identified for this category, of which we have highlighted below the 6 most representative idioms.

Table 4.26: List of ‘less-frequent and less-decomposable’ idioms (LF-LD)

S. No.	Idioms	Usage Frequency Index < 0.83	Decomposability Index < 0.40
1	आस्तीन का साँप होना as̩ti:n ka s̩āp hona Literal Meaning: To be snake of one’s sleeves Figurative Meaning: To betray someone / To be an enemy in a friend’s disguise	0.67	0.08
2	अधर में लटकाना əḍʰər mē ləṭkana Literal Meaning: To hang something half-way Figurative Meaning: To leave someone or some task mid-way	0.81	0.38
3	अंगुली पर नाच नचाना əŋguli: pər natʃ nətʃana Literal Meaning: To make someone dance at one’s fingers Figurative Meaning: To force someone to act as per one’s directions / To control someone	0.69	0.19
4	अपना उल्लू सीधा करना əpna ullu: si:ḍʰa kərna Literal Meaning: To straighten one’s owl Figurative Meaning: To achieve one’s selfish purpose	0.83	-0.35
5	अथ से इति तक əṭʰ se iti tək Literal Meaning: From start to finish Figurative Meaning: From start to finish	-0.78	0.27
6	छाती पर मूँग दलना tʃʰaṭi: pər mu:ŋg ḍəlna Literal Meaning: To grind gram pulses on someone’s chest Figurative Meaning: To trouble someone incessantly	0.14	-0.04

7	गुदड़ी का लाल होना guḍṛi: ka lal hona Literal Meaning: Worn out clothes becoming red Figurative Meaning: To be an extraordinary person born in a poor family or locality	-0.08	-0.12
8	हाथ गरम करना haṭṭʰ gəɾəm kəɾna Literal Meaning: To heat hand Figurative Meaning: To bribe someone	0.47	-0.19
9	हथेली पर सरसों उगाना həṭṭʰeli: pər sərsõ ugana Literal Meaning: To grow mustard on the palm of one's hand Figurative Meaning: To attempt an impossible task	-0.19	0.23
10	ईंट से ईंट बजाना ī:t se ī:t bəɖʒana Literal Meaning: To hit brick with brick Figurative Meaning: To cause extensive damage / To defeat someone comprehensively	0.50	0.23
11	कान खड़े होना kan kʰəɾe hona Literal Meaning: Ears standing straight Figurative Meaning: To become very attentive / To give dedicated attention	0.78	0.23
12	कलेजे पर पत्थर रखना kəledʒe pər pəṭṭʰər rəkʰna Literal Meaning: To keep stone on chest Figurative Meaning: To show strength at times of emotional turmoil	0.69	0.04
13	खटाई में पड़ जाना kʰətai: mē pər dʒana Literal Meaning: To fall into sourness Figurative Meaning: Some task or work getting stuck because of some obstacles	-0.42	-0.12
14	मुंह में दही जमाना mũh mē ḍəhi: dʒəmana Literal Meaning: To prepare curd in mouth Figurative Meaning: To stay silent / To be tongue-tied	0.39	0.04
15	तोते उड़ जाना ṭoṭe ur dʒana Literal Meaning: Parrots flying away Figurative Meaning: To get panic-stricken or scared	0.50	0.00

4.4.2.5. Analysis 5: Linear Regression tests among the defined indices

We performed linear regression tests on the complete data subset and the subsets of data in the identified categories. Idioms' usage frequency – measured using the usage frequency index, meaning familiarity – measured using the meaning familiarity index, compositionality – measured using the decomposability index, and the role of literal meaning – measured using the literal meaning identification (LMI) index, were the properties we were investigating. For all these regression tests, the ease of comprehension is measured by its meaning familiarity, with the underlying assumption that a well-known idiom would be relatively easier to comprehend.

Table 4.27: Summary of regression tests done and the corresponding results

S. No.	Data Set Category	Dependent Variable	Independent Variable	Adjusted R ²	p	Result
1	Complete	Meaning Familiarity Index	Usage Frequency Index	0.836	0.000	Significant
2	Complete	Meaning Familiarity Index	Decomposability Index	0.047	0.053	Non-significant
3	Complete	Meaning Familiarity Index	LMI index	0.216	0.000	Significant but weak or inconclusive model*
4	Complete	Decomposability Index	LMI index	0.355	0.000	Significant but weak or inconclusive model*
5	F-D	Meaning Familiarity Index	Decomposability Index	-0.023	0.496	Non-significant
6	F-D	Meaning Familiarity Index	LMI index	-0.001	0.333	Non-significant
7	F-D	Decomposability Index	LMI index	0.147	0.036	Significant but weak or inconclusive model*
8	F-LD	Meaning Familiarity Index	Decomposability Index	-0.086	0.825	Non-significant
9	F-LD	Meaning Familiarity Index	LMI index	0.092	0.165	Non-significant

* 'Significant but weak or inconclusive model' means that although the value of p suggests that the corresponding linear regression model is statistically significant ($p < 0.05$), the low value of Adjusted R² indicates that the model does not explain the variance in the dependent variable corresponding to the variance in the independent variable. Hence the correlation even if it may exist, is a weak one, and does not conclusively establish the validity of the linear regression model. It generally also indicates that there are some other factors or variables which could improve the regression model, which were not considered in this particular regression. Therefore, these correlations can be ignored for the purpose of this study but can be explored in future works.

10	F-LD	Decomposability Index	LMI index	-0.086	0.830	Non-significant
11	VF	Meaning Familiarity Index	Decomposability Index	0.429	0.017	Significant but weak or inconclusive model*
12	VF	Meaning Familiarity Index	LMI index	0.877	0.000	Significant
13	VF	Decomposability Index	LMI index	0.340	0.035	Significant but weak or inconclusive model*
14	LF-D	Meaning Familiarity Index	Decomposability Index	0.742	0.004	Significant
15	LF-D	Meaning Familiarity Index	LMI index	0.652	0.009	Significant
16	LF-D	Decomposability Index	LMI index	0.757	0.003	Significant
17	LF-LD	Meaning Familiarity Index	Decomposability Index	-0.031	0.462	Non-significant
18	LF-LD	Meaning Familiarity Index	LMI index	0.067	0.180	Non-significant
19	LF-LD	Decomposability Index	LMI index	0.075	0.168	Non-significant
20	VD	Meaning Familiarity Index	Decomposability Index	-0.098	0.887	Non-significant
21	VD	Meaning Familiarity Index	LMI index	0.003	0.332	Non-significant
22	VD	Decomposability Index	LMI index	-0.098	0.906	Non-significant

We have presented the significant results on all the sub-categories in more details in the analysis section. In addition to the four identified categories of idioms, we also executed linear regression tests on the following idiom subsets: decomposable category (idioms with the decomposability index > 0.40), less-decomposable category (idioms with the decomposability index < 0.40), frequent category (idioms with the usage frequency index > 0.83), and less-frequent category (idioms with the usage frequency index < 0.83). We did not find any significant correlations for indices in these categories. This suggests that any one of these parameters is, just by itself, not sufficient to develop a conclusive model of idiom comprehension. Rather a combination of these parameters will need to be used.

4.4.2.6. Analysis 6: Linear Regression between meaning familiarity and literal meaning identification for highly frequent idioms

To investigate the idioms' properties in more details, we took another subset for analysis, consisting of the 11 most frequent idioms in our data set (idioms with the usage frequency index > 1.14 , which was much higher than the mean value of 0.83). For these very frequently used idioms, we checked for the role of the literal meaning of an idiom. We explored if, during the idiom comprehension process, native speakers try to decode the meaning of the idiom by taking the cue from the literal meaning of the idiom. For identifying this, we used linear regression to test the dependency of idiom's meaning comprehension on its literal meaning identification, where the dependent variable was the meaning familiarity index, and the independent variable was the literal meaning identification index. Only for very frequent idioms, we found that the Adjusted R Square statistic of this linear regression is very high at 0.877 or 87.7%. As the model is able to explain 87.7% of the variance, with a negative coefficient (beta = -0.126), it indicates that there is a strong negative correlation between meaning familiarity and literal meaning identification. Also, $p = 0.000$, which means that this result is statistically significant ($p < 0.05$ is considered statistically significant).

Table 4.28: Linear Regression between meaning familiarity and literal meaning identification for highly frequent idioms

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	LMI Index ^b	.	Enter

a. Dependent Variable: Meaning Familiarity Index

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.943 ^a	.889	.877	.0123693

a. Predictors: (Constant), LMI index

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.011	1	.011	72.435	.000 ^b
	Residual	.001	9	.000		
	Total	.012	10			

a. Dependent Variable: Meaning Familiarity Index

b. Predictors: (Constant), LMI index

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.962	.008		241.155	.000
	LMI index	-.126	.015	-.943	-8.511	.000

a. Dependent Variable: Meaning Familiarity Index

The most reasonable interpretation of these metrics is that, for the very frequently used idioms, the literal meaning is not considered at all by native speakers, and they are able to recall the idiomatic meaning (through direct memory retrieval). We can say that for very frequently used idioms, the literal meaning of the idiom does not play any role and idioms are comprehended similar to long words, and the meaning is accessed from memory like the known long words. The strong negative correlation between the meaning familiarity index and the literal meaning identification index for highly frequent idiom suggests that the more frequent an idiom is, the less likely it is that the idiom will go through the literal meaning analysis (similarly less probability for compositional analysis as meaning familiarity and decomposability index showed a similar statistically significant result in Table 4.27, although with lesser Adjusted R Square values).

This implies that, for such idioms, the literal meaning of the idiom may not be considered at all by language users. Therefore, the confusion between the literal meaning and the idiomatic meaning may not arise, resulting in a processing advantage for these idioms. The results presented here are an indicative remark for such an argument and call for a comprehensive response time experiment. However, our thesis aims to focus on the development of idiomatic competence in children, and the processing of idioms in native adult speakers is beyond the scope of this work. Nevertheless, these results are fascinating and can be taken forward in a future work to understand the processing of idioms.

4.4.2.7. Analysis 7: Linear Regression between meaning familiarity and decomposability for the ‘less-frequent and decomposable’ idioms

We executed another linear regression test to understand if an idiom is less frequently used but is decomposable whether the decomposability aspect aids the idiom comprehension process. For this, we executed the regression test between the meaning

familiarity index (dependent variable) and decomposability index (independent variable) on the LF-D category idioms.

Table 4.29: Linear Regression between meaning familiarity and decomposability for the ‘less-frequent and decomposable’ idioms

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Decomposability Index ^b	.	Enter

a. Dependent Variable: Meaning Familiarity Index

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.882 ^a	.779	.742	.0712611

a. Predictors: (Constant), Decomposability Index

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.107	1	.107	21.114	.004 ^b
	Residual	.030	6	.005		
	Total	.138	7			

a. Dependent Variable: Meaning Familiarity Index

b. Predictors: (Constant), Decomposability Index

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.137	.096		11.799	.000
	Decomposability Index	.572	.125	.882	4.595	.004

a. Dependent Variable: Meaning Familiarity Index

For this linear regression, $p = 0.004$, which means that this result is statistically significant ($p < 0.05$). Also, we found that the Adjusted R Square statistic of this linear regression is high, with a value of 0.742. As the model is able to explain 74.2% of the variance, it indicates a strong correlation between meaning familiarity and decomposability for ‘less-frequent and decomposable’ category idioms. The result indicates that there is a strong correlation between meaning familiarity and decomposability for the ‘less-frequent and decomposable’ idioms. For such idioms, compositional analysis may be an active strategy to retrieve the idiomatic meaning. In

order to decipher the idiomatic meaning of the ‘less-frequent and decomposable’ idioms, speakers may try to break down the meaning of the components and arrive at the idiomatic meaning using the literal meaning of the constituents or using a metaphoric route.

4.4.2.8. Analysis 8: Linear Regression between decomposability and literal meaning identification for the ‘less-frequent and decomposable’ idioms

We executed a linear regression test for the ‘less-frequent and decomposable’ idioms to understand if an idiom is less frequently used but is decomposable, whether the literal meaning of the constituent words has a role in the idiom comprehension process. Therefore, we executed the regression test between the decomposability index (dependent variable) and the literal meaning identification index (independent variable).

Table 4.30: Linear Regression between decomposability and literal meaning identification for the ‘less-frequent and decomposable’ idioms

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	LMI (Literal Meaning Identification) Index ^b	.	Enter

a. Dependent Variable: Decomposability Index

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.890 ^a	.792	.757	.1065275

a. Predictors: (Constant), LMI (Literal Meaning Identification) Index

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.259	1	.259	22.832	.003b
	Residual	.068	6	.011		
	Total	.327	7			

a. Dependent Variable: Decomposability Index

b. Predictors: (Constant), LMI (Literal Meaning Identification) Index

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.357	.090		3.974	.007
	LMI (Literal meaning identification) index	.873	.183	.890	4.778	.003

a. Dependent Variable: Decomposability index

We found that for the idiom category of the ‘less-frequent and decomposable’ idioms, the Adjusted R Square statistic of this linear regression is high with a value of 0.757 or 75.7%. As the model is able to explain 75.7% of the variance, it indicates that there is a strong correlation between the LMI (literal meaning identification) index and the decomposability index. Also, $p = 0.003$, which means this result is statistically significant ($p < 0.05$ is considered statistically significant). This result is found to be significant and is an extension to the previous result, where we found that meaning familiarity was correlated with decomposability.

The above analysis indicates that for idioms that are not very frequent but are decomposable, speakers may try to do a compositional analysis. This reasserts that both the literal and the figurative meanings are activated for such idioms. This dual activation could have been made possible by the decomposable nature of the idiom. Here, we cannot say which one has a processing advantage out of the two activations, but we can definitely argue that the ‘less-frequent and decomposable’ category idioms undergo this comprehension process. In literature, the dual activation of literal and idiomatic meanings has been discussed; but the type of idioms which shows such behaviour has not been conclusively established. Our research throws light on this and, in future, a detailed work on language processing experiments can be done on these lines. We have also run a separate regression test on idioms representing two unique sets, i.e. those with a plausible literal and figurative meaning and those which do not have a plausible literal meaning. In our dataset, we have a majority of idioms with such a dual representation, but there were some idioms that do not have a plausible literal meaning. More details of this issue are discussed in Section 4.4.2.10.

4.4.2.9. Analysis 9: Linear Regression between meaning familiarity and literal meaning identification for the ‘less-frequent and decomposable’ idioms

We executed another linear regression test to figure out if there is any correlation between the meaning familiarity and the literal meaning of an idiom. We wanted to explore if, for the ‘less-frequent and decomposable’ idioms, the literal meaning delivers a significant advantage in the comprehension process. It is intuitive that language users may need to decompose idioms that are less frequently encountered and used. For such an idiom, if the literal meaning is closely associated with the figurative meaning, there is an increase in its meaning familiarity. We found that the Adjusted R Square statistic of this

linear regression is reasonably high with a value of 0.652. As the regression model is able to explain 65.2% of the variance, it indicates that there is a correlation between meaning familiarity and analysis of the literal meaning for the LF-D category idioms. Also, $p = 0.009$, which means that this result is statistically significant ($p < 0.05$).

This result is found to be significant and is an extension of the previous result where we found that meaning familiarity correlated with decomposability, and decomposability correlated with literal meaning identification for the ‘less-frequent and decomposable’ idioms. This regression supports the argument that ease of comprehension (measured using meaning familiarity) of not-frequent but decomposable idioms is enhanced because of the understanding of the components of the idiomatic phrase, and compositional analysis plays a vital role in deriving the meanings of the ‘less-frequent and decomposable’ category idioms.

Table 4.31: Linear Regression between meaning familiarity and literal meaning identification for the ‘less-frequent and decomposable’ idioms

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	LMI (Literal Meaning Identification) Index ^b	.	Enter

a. Dependent Variable: Meaning Familiarity Index

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.838 ^a	.702	.652	.0827200

a. Predictors: (Constant), LMI (Literal Meaning Identification) index

ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	.097	1	.097	14.123	.009 ^b
Residual	.041	6	.007		
Total	.138	7			

a. Dependent Variable: Meaning familiarity index

b. Predictors: (Constant), LMI (Literal meaning identification) index

Coefficients^a

Model		Unstandardised Coefficients		Standardised Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.326	.070		19.018	.000
	LMI (Literal meaning identification) index	.533	.142	.838	3.758	.009

a. Dependent Variable: Meaning familiarity index

4.4.2.10. Analysing the data for idioms that have plausible literal meanings

We also separately analysed the responses received for idioms that have a plausible literal meaning. We assumed that the absence of a plausible literal meaning might aid idiom comprehension. This assumption was based on the Lexical Representation Hypothesis, which states that there are always competing literal and idiomatic meanings when comprehending any idiom. Through this model, Swiney and Cuttler (1979) observed that there is a “parallel activation of both the literal and figurative meanings when a native speaker encounters an idiom, which results in a ‘horse race’ in which the context determines the more fitting interpretation”. In the case of idioms that do not have a plausible literal meaning, such a competition between the idiomatic and the literal meaning does not happen at all or gets discarded early in the comprehension process, as the literal meaning gets outright rejected. Hence, taking insight from this model, we assumed that for idioms that have a plausible literal meaning the decision whether the idiomatic or the literal meaning is to be considered is made before the correct interpretation happens. Therefore, we decided to run linear regression tests on the indices for those idioms which have a valid literal meaning (in our data set). Table 4.32 mentions the idioms with a plausible literal meaning which were selected for this analysis.

Table 4.32: List of idioms with plausible literal meanings

S. No.	Idioms	Usage Frequency Index	Meaning Familiarity Index	LMI Index	Decomposability Index
1	आँखों में पानी भर आना ākʰõ mē pani: bʰər ana Literal Meaning: Water filled in eyes Figurative Meaning: To become very emotional	0.78	1.69	0.78	1.04
2	अपने पांव पर कुल्हाड़ी मारना əpne pāv pər kulhaṛi: marna Literal Meaning: To strike axe on one's own foot Figurative Meaning: To cause harm to oneself / To act stupidly causing harm to oneself	1.31	1.83	1.15	1.00
3	कब्र में पाँव लटकाये होना kəbr mē pāv lətkaje hona	0.72	1.61	0.59	0.89

	Literal Meaning: Feet hanging in grave Figurative Meaning: A very old person who is nearing death				
4	अंधों में काना राजा $\tilde{a}ndh\ddot{o} m\tilde{e} kana rad\dot{z}a$ Literal Meaning: One-eyed person being king among blind people Figurative Meaning: Less qualified person being the most prominent among a group of unqualified persons	1.14	1.85	0.81	0.85
5	घुटने टेक देना $g^h\ddot{u}tne tek d\dot{e}na$ Literal Meaning: To put knees on ground Figurative Meaning: To concede defeat	0.97	1.83	1.00	0.85
6	अंधेरे में तीर चलाना $\tilde{a}ndhere m\tilde{e} t\ddot{i}:r t\dot{s}elana$ Literal Meaning: To shoot arrows in the dark Figurative Meaning: To make a wild guess	1.03	1.72	1.04	0.77
7	कटे पर नमक छिड़कना $k\ddot{e}te p\ddot{e}r n\ddot{e}m\ddot{e}k t\dot{s}^hir\ddot{e}kna$ Literal Meaning: To sprinkle salt on wound Figurative Meaning: To cause more pain or trauma for someone who is already in anguish	0.92	1.75	0.81	0.62
8	आटे दाल का भाव मालूम होना $a\ddot{t}e d\ddot{a}l ka bhav malu:m hona$ Literal Meaning: To know the price of flour and pulses Figurative Meaning: To be aware of the realities of life	0.89	1.75	0.85	0.62
9	टेढ़ी उंगली से घी निकालना $te\ddot{d}^hi: ung\ddot{li}: se g^hi: nikalna$ Literal Meaning: To take out clarified butter by bending finger Figurative Meaning: To do some work using an unconventional way	1.08	1.97	0.78	0.54
10	कमर टूट जाना $k\ddot{e}m\ddot{e}r tu:t d\dot{z}ana$ Literal Meaning: Waist breaking down	0.89	1.83	0.63	0.54

	Figurative Meaning: To be extremely tired				
11	दांतों तले उंगली दबाना dāṭō̃ t̃le ungli: d̃bana Literal Meaning: To bite finger under one's teeth Figurative Meaning: To be astonished	0.97	1.92	0.37	0.50
12	डंके की चोट पर कहना d̃ṅke ki: t̃ʃot̃ p̃er k̃ehna Literal Meaning: To say on the beat of a drum Figurative Meaning: To be very loud and confident about something	0.92	1.78	0.22	0.50
13	गड़े मुर्दे उखाड़ना g̃ere mur̃de uk̃h̃arna Literal Meaning: To pull out buried corpses Figurative Meaning: To search for and reveal very old things from someone's past	0.89	1.78	0.56	0.50
14	गले का हार होना g̃ele ka har hona Literal Meaning: To be a necklace Figurative Meaning: To be very dear to someone	0.64	1.34	0.22	0.46
15	अधर में लटकाना əḍ̃h̃er m̃ẽ l̃ətkana Literal Meaning: To hang something half-way Figurative Meaning: To leave someone or some task mid-way	0.81	1.24	0.15	0.38
16	भैंस के आगे बीन बजाना b̃h̃ẽis̃ ke age bi:n b̃ədzana Literal Meaning: To play a musical instrument in front of buffalo Figurative Meaning: To explain something to a foolish person	1.17	1.89	0.52	0.27
17	अथ से इति तक əṭ̃h̃ se iṭ̃i t̃ək Literal Meaning: From start to finish Figurative Meaning: From start to finish	-0.78	0.44	0.07	0.27
18	छप्पर फाड़कर देना t̃ʃ̃h̃əpp̃er p̃h̃ark̃er dena	1.17	1.95	0.15	0.23

	Literal Meaning: To tear the roof and give Figurative Meaning: To earn a great fortune unexpectedly				
19	ईट से ईट बजाना ī:t se ī:t bədzana Literal Meaning: To hit brick with brick Figurative Meaning: To cause extensive damage / To defeat someone comprehensively	0.50	1.61	-0.07	0.23
20	चादर के बाहर पांव पसारना tʃaɖər ke bahər pāv pəsarna Literal Meaning: To spread legs outside bedsheet Figurative Meaning: To spend more than one's income	0.89	1.86	0.85	0.12
21	कलेजे पर पत्थर रखना kəledʒe pər pəṭṭhər rəkhna Literal Meaning: To keep stone on chest Figurative Meaning: To show strength at times of emotional turmoil	0.69	1.92	0.37	0.04
22	घोड़े बेचकर सोना gʰore betʃkər sona Literal Meaning: To sleep after selling horses Figurative Meaning: To sleep peacefully / To have a deep sleep	1.44	1.93	0.33	0.00
23	तोते उड़ जाना ṭoṭe ur dzana Literal Meaning: Parrots flying away Figurative Meaning: To get panic-stricken or scared	0.50	1.44	-0.11	0.00
24	मिट्टी में मिला देना mitti: mē mila dena Literal Meaning: To mix in mud Figurative Meaning: To defeat or completely eradicate someone or something	0.86	1.86	0.70	-0.04
25	हाथ पीला होना haṭh pi:la hona Literal Meaning: Hands being yellow Figurative Meaning: To get married	1.00	1.83	0.22	-0.15

26	हाथ गरम करना haṭh̥ gəɾəm kəɾna Literal Meaning: To heat hand Figurative Meaning: To bribe someone	0.47	1.42	0.37	-0.19
27	दूध का धुला होना ḍu:ḍh̥ ka ḍh̥ula hona Literal Meaning: To be washed with milk Figurative Meaning: To be very pure / To act like a very pure and ethical person	1.06	1.94	0.52	0.19

We executed multiple such linear regressions for meaning familiarity, usage frequency, decomposability, and the role of literal meaning (LMI) for the above idioms and in the corresponding idiom categories. We did not find any significant relationship among these indices, possibly because there are more variables at play here. We found only one significant linear regression model for the idiom category of ‘frequent and decomposable’ idioms, which have a plausible literal meaning, as identified in Table 3.37.

Table 4.33: List of idioms which are in the sub-category ‘Plausible literal meaning’ and are of ‘frequent and decomposable’ category

S. No.	Idioms	Usage Frequency Index	Meaning Familiarity Index	LMI Index	Decomposability Index
1	अपने पांव पर कुल्हाड़ी मारना əpne pāu pər kulhaṛi: marna Literal Meaning: To strike axe on one’s own foot Figurative Meaning: To cause harm to oneself / To act stupidly causing harm to oneself	1.31	1.83	1.15	1.00
2	अंधों में काना राजा əḍh̥ō mē kana raɖʒa Literal Meaning: One-eyed person being king among blind people Figurative Meaning: Less qualified person being the most prominent among a group of unqualified persons	1.14	1.85	0.81	0.85
3	घुटने टेक देना gʰuṭne tek deɳa Literal Meaning: To put knees on ground Figurative Meaning: To concede defeat	0.97	1.83	1.00	0.85

4	अंधेरे में तीर चलाना ə̃d̪ʰere mē̃ t̪iːr tʃəlana Literal Meaning: To shoot arrows in the dark Figurative Meaning: To make a wild guess	1.03	1.72	1.04	0.77
5	कटे पर नमक छिड़कना kəte pər nəmək tʃʰirəkna Literal Meaning: To sprinkle salt on wound Figurative Meaning: To cause more pain or trauma for someone who is already in anguish	0.92	1.75	0.81	0.62
6	आटे दाल का भाव मालूम होना ate dāl ka bhav maluːm hona Literal Meaning: To know the price of flour and pulses Figurative Meaning: To be aware of the realities of life	0.89	1.75	0.85	0.62
7	टेढ़ी उंगली से घी निकालना teḍʰiː uŋgliː se gʰiː nikalna Literal Meaning: To take out clarified butter by bending finger Figurative Meaning: To do some work using an unconventional way	1.08	1.97	0.78	0.54
8	कमर टूट जाना kəməɾ tuːt dʒana Literal Meaning: Waist breaking down Figurative Meaning: To be extremely tired	0.89	1.83	0.63	0.54
9	दांतों तले उंगली दबाना dā̃t̪õ t̪əle uŋgəliː d̪əbana Literal Meaning: To bite finger under one's teeth Figurative Meaning: To be astonished	0.97	1.92	0.37	0.50
10	डंके की चोट पर कहना dəŋke kiː tʃot pər kəhna Literal Meaning: To say on the beat of a drum Figurative Meaning: To be very loud and confident about something	0.92	1.78	0.22	0.50
11	गड़े मुर्दे उखाड़ना gəre mur̪de ukʰaɾna Literal Meaning: To pull out buried corpses Figurative Meaning: To search for and reveal very old things from someone's past	0.89	1.78	0.56	0.50

Table 4.34: Linear Regression between meaning familiarity and literal meaning identification for the ‘frequent and decomposable’ idioms

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	LMI Index ^b	.	Enter

a. Dependent Variable: Decomposability Index

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.819 ^a	.672	.635	.10613

a. Predictors: (Constant), LMI Index

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.207	1	.207	18.398	.002 ^b
	Residual	.101	9	.011		
	Total	.309	10			

a. Dependent Variable: Decomposability Index

b. Predictors: (Constant), LMI Index

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.282	.094		2.997	.015
	LMI Index	.509	.119	.819	4.289	.002

a. Dependent Variable: Decomposability Index

For this set of idioms, as mentioned in Table 3.38, we found that the Adjusted R Square statistic of this linear regression is reasonably high at 0.635 or 63.5%. As this linear regression model is able to explain 63.5% of the variance, it indicates that there is a correlation between the decomposability index and the literal meaning identification index. Also, $p = 0.002$, which means that this result is statistically significant ($p < 0.05$ is considered statistically significant). This reinforces our argument that interpretation of decomposable idioms does require a literal meaning analysis, and the literal meaning helps in arriving at the idiomatic meaning for many idioms. This result also indicates that having a plausible literal meaning may influence the processing time as well. As discussed in the decomposability model by Gibbs et al. (1989), all decomposable idioms have a processing advantage over non-decomposable idioms. However, it is essential to look for the semantic representation of idioms, and in this light, we hypothesise that

decomposable idioms with plausible literal meaning may not have a processing advantage over non-decomposable idioms. The presence of a plausible literal meaning (such as in the case of certain idioms in our list, which were of the ‘frequent and decomposable’ category) may increase the correctness of idiom comprehension by making the idiom more transparent, but not necessarily the speed of comprehension. In the current comprehension-based empirical study, we can consider this to be an interesting finding on the ease or correctness of idiom interpretation, which can be explored further using response time experiments on adult native speakers (outside the scope of this thesis).

4.4.2.11. Point of idiom identification

As discussed in Section 4.4.1.6, the test for the unique point of idiom comprehension aims to explore the ‘predictability’ property of idioms which is discussed in Configuration Hypothesis (Cacciari and Tabossi, 1988). Table 4.35 shows the summarised data set corresponding to the ‘point of idiom identification’ task, where the column ‘% of favourable responses’ represents the percentage of respondents who agreed on the word mentioned in ‘point identified’ column as being the unique point of idiom identification for the corresponding idiom. As we are investigating the predictability aspect, if the last word of the idiom is marked by the respondents, it cannot be considered as the point of idiom identification as the whole phrase has been read by the respondent.

Table 4.35: Point of idiom identification (PII)

S. No.	Idioms	Point Identified	% of Favourable Responses	Point identified is not the last word
1	आँखों का तारा होना ākh ^h ō ka t̥ara hona Literal Meaning: To be the star of eyes Figurative Meaning: To be very dear to someone	तारा t̥ara	88.24%	Yes
2	किताब का कीड़ा होना kit̥ab ka ki:ṛa hona Literal Meaning: To be a bookworm Figurative Meaning: To be very studious / To be someone who reads a lot but has less practical knowledge	कीड़ा ki:ṛa	85.29%	Yes
3	हाथ पीला होना haṭṭ ^h pi:la hona	पीला pi:la	85.29%	Yes

	Literal Meaning: Hands being yellow Figurative Meaning: To get married			
4	खरी खोटी सुनाना kʰəri: kʰoʈi: sunana Literal Meaning: To make one hear raw (unfiltered) and defected Figurative Meaning: To scold someone	सुनाना sunana	58.82%	No
5	अक्ल का दुश्मन होना əkl ka dʊʃmən hona Literal Meaning: To be enemy of wisdom Figurative Meaning: To be very stupid	दुश्मन dʊʃmən	79.41%	Yes
6	घोड़े बेचकर सोना gʰore betʃkər sona Literal Meaning: To sleep after selling horses Figurative Meaning: To sleep peacefully / To have a deep sleep	सोना sona	55.88%	No
7	घुटने टेक देना gʰuʈne tek dena Literal Meaning: To put knees on ground Figurative Meaning: To concede defeat	टेक tek	76.47%	Yes
8	गले का हार होना gəle ka har hona Literal Meaning: To be a necklace Figurative Meaning: To be very dear to someone	हार har	70.59%	Yes
9	नाक पर गुस्सा होना nak pər gussa hona Literal Meaning: To have anger on nose Figurative Meaning: To be short tempered	गुस्सा gussa	67.65%	Yes
10	आटे दाल का भाव मालूम होना aʈe dāl ka bhav malu:m hona Literal Meaning: To know the price of flour and pulses Figurative Meaning: To be aware of the realities of life	भाव bhav	67.65%	Yes
11	सिट्टी पिट्टी गुम होना sitti: pitti: gum hona Literal Meaning: To lose senses (*no literal translation for sitti pitti) Figurative Meaning: To become extremely scared or frightened	गुम gum	67.65%	Yes
12	खून का प्यासा होना kʰu:n ka pjaʃa hona Literal Meaning: To be thirsty for blood	प्यासा pəjaʃa	67.65%	Yes

	Figurative Meaning: To intend to harm or kill someone			
13	कंधे से कंधा मिलाना kẽḍʰe se kẽḍʰa milana Literal Meaning: To match shoulder with shoulder Figurative Meaning: To extend full cooperation	मिलाना milana	50.00%	No
14	अंतिम घड़ियाँ गिनना ẽṭim gʰəɽijã ginna Literal Meaning: To count last days Figurative Meaning: To be on the verge of death	गिनना ginna	44.12%	No
15	दूध का धुला होना ḍu:ḍʰ ka ḍʰula hona Literal Meaning: To be washed with milk Figurative Meaning: To be very pure / To act like a very pure and ethical person	धुला ḍʰula	67.65%	Yes
16	गुदड़ी का लाल होना guḍṛi: ka lal hona Literal Meaning: Worn out clothes becoming red Figurative Meaning: To be an extraordinary person born in a poor family or locality	लाल lal	67.65%	Yes
17	खून पसीना एक करना kʰu:n pəsi:na ek kərna Literal Meaning: To make blood and sweat one Figurative Meaning: To work extremely hard	एक ek	64.71%	Yes
18	हाथ गरम करना haṭʰ gəɾəm kərna Literal Meaning: To heat hand Figurative Meaning: To bribe someone	गरम gəɾəm	64.71%	Yes
19	जान हथेली पर रखना dʒan həṭʰeli: pər rəkʰna Literal Meaning: To keep life on the palm of the hand Figurative Meaning: To perform a very risky or daring act	हथेली həṭʰeli:	61.76%	Yes
20	अपने पांव पर कुल्हाड़ी मारना əpne pāu pər kulhaɽi: maɾna Literal Meaning: To strike axe on one's own foot Figurative Meaning: To cause harm to oneself / To act stupidly causing harm to oneself	कुल्हाड़ी kulhaɽi:	58.82%	Yes
21	तारीफ के पुल बांधना ṭari:f ke pul bāḍʰna Literal Meaning: To tie bridges of praise Figurative Meaning: To praise someone generously	पुल pul	58.82%	Yes

22	आँखों में पानी भर आना ākʰõ mē pani: bʰər ana Literal Meaning: Water filled in eyes Figurative Meaning: To become very emotional	पानी pani:	58.82%	Yes
23	आग बबूला होना ag bəbu:la hona Literal Meaning: To be fire boil Figurative Meaning: To be extremely angry	बबूला bəbu:la	58.82%	Yes
24	एड़ी चोटी का ज़ोर लगाना eri: tʃoʈi: ka zor ləgana Literal Meaning: To put strength from heel to hair braids Figurative Meaning: To put in all possible efforts	ज़ोर zor	58.82%	Yes
25	कलेजे पर पत्थर रखना kəledʒe pər pəʈʈʰər rəkʰna Literal Meaning: To keep stone on chest Figurative Meaning: To show strength at times of emotional turmoil	पत्थर pəʈʈʰər	58.82%	Yes
26	कैंची सी ज़बान चलना kẽitʃi: si: zəban tʃəlna Literal Meaning: Tongue moving like a pair of scissors Figurative Meaning: To have a harsh tone / a very rude person	ज़बान zəban	55.88%	Yes
27	छप्पर फाड़कर देना tʃʰəppər pʰarkər dena Literal Meaning: To tear the roof and give Figurative Meaning: To earn a great fortune unexpectedly	फाड़कर pʰarkər	55.88%	Yes
28	तिल का ताड़ बनाना ʈil ka ʈar bənana Literal Meaning: To make palm tree out of sesame seed Figurative Meaning: To heavily exaggerate / To create a big fuss out of a small thing	ताड़ ʈar	55.88%	Yes
29	कान खड़े होना kan kʰəre hona Literal Meaning: Ears standing straight Figurative Meaning: To become very attentive / To give dedicated attention	खड़े kʰəre	55.88%	Yes
30	पेट में चूहे कूदना pet mē tʃu:he ku:ɖna Literal Meaning: To have mice jumping in stomach Figurative Meaning: To be very hungry	चूहे tʃu:he	55.88%	Yes

31	अपने मुंह मियाँ मिटहू बनना əpne mūh mijā mit̪ʰu: bənnə Literal Meaning: To be self-mouth parrot Figurative Meaning: To praise oneself	मिटहू mit̪ʰu:	52.94%	Yes
32	अक्ल घास चरने जाना əkl ɡʰas tʃərne dʒana Literal Meaning: To have mind gone for grazing grass Figurative Meaning: To lose logical understanding or common sense	घास ɡʰas	52.94%	Yes
33	कमर टूट जाना kəməɾ tu:t dʒana Literal Meaning: Waist breaking down Figurative Meaning: To be extremely tired	टूट tu:t	52.94%	Yes
34	अंधों में काना राजा ə̃d̪ʰõ mē kana ɾadʒa Literal Meaning: One-eyed person being king among blind people Figurative Meaning: Less qualified person being the most prominent among a group of unqualified persons	काना kana	50.00%	Yes
35	कटे पर नमक छिड़कना kəte pər nəmək tʃʰirəkna Literal Meaning: To sprinkle salt on wound Figurative Meaning: To cause more pain or trauma for someone who is already in anguish	नमक nəmək	50.00%	Yes
36	भैंस के आगे बीन बजाना bʰẽis ke age bi:n bədʒana Literal Meaning: To play a musical instrument in front of buffalo Figurative Meaning: To explain something to a foolish person	बीन bi:n	50.00%	Yes
37	मिट्टी में मिला देना mitti: mē mila dēna Literal Meaning: To mix in mud Figurative Meaning: To defeat or completely eradicate someone or something	मिला mila	50.00%	Yes
38	अंगुली पर नाच नचाना ə̃ŋguli: pər natʃ nətʃana Literal Meaning: To make someone dance at one's fingers Figurative Meaning: To force someone to act as per one's directions / To control someone	नचाना nətʃana	50.00%	Yes
39	आसमान सिर पर उठाना asman sir pər ut̪ʰana	उठाना ut̪ʰana	47.06%	No

	Literal Meaning: To lift sky on head Figurative Meaning: To create a huge ruckus			
40	तोते उड़ जाना tote ur dzana Literal Meaning: Parrots flying away Figurative Meaning: To get panic-stricken or scared	उड़ ur	50.00%	Yes
41	आस्तीन का साँप होना ast̪i:n ka sāp hona Literal Meaning: To be snake of one's sleeves Figurative Meaning: To betray someone / To be an enemy in a friend's disguise	साँप sāp	50.00%	Yes
42	एक अनार सौ बीमार ek ənar sau bi:mar Literal Meaning: One pomegranate, hundred sick people Figurative Meaning: Something very useful, but available in a limited quantity	बीमार bi:mar	52.94%	No
43	अंधेरे में तीर चलाना ə̃d̪here mē t̪i:r tʃəlana Literal Meaning: To shoot arrows in the dark Figurative Meaning: To make a wild guess	तीर t̪i:r	47.06%	Yes
44	गड़े मुर्दे उखाड़ना gəre murde uk̪harna Literal Meaning: To pull out buried corpses Figurative Meaning: To search for and reveal very old things from someone's past	उखाड़ना uk̪harna	50.00%	No
45	चादर के बाहर पांव पसारना tʃaɖər ke bahər pāv pəsarna Literal Meaning: To spread legs outside bedsheet Figurative Meaning: To spend more than one's income	पसारना pəsarna	35.29%	No
46	अपना उल्लू सीधा करना əpna ullu: si:d̪ha kərna Literal Meaning: To straighten one's owl Figurative Meaning: To achieve one's selfish purpose	सीधा si:d̪ha	47.06%	Yes
47	अधर में लटकाना ə̃d̪hər mē lətkana Literal Meaning: To hang something half-way Figurative Meaning: To leave someone or some task mid-way	लटकाना lətkana	64.71%	No
48	खटाई में पड़ जाना k̪hət̪ai: mē pər dzana Literal Meaning: To fall into sourness	खटाई k̪hət̪ai:	47.06%	Yes

	Figurative Meaning: Some task or work getting stuck because of some obstacles			
49	टेढ़ी उंगली से घी निकालना teḍʰi: uŋgli: se gʰi: nikalna Literal Meaning: To take out clarified butter by bending finger Figurative Meaning: To do some work using an unconventional way	टेढ़ी teḍʰi:	44.12%	Yes
50	हथेली पर सरसों उगाना hətheli: pər sərsõ ugana Literal Meaning: To grow mustard on the palm of one's hand Figurative Meaning: To attempt an impossible task	उगाना ugana	52.94%	No
51	कोल्हू का बैल होना kolhu: ka bəil hona Literal Meaning: To be the ox which is used to draw out water from well	बैल bail	44.12%	Yes
52	कब्र में पाँव लटकाये होना kəbr mē pāu lətkaje hona Literal Meaning: Feet hanging in grave Figurative Meaning: A very old person who is nearing death	लटकाये lətkaje	44.12%	Yes
53	छाती पर मूंग दलना tʃʰaṭi: pər mu:ŋg ḍəlna Literal Meaning: To grind gram pulses on someone's chest Figurative Meaning: To trouble someone incessantly	दलना ḍəlna	61.76%	No
54	घर की मुर्गी दाल बराबर gʰər ki: murgi: ḍal bərabər Literal Meaning: Chicken of house is equal to pulses Figurative Meaning: To show less respect for homegrown or domestic talent	दाल ḍal	41.18%	Yes
55	मुँह में दही जमाना mūh mē ḍəhi: dʒəmana Literal Meaning: To prepare curd in mouth Figurative Meaning: To stay silent / To be tongue-tied	जमाना dʒəmana	58.82%	No
56	चुल्लू भर पानी में डूब मरना tʃullu: bʰər pani: mē du:b mərna Literal Meaning: To drown and die in a handful of water Figurative Meaning: To be very ashamed of oneself	चुल्लू tʃullu:	41.18%	Yes

57	डंके की चोट पर कहना d̪əŋke ki: tʃot̪ pər kəhna Literal Meaning: To say on the beat of a drum Figurative Meaning: To be very loud and confident about something	चोट tʃot̪	41.18%	Yes
58	ईंट से ईंट बजाना ĩ:t̪ se ĩ:t̪ bədʒana Literal Meaning: To hit brick with brick Figurative Meaning: To cause extensive damage / To defeat someone comprehensively	बजाना bədʒana	61.76%	No
59	अथ से इति तक ət̪ʰ se it̪i tək Literal Meaning: From start to finish Figurative Meaning: From start to finish	इति it̪i	41.18%	Yes
60	दांतों तले उंगली दबाना d̪ā̃t̪õ t̪əle uŋgli: d̪əbana Literal Meaning: To bite finger under one's teeth Figurative Meaning: To be astonished	उंगुली uŋguli:	32.35%	Yes

From the data presented, it is evident that the respondents were able to find and agree on a unique identification point for 47 out of 60 idioms in our data set, without marking the last word of the phrase. Having this number over 54 respondents and 60 idioms suggests that there is a unique point of identification for most idioms, at which speakers are able to identify that the phrase is an idiom even without reading it completely and without being presented the context. Hence, the predictability property may aid in the comprehension process, as the phrase is readily identified as an idiom.

Table 4.36: Average values of Meaning Familiarity Index and Usage Frequency Index for idioms with and without a unique ‘point of idiom identification’

Is PII present?	Count of Idioms	Average of Usage Frequency Index	Average of Meaning Familiarity Index
No	13	0.73	1.60
Yes	47	0.86	1.71

In Table 4.36, we have presented the average values for meaning familiarity index and usage frequency index for idioms with and without a unique ‘point of idiom identification’ (PII). Both these indices are higher for idioms containing words which serve as the idiom recognition point. It indicates that such idioms may be easily

recognised as they are more frequently encountered by native speakers. Also, by virtue of being easily recognised, their meaning may be more likely to be known to native speakers. However, this may be confirmed only by more RT experiments.

4.4.3. Results

4.4.3.1. Relationship between meaning familiarity and usage frequency

In this empirical study, we found that the meaning familiarity of an idiom is correlated with the frequency of usage of the idiom by native speakers. This result is intuitive and is found to be statistically significant as well (Adjusted $R^2 = 0.836$, $p = 0.000$). This strong correlation also indicates that ease of comprehension increases for frequently known, heard, and used idioms. Therefore, usage frequency should be a key variable in any idiom comprehension model.

Table 4.37: Examples of idioms demonstrating high correlation between usage frequency and meaning familiarity

Idioms	Usage Frequency Index (Mean = 0.83)	Meaning Familiarity Index (Mean = 1.68)
घोड़े बेचकर सोना gʰore betʃkər sona	1.44	1.93
खटाई में पड़ जाना kʰəʈai: mē pəɾ dʒana	-0.42	0.69

4.4.3.2. Classification and shortlisting of idioms based on usage frequency and decomposability

Based on the indices we defined, we attempted a classification of idioms. We found that idioms can be classified into four categories based on the dimensions (independent variables) of ‘usage frequency’ and ‘decomposability’. A key point to note is that the properties of idioms are not only the inherent characteristics of idioms but are dependent on the way language users perceive them as well. For example, the extent to which a particular user treats an idiom as decomposable may be slightly different from another user. Therefore, any conclusions towards idiom properties and interpretation can be done only in a large sample set of users and idioms. Hence, in this empirical study, we

kept control of the respondents' profile by keeping it similar for all the tasks and analysed the idiom characteristics in detail. We categorised all the 60 idioms into the 4 identified categories and shortlisted 24 idioms with 6 most representative idioms in each category, to be used for the next experiments on children (Table 4.23 to Table 4.26).

4.4.3.3. Comprehension of frequent idioms

Case 1: Comprehension of 'Frequent and Decomposable' category idioms

As mentioned in Table 4.27, we could not find statistically significant results when we did the regression for the 'frequent and decomposable' category idioms to find if meaning familiarity is correlated with decomposability, or if decomposability is correlated with literal meaning identification, or if meaning familiarity is correlated with literal meaning identification. Meaning familiarity was found to be correlated with usage frequency on the overall data set as well as this sub-category (this correlation was not significant for the decomposability parameter). It indicates that usage frequency is a more important variable for the ease of comprehension than decomposability. When the idioms are both frequently used as well as decomposable, idiom comprehension may be the best because both these factors facilitate the ease of comprehension.

Case 2: Comprehension of 'Frequent and Less-Decomposable' category idioms

As mentioned in Table 4.27, we could not find statistically significant results when we did the regression for the 'frequent and less-decomposable' category idioms. To understand the comprehension process of idioms belonging to this category, response time experiments could be a better approach considering such idioms may not be going through a compositional analysis (because they are less decomposable) and rather rely on memory retrieval (because they are frequently used) but is outside the scope of this work. Following are two examples of F-D and F-LD idioms from the idiom data set used for this study.

Table 4.38: Examples of idioms from F-D and F-LD categories

F-D	F-LD
किताब का कीड़ा होना	अपना उल्लू सीधा करना
kitāb ka ki:ṛa hona	əpna ullu: si:ḍʰa kərna
Literal meaning: To be insect of book	Literal meaning: To make owl straight
Idiomatic meaning: Very studious	Idiomatic meaning: To act selfishly

Case 3: Comprehension of highly frequent idioms

In the case of highly frequent idioms (Section 4.4.2.6), we have seen that there is a strong negative correlation between meaning familiarity and literal meaning identification. Table 4.28 suggested that this linear regression was found to be statistically significant, with Adjusted $R^2 = 0.877$, $p = 0.000$, and with a negative coefficient of regression ($B = -0.126$). The negative coefficient of regression indicated that there is a strong negative correlation between usage frequency and literal meaning identification for the frequent idioms. There is a less possibility of the activation of literal meaning for idioms of this category.

We have also seen in Table 4.27 that the correlation between the meaning familiarity and decomposability was not significant. These results indicate that for very frequent idioms, a compositional analysis may not happen. The comprehension process for such idioms may be the direct memory retrieval of the idiomatic meaning. Response time processing experiments can be run to explore variance in the speed of comprehension further. This finding is a valuable input to build a comprehension model because this case bypasses most of the agreed models of comprehension, which try to focus more on transparency, literal meaning analysis, etc. An example of highly frequent idiom from the idiom data set used for this study.

Table 4.39: Example of idioms from Very Frequent category

घोड़े बेचकर सोना

g^hore bet^hkar sona

Literal Meaning: To sleep after selling horses

Figurative Meaning: To sleep peacefully / To have a deep sleep

4.4.3.4. Comprehension of the less frequent idioms

Case 1: Comprehension of ‘Less-Frequent and Decomposable’ idioms

For such idioms, we find statistically significant correlations ($p < 0.05$, and high Adjusted R^2 values) between meaning familiarity, decomposability, and literal meaning identification, discussed in Sections 4.4.2.7 to 4.4.2.9, and summarised below.

1. Meaning Familiarity is correlated with Decomposability
 - Adjusted $R^2 = 0.742$, $p = 0.004$
2. Decomposability is correlated with Literal Meaning Identification
 - Adjusted $R^2 = 0.757$, $p = 0.003$
3. Meaning Familiarity is correlated with Literal Meaning Identification
 - Adjusted $R^2 = 0.652$, $p = 0.009$

The above linear regression models are statistically significant and indicate that such idioms are more likely to undergo a compositional analysis involving the activation and analysis of the literal meaning of the idiom. Following are two examples of such idioms (from the idiom data set used for this study).

Table 4.40: Examples of idioms from LF-D category

Idiom	Frequency Index (Mean = 0.83)	Decomposability Index (Mean = 0.40)	LMI Index (Mean = 0.33)	Meaning Familiarity Index (Mean = 1.68)
गले का हार होना gəle ka har hona	0.64	0.46	0.22	1.34
कोल्हू का बैल होना kolhu: ka bəil hona	0.50	0.50	0.27	1.45

Case 2: Comprehension of ‘Less-Frequent and Less-Decomposable’ idioms

For this category, there is no correlation observed between decomposability and literal meaning identification, indicating that for such idioms, there will not occur any compositional analysis. Therefore, the process of comprehension may rely on direct memory retrieval. Furthermore, it is quite intuitive that the ‘less-frequent and less-decomposable’ idioms will be challenging to comprehend. This is because both the supporting factors of ‘usage frequency’ and ‘decomposability’ are low. The low meaning familiarity of this idiom category is evident from our data as well. This category, consisting of 15 idioms, scored the lowest on the meaning familiarity index of idioms (mean = 1.34), compared to the entire set of 60 idioms (mean = 1.68). However, this is just an indicator and not a statistically conclusive result. Therefore, we have explored this aspect further in the comprehension study on children in Chapter 5.

Table 4.41: Example of idioms from LF-LD category

Example of an idiom of LF-LD category:

हथेली पर सरसों उगाना

het^heli: per sersō ugana

Literal meaning: To grow mustard on palm

Idiomatic meaning: To perform wonders

4.4.3.5. Impact of decomposability

From both the empirical studies, we conclude that compositionality is not a significant factor for determining the meaning familiarity or usage frequency of an idiom by itself. Even if an idiom is decomposable, it may not be well known or more frequently used by language users. We did not find any significant results in the entire idiom data set, which could lead us to believe that more decomposable idioms would be more familiar to respondents. However, in the LF-D category, the more decomposable an idiom, the more likely it is to be comprehended correctly by native speakers. Also, in the F-D category of idioms, a higher impact of decomposability may be observed only in idioms with plausible literal meanings.

4.4.3.6. Unique point of idiom identification

We found that a unique point of identification exists for most idioms, at which speakers are able to recognise the phrase as an idiom even without reading the complete phrase and without having the idiom embedded in a supportive context. We also observed that very frequently used idioms may become easily recognisable as they develop a unique point of identification. Also, by virtue of being easily recognised, their meaning may also be more likely to be known to native speakers. On the whole, it can be said that the point of idiom identification, if present in an idiom, may facilitate comprehension (Section 4.4.2.11) as this factor increases the predictability aspect, thereby enabling the language user to identify an idiom promptly.

4.5. Summary

This chapter detailed the empirical studies on adults, which aimed to establish the categories of idioms and gather insights on idiom comprehension. We attempted to understand the idiom comprehension process in adult native speakers and also were able to find insights regarding the comprehension of the idioms belonging to different categories. While Gibbs et al. (1989) proposed non-decomposable, abnormally decomposable, and decomposable categories, we viewed the decomposability aspect as a property that can be represented only in a continuum between completely non-decomposable and completely decomposable, both of which are hypothetical extremes. All idioms would display a certain extent of decomposability, and we devised and used a decomposability index to measure it for quantitative analysis. Similarly, we devised indices to quantify properties such as meaning familiarity, usage frequency, and role or tendency to evaluate literal meaning.

In this study, we judged whether the familiarity of the meaning of idioms is because of their frequency of usage, or because of being more decomposable, or as a result of any other factor like predictability (unique point of idiom identification). When judging the meaning familiarity, we have not considered the speed of processing and specifically kept it aside for future work on adult native speakers, as this thesis is aimed at understanding the comprehension process for idioms in children. In the next chapter (Chapter 5), we have presented the empirical study conducted on children to understand the comprehension of idioms by children in the categories identified. We have also accounted for factors like the age of the children and their formal education, apart from the idiom properties.

Chapter 5: Insights on Comprehension of Hindi Idioms by Children

5.1. Introduction

In this chapter, we have studied the comprehension of Hindi idioms by school-going children in the age group of 7 to 12 years (studying in Grade III to Grade VII), who have Hindi as their mother tongue. The empirical study on adults (Chapter 4) had explored the idiom properties that can influence idiom comprehension; the properties investigated were: (a) ‘usage frequency’, (b) ‘decomposability’, (c) ‘predictability’ (‘point of idiom identification’). As a part of the idiom comprehension study on children, we explored the effect of ‘decomposability’ and ‘usage frequency’. We examined these dimensions and assessed which factor may have a greater impact on idiom comprehension in children. We used the 24 idioms, spanning across the 4 idiom categories, shortlisted from the empirical study on adults (Chapter 4).

This cross-sectional study carried out on varied age groups also helped us to investigate the developmental pattern of idiom comprehension competence in children. Idiom acquisition is a fairly new research interest and needs more comprehensive and compact models to explain figurative language acquisition in children. To this end, we analysed the responses across varied levels of cognitive growth by selecting children of different ‘age groups’ and ‘grades’ (formal education). We also analysed the types of error-options (carefully designed and incorporated into the MCQ choices presented) picked by children to understand the phases of development of idiom comprehension skills and approaches in children.

The present chapter is organised as follows. In Section 5.2, we have discussed the relevant research on children in the area of idiom comprehension. In Section 5.3, the empirical study conducted on Hindi-speaking children is presented in detail, including the methodology, analysis, observations, and results. In Section 5.4, we have discussed the findings of this empirical study and proposed a model for idiom comprehension in children. The study is summarised in Section 5.5.

5.2. A quick recapitulation of the discussion on idiom comprehension done in Chapter 2

Levorato (1995), in her study, had considered idioms, which are analysable and frequent, and her results were based on these idioms. The present study also considers different types of idioms which vary in frequency and decomposability. Our study also builds up further from the GEM model proposed by Levorato and Cacciari (1993, 1995) and the Decompositionality Hypothesis put forward by Gibbs et al. (1989). The present study sets the age interval from as early as 7 years and extends up to 12 years (age groups of 7-8 yrs., 9-10 yrs., 11-12 yrs.), which is in parallel to the proposed Global Elaboration Model on idiom comprehension. The cross-sectional approach, which compares the performances among age groups (7-12 years), is assumed to be able to represent the age of young school-going children (until primary school) and can represent the early acquisition phase of idioms.

5.2.1. Perspectives on the process of idiom comprehension

The studies till date on idiom comprehension have debated on the process of idiom comprehension, i.e. the mechanisms which are involved during comprehension. The earlier studies (Strand and Fraser, 1979; Nippold and Martin, 1989) had suggested that children learn idioms as long words (large lexical items) without deriving the meaning from the individual words of idioms. This approach indicated that children's comprehension of idioms is not a product of compositional analysis; instead, children learn the meaning of idioms as a memorised string. Nippold and Martin (1989) in their paper expanded on the work done by Strand and Frasers' (1979) and suggested that idioms are stored in semantic memory like single lexical items; and children learn idioms through contextual abstraction in the same way as regular lexical items are learnt (through repeated exposure in a spoken and written language context). Levorato and Cacciari (1995) in their study found that younger children are more literally oriented than older children (who are more idiomatically oriented), and the production of idiomatic expressions was found to be difficult for both the age groups of children. Inferences made from the context may also be particularly useful for the opaque idioms.

5.2.2. Perspectives on the idiomatic competence and age

Different developmental studies of idioms' understanding in children have spanned across the age groups from 5 years to 18 years. The results of these studies showed that the literal understanding of idioms is dominant at the age of 5 years; furthermore, the figurative understanding of idiom is developed through a gradual process and may not be fully attained even by the age of 18 years (Ackerman, 1982; Gibbs, 1987, 1991; Nippold and Martin, 1989). Also, the understanding of idioms may vary from one idiom to another. A child at the age of five years may be able to interpret the figurative meaning of idiom if it is used more frequently in his or her environment. Levorato and Cacciari (1995) observed that, "although semantic analysis can influence idiom comprehension from an early age, the importance and use of this processing skill increases as children get older".

Cain et al. (2009) had also discussed the relevance of the metasemantic hypothesis proposed by Nippold (1998). This hypothesis emphasised that the ability to analyse the internal semantics of the phrase aids in idiom comprehension. It discussed that this process would be useful in comprehending the transparent idioms because the literal meaning of such expressions acts as a cue to comprehend the figurative meaning. There is no agreement among the scholars about the age at which semantic analysis is used to process idioms' meaning. Gibbs (1987, 1991) had proposed that at the age of 5, children were able to explain the meaning of transparent idioms but not the opaque idioms and the overall comprehension was also rather poor. Multiple other studies also indicated that the cognitive ability and the skills required to do a semantic analysis are developed at a much later age. Cain et al. (2009) had referenced such studies and stated: "Nippold and Rudzinski (1993) found a positive correlation between transparency and performance on an idiom explanation task for 14- and 17-year-olds but not for 11-year-olds. Similar findings were obtained by Nippold and Taylor (1995)".

5.2.3. Perspectives on the control parameters used in idiom research

Multiple scholars have suggested that the methodology (the tasks and experiments designed with various control parameters and assumptions) used to conduct the studies may also result in different findings. Therefore, it is essential to design appropriate experiments considering the cognitive development of children. Nippold (1989) argued

that it is more difficult for children to explain the meaning than to identify the meaning of idioms in a picture-pointing multiple-choice task; it is a disadvantage for younger children to perform in an explanatory task because their language skills are generally not as developed as the older children. Levorato and Cacciari (1995) observed that, “9-year-olds could take advantage of the transparency of an idiom to understand its meaning out of context, but the 7-year-olds could not”. Studies conducted by Gibbs (1991) had also indicated a “better performance of third graders (mean age 8 years 9 months) than first graders (mean age 6 years 10 months)” in using the semantic transparency of idioms.

The other control parameter in comprehension of idioms by children is the presence or absence of context. However, the studies concerning the comprehension of idioms in children lack congruity because all the crucial parameters like cognitive age of subjects, transparency, familiarity with the expressions, and presentation of context, were not consistently controlled in these experiments. Notwithstanding some conflicting results, the studies done so far generally suggested that development of figurative competence, particularly the ability to comprehend idioms, is an ongoing process and starts at an early age of 4-5 years. The studies also indicated that initial phases of idiom development happen in a rote learning manner. Over time, children first develop a tendency to infer the literal meaning of the idioms, i.e. they have a literal orientation, and then with further cognitive development, children gradually start making figurative inferences which generally happens after the age of 8 years.

5.3. Comprehension task: Multiple Choice Questions (MCQ)

5.3.1. Objective

This empirical study aimed to investigate the comprehension process, mechanism and strategy, cognitive skills, and developmental trends in idioms acquisition in children. Gibbs (1987, 1991) had hypothesised a comprehension advantage in children for transparent idioms. Therefore, in this light, it was intriguing to evaluate whether and how decomposability influences the idiom comprehension accuracy for children across the age groups. We assumed that less decomposable idioms may be learnt in a rote manner, because for such expressions, there is no or minimal relationship between the idioms’ constituents and their meanings. Such idioms may be learnt as a whole long semantic unit. Also, in this study, we have accounted for the usage frequency as well, to develop a

more comprehensive understanding of the effect of exposure to idioms. This aspect was not considered by Gibbs (1987, 1991); he had not considered the effect of meaning familiarity or usage frequency; rather, his studies focused primarily on the compositionality aspect.

Another observation in literature is that the comprehension of the familiar idioms is better than the non-familiar ones in adult native speakers. Therefore, through this study, we are also interested in finding out whether the degree of familiarity (or frequent exposure to the idiom), will affect the acquisition of idioms. Also, we have tried to disambiguate the factor (among decomposability, familiarity, or usage frequency) which has a dominating influence on idiom comprehension in the language developmental stages of children. These insights are aimed to explore the cognitive readiness of the child's brain for idiom understanding, in order to (a) suggest the right stage to introduce idioms in a curriculum, and (b) suggest any changes in the teaching methods or material used in the academic curriculum. This MCQ task helped us understand the mechanisms involved in idiom comprehension, or the general idiom comprehension strategy.

5.3.2. Methodology

This empirical study was executed in the form of a controlled experiment with close-ended questions (MCQ based) to evaluate the idiom development (development of the competency to comprehend idioms correctly) in Hindi-speaking children, with idioms presented in a sentential context. Data corresponding to the correct and error responses was collected to understand the applicability of the theoretical models of idiom comprehension in children.

5.3.2.1. Participants

The empirical study was conducted on a total of 81 participants, in the age group of 7 to 12 years. The participants were students of Woodbine Modern School (CBSE curriculum), Darbhanga, India. The formal introduction to idioms happens in Grade III, and the respondents in our empirical study were from five different grades (Grade III to Grade VII). All the students were bilingual/multilingual and had Hindi as their mother tongue. A total number of 25 students in the age group of 7-8 years, 24 students in the age group of 9-10 years, and 32 in the age group of 11-12 years participated in this empirical study. This study was conducted on 35 female and 46 male participants. All the

participants had a similar socioeconomic background (belonged to middle and lower-middle socioeconomic status).

A detailed discussion with the teachers of the selected students was carried out before selecting students from each grade. It was done so to make sure that the children participating in the task did not have any specific language disorder, or any specific condition, which could cause an error in the empirical study by being an outlier. The respondent profile is shown below in Table 5.1.

Table 5.1: Respondent profile - age and grade of respondents

Respondent profile corresponding to age of respondents		Respondent profile corresponding to grade of respondents	
Age	No. of subjects	Grade	No. of subjects
7	10	III	21
8	15	IV	15
9	11	V	18
10	13	VI	12
11	14	VII	15
12	18	Overall	81
Overall	81		

5.3.2.2. Method

First of all, the teachers were requested to suggest the names of children (studying in Grades⁸ III to VII) who had relatively good reading skills and similar language skills to be shortlisted for the empirical study. Once the overall group was identified, it was divided into batches of 5 to 7 participants, such that each batch had all members from the same grade. The test was executed on all the children of the same batch on the same day in a quiet room in the school premises. At the beginning of the session for each batch of participants, the MCQ task was explained verbally to all the participants, post which a demonstration was also conducted. The demonstration required every individual to read a sample narrative and answer a sample question, and was done with the sample question being similar to those used for the actual task. This activity was done to ensure that the participants understood the task and had no difficulty in reading and understanding the narrative and options as well. The participants were then provided with the test booklets containing instructions as well as printed narratives followed by the options (explained in Section 5.3.2.3).

The participants were asked to read the instructions in the booklet again, post which each participant was asked what they were supposed to mark on the booklet, and any misunderstandings were corrected immediately. Finally, the participants were asked to mark the responses on the provided booklet itself, with sufficient time to finish the task by not keeping it time-bound, but the average time taken by children to complete the task was approximately 1 hour. The reason for keeping a batch limited to 5 to 7 participants was to ensure appropriate attention could be given to each individual performing the task (advantage of the small size of the group). This was also necessary to ensure a smooth execution of the task in a highly controlled environment. Considering the very reasonable time constraints on the available time of students, and with permission from the school's management, the empirical study was done on only one batch in a day, and it took a total of 15 working days to be completed. We used Microsoft Excel to consolidate all the responses for analysis. To analyse the data and run linear regression tests, we used Microsoft Excel and IBM SPSS Statistics.

⁸ Throughout this thesis, we have used the terms Grade and Class interchangeably, both referring to the same academic class. Grade does not refer to the marks obtained by a child (A, B+, etc.).

5.3.2.3. Material

5.3.2.3.1. Test booklet

The participants were provided with test booklets containing instructions as well as printed narratives followed by the options, to execute this task. The test booklet started with questions capturing the language proficiency information, to confirm if all participants were from the same region and had similar language exposure. We also asked the participants if Hindi was their mother tongue by asking questions such as ‘the language they use to communicate with their family members’, ‘if they had any challenges in understanding and communicating in Hindi’, and ‘if they also knew any other languages apart from Hindi’. The complete booklet with all instructions and both tasks is provided in Appendix 3.

The narratives for each idiom were prepared considering the age of the children and were reviewed by the subject teachers as well. The language used for the narratives was kept quite simple for all the 24 idioms used (idioms are listed in Section 5.3.2.3.2). Each narrative was limited to a maximum length of 50 words to avoid any errors caused by lack of attention or fatigue. All the idioms presented in the task appeared at the end of each narrative.

Four options were provided after each narrative. Children were asked to choose the most appropriate response from those, with the options having one correct answer and three incorrect ones reflecting the probable errors which could be made in the comprehension process. The options presented were: (a) the ‘correct idiomatic meaning’, (b) a paraphrase of the idiom, i.e., the ‘literal response’ (c) a response fitting the context and semantically appropriate but not the correct idiomatic meaning, i.e. associative answer or ‘semantically related’ response (d) completely unrelated response, i.e. ‘out of context’ response. The sequence of presenting these options was randomised to ensure there was no error caused by the predictability of the position where a particular type of option was presented. The children were asked to mark responses on the same test booklet from the choices provided at the end of each narrative. The same task was conducted for all the students to compare the idiom comprehension skill across age groups when idioms are presented with a supporting context. An item from the task is reproduced below for purposes of illustration.

आज रिचा की दसवीं की परीक्षा का आखिरी दिन है। उसने परीक्षा की तैयारी के लिए बहुत महीनों से लगातार मेहनत की थी। उसने पहले से ही मन बना लिया है कि आज परीक्षा के बाद घोड़े बेचकर सोयेगी।

adʒ ritʃa ki: dəsʋi: ki: pəri:kʃa ka akʰiri: d̪in hai. usne pəri:kʃa ki: t̪aijari: ke lie bəhuʈ məhi:nõ se ləgaʈar mehnəʈ ki: t̪ʰi:. usne pəhle se hi: mən bəna lija hai ki adʒ pəri:kʃa ke baɖ gʰore betʃəkər sojegi:.

(Today is the last day of Richa's class tenth exam. For her exams, she has worked really hard for many months. She has decided in advance that after her exams are over today, she will sleep peacefully.)

- a) रिचा दसवीं की परीक्षा खत्म होने के बाद ही सोयेगी

ritʃa dəsʋi: ki: pəri:kʃa kʰəʈm hone ke baɖ hi: sojegi:

(Richa will sleep only after her tenth board exams are over)

- b) रिचा घोड़ों के साथ जाकर सोयेगी

ritʃa gʰorõ ke sa t̪ʰ dzakər sojegi:

(Richa will go and sleep with the horses)

- c) रिचा के पास जो घोड़े हैं, उन्हें वह बेचकर आएगी फिर सोयेगी

ritʃa ke pas dʒo gʰore h̄ai:, unḥẽ vəh betʃəkər aegi: pʰir sojegi:

(Richa will sell her horses, and only after selling the horses, she will sleep)

- d) रिचा लगातार मेहनत करके बहुत थक गयी है, इसलिए वह परीक्षा के बाद चैन की नींद सोयेगी

ritʃa ləgaʈar mehnəʈ kərke bəhuʈ t̪ʰək gəji: hai, islie: vəh pəri:kʃa ke baɖ tʃəin ki: n̄i:ɖ sojegi:

(Richa is extremely tired after working very hard persistently; that is why, she will sleep peacefully after her exams are over)

In the above Hindi sentence 'gʰore betʃəkər sojegi:' is the idiom, which appeared at the end of the narrative. The narrative is followed by four options. Option (a) is the 'semantically related' response. Option (b) is the 'out of context' response. Option (c) is the 'literal response', and Option (d) is the 'correct idiomatic answer'.

5.3.2.3.2. Idioms used

From the set of 60 idioms with the constituent structure V NP (NP V in Hindi), 24 idioms were shortlisted across the four idiom categories, as discussed in Section 4.4.2.4 (Chapter 4). These 24 idioms used for this empirical study are listed below, along with the corresponding usage frequency index and the decomposability index, in Table 5.2 to Table 5.5.

Table 5.2: ‘Frequent and Decomposable’ Idioms (F-D)

S. No.	Idioms	Usage Frequency Index > 0.83	Decomposability Index > 0.40
1	आग बबूला होना ag bəbu:la hona Literal Meaning: To be fire boil Figurative Meaning: To be extremely angry	1.14	0.85
2	अंधेरे में तीर चलाना ə̃d̪ʰere mē t̪i:r tʃəlana Literal Meaning: To shoot arrows in the dark Figurative Meaning: To make a wild guess	1.03	0.77
3	अंधों में काना राजा ə̃d̪ʰõ mē kana radʒa Literal Meaning: One-eyed person being king among blind people Figurative Meaning: Less qualified person being the most prominent among a group of unqualified persons	1.14	0.85
4	अपने पांव पर कुल्हाड़ी मारना əpne pāu pər kulhaɽi: marna Literal Meaning: To strike axe on one’s own foot Figurative Meaning: To cause harm to oneself / To act stupidly causing harm to oneself	1.31	1.00
5	खरी खोटी सुनाना kʰəɽi: kʰoɽi: sunana Literal Meaning: To make one hear raw (unfiltered) and defected Figurative Meaning: To scold someone	1.08	0.88
6	तारीफ़ के पुल बांधना t̪ari:f ke pul bā̃d̪ʰna Literal Meaning: To tie bridges of praise Figurative Meaning: To praise someone generously	1.17	0.92

Table 5.3: ‘Less-Frequent and Decomposable’ Idioms (LF-D)

S. No.	Idioms	Usage Frequency Index < 0.83	Decomposability Index > 0.40
1	आँखों का तारा होना ākʰõ ka t̪ara hona Literal Meaning: To be the star of eyes Figurative Meaning: To be very dear to someone	0.81	0.81
2	आँखों में पानी भर आना ākʰõ mē pani: bʰər ana Literal Meaning: Water filled in eyes Figurative Meaning: To become very emotional	0.78	1.04
3	अंतिम घड़ियाँ गिनना ẽt̪im gʰərɪjā ginna Literal Meaning: To count last days Figurative Meaning: To be on the verge of death	0.72	0.96
4	जान हथेली पर रखना dʒan hətʰeli: pər rəkʰna Literal Meaning: To keep life on the palm of the hand Figurative Meaning: To perform a very risky or daring act	0.75	0.73
5	खून का प्यासा होना kʰu:n ka pjasa hona Literal Meaning: To be thirsty for blood Figurative Meaning: To intend to harm or kill someone	0.59	0.78
6	कोल्हू का बैल होना kolhu: ka bæil hona Literal Meaning: To be the ox which is used to draw out water from well Figurative Meaning: To be extremely hard working/ To do inconsiderate amount of work	0.50	0.50

Table 5.4: ‘Frequent and Less-Decomposable’ Idioms (F-LD)

S. No.	Idioms	Usage Frequency Index > 0.83	Decomposability Index < 0.40
1	आसमान सिर पर उठाना asman sir pər utʰana Literal Meaning: To lift sky on head Figurative Meaning: To create a huge ruckus	1.03	0.04
2	अकल घास चरने जाना əkl gʰas tʃərne dʒana Literal Meaning: To have mind gone for grazing grass Figurative Meaning: To lose logical understanding or common sense	1.03	0.15
3	दूध का धुला होना d̪uːd̪ʰ ka d̪ʰula hona Literal Meaning: To be washed with milk Figurative Meaning: To be very pure / To act like a very pure and ethical person	1.06	0.19
4	घोड़े बेचकर सोना gʰore betʃkər sona Literal Meaning: To sleep after selling horses Figurative Meaning: To sleep peacefully / To have a deep sleep	1.44	0.00
5	हाथ पीला होना haʈʰ piːla hona Literal Meaning: Hands being yellow Figurative Meaning: To get married	1.00	-0.15
6	पेट में चूहे कूदना pet mē tʃuːhe kuːd̪na Literal Meaning: To have mice jumping in stomach Figurative Meaning: To be very hungry	1.39	0.12

Table 5.5: ‘Less-Frequent and Less-Decomposable’ Idioms (LF-LD)

S. No.	Idioms	Usage Frequency Index < 0.83	Decomposability Index < 0.40
1	अथ से इति तक əṭʰ se iti tək Literal Meaning: From start to finish Figurative Meaning: From start to finish	-0.78	0.27
2	छाती पर मूंग दलना tʃʰaṭi: pər mu:ŋg dəlna Literal Meaning: To grind gram pulses on someone’s chest Figurative Meaning: To trouble someone incessantly	0.14	-0.04
3	गुदड़ी का लाल होना guḍṛi: ka lal hona Literal Meaning: Worn out clothes becoming red Figurative Meaning: To be an extraordinary person born in a poor family or locality	-0.08	-0.12
4	हाथ गरम करना haṭʰ gərəm kərna Literal Meaning: To heat hand Figurative Meaning: To bribe someone	0.47	-0.19
5	हथेली पर सरसों उगाना həṭʰeli: pər sərsoḍ ugana Literal Meaning: To grow mustard on the palm of one’s hand Figurative Meaning: To attempt an impossible task	-0.19	0.23
6	खटाई में पड़ जाना kʰəṭai: mē pər dʒana Literal Meaning: To fall into sourness Figurative Meaning: Some task or work getting stuck because of some obstacles	-0.42	-0.12

5.3.3. Analysis and Results

In this section, we have analysed the data corresponding to the different control variables or parameters used in this empirical study and tried to determine (and quantify) the effect of these parameters on the comprehension of idioms. To analyse the data in detail, we summarised the responses for the MCQ comprehension task across the different age groups of children by comparing the performances of 81 respondents in comprehending the 24 idioms selected across the different idiom categories. We have summarised and calculated the performance using Microsoft Excel, through which we aim to understand if the correctness of responses shows any pattern or gives an insight into the factors which facilitate the idiom comprehension in children. The observations are captured in tables and charts (graphical representation) to represent them more comprehensively. After this preliminary analysis, we also ran a linear regression test using the IBM SPSS Statistics tool to check for the statistically significant results.

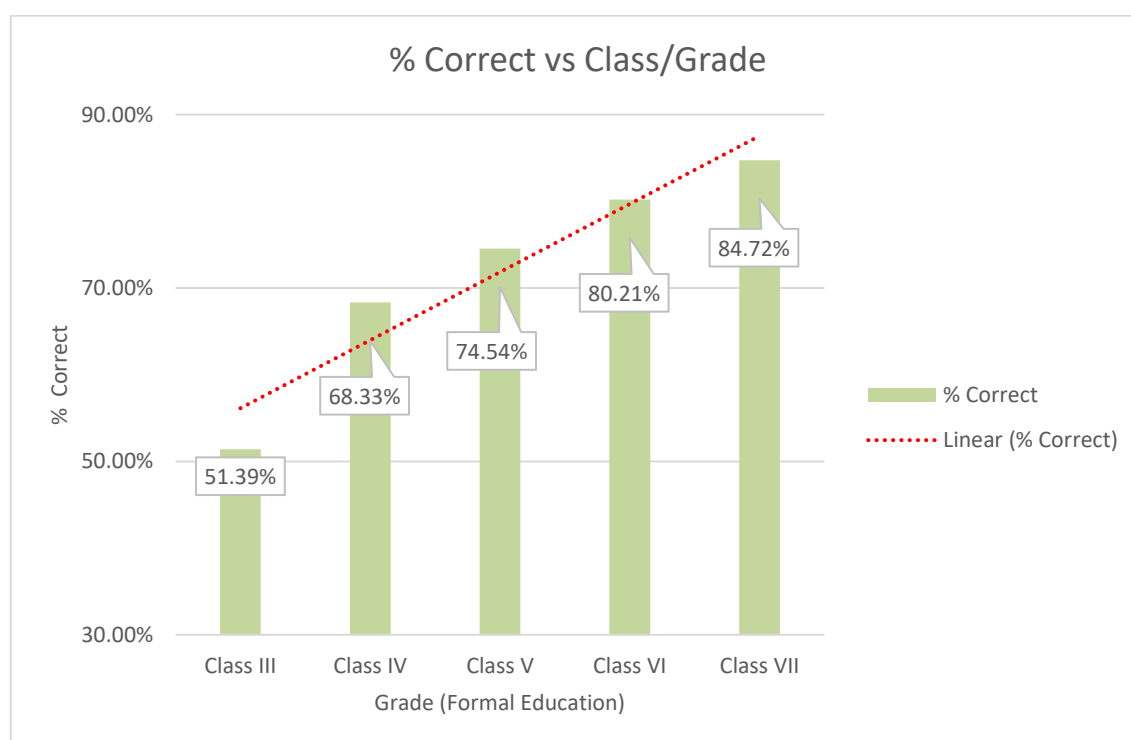
In Sections 5.3.3.1 to 5.3.3.6, we have focused only on the correct responses for the parameters under consideration, which are age, grade, age group, and idiom categories, as a percentage of overall responses in the dataset; error analysis (analysis of incorrect responses) is done in Section 5.3.3.7. We have concluded the analysis with a linear regression test to identify the parameters which influence idiom production along with their statistical significance, presented in Section 5.3.3.8.

5.3.3.1. Analysis 1: Summary of correct responses vs. grade of respondents

For this section of the analysis, we used Microsoft Excel to summarise and represent the comprehension pattern of children corresponding to their grade, which captures the years of formal education they have had in Hindi. The grade or class of a respondent reflects the exposure to formal education in school, as students in higher grades usually have a higher exposure to idioms and figurative competence through a structured academic curriculum. Table 5.6 shows the distribution of respondents in the different grades, and also the percentage of correct responses. The percentage of correct responses for each grade was calculated by summing up all the correct responses of children belonging to the particular grade, and dividing the sum by total responses in the grade. The results are summarised below in Table 5.6.

Table 5.6: Summary of correct responses vs. grade of respondents

Grade	No. of subjects	% Correct
III	21	51.39%
IV	15	68.33%
V	18	74.54%
VI	12	80.21%
VII	15	84.72%
Overall	81	70.11%

**Figure 5.1: Graphical representation of correct responses vs. years of education (class/grade)**

From Figure 5.1, it is evident that the percentage of correct responses increases with the increase in the years of formal education. There seems to be a clear trend for this, and it seems evident from this bar chart that comprehension is better in children having more years of formal education. The increase is seen to be steeper between Class III to Class IV. We have represented this data in both tabular and graphical format to spot the trend. This trend is quite intuitive, as academic exposure has a role to play in the enhancement of language skills, and aids both figurative and literal language comprehension in children.

5.3.3.2. Analysis 2: Summary of correct responses vs. age of respondents

For this section of the analysis, we have used Microsoft Excel to summarise and represent the comprehension pattern of children with respect to their age. The summarised data is presented in Table 5.7 and Figure 5.2.

Table 5.7: Summary of correct responses vs. age of respondents

Age	No. of subjects	% Correct
7	10	52.50%
8	15	51.11%
9	11	73.86%
10	13	74.68%
11	14	77.98%
12	18	84.03%
Overall	81	70.11%

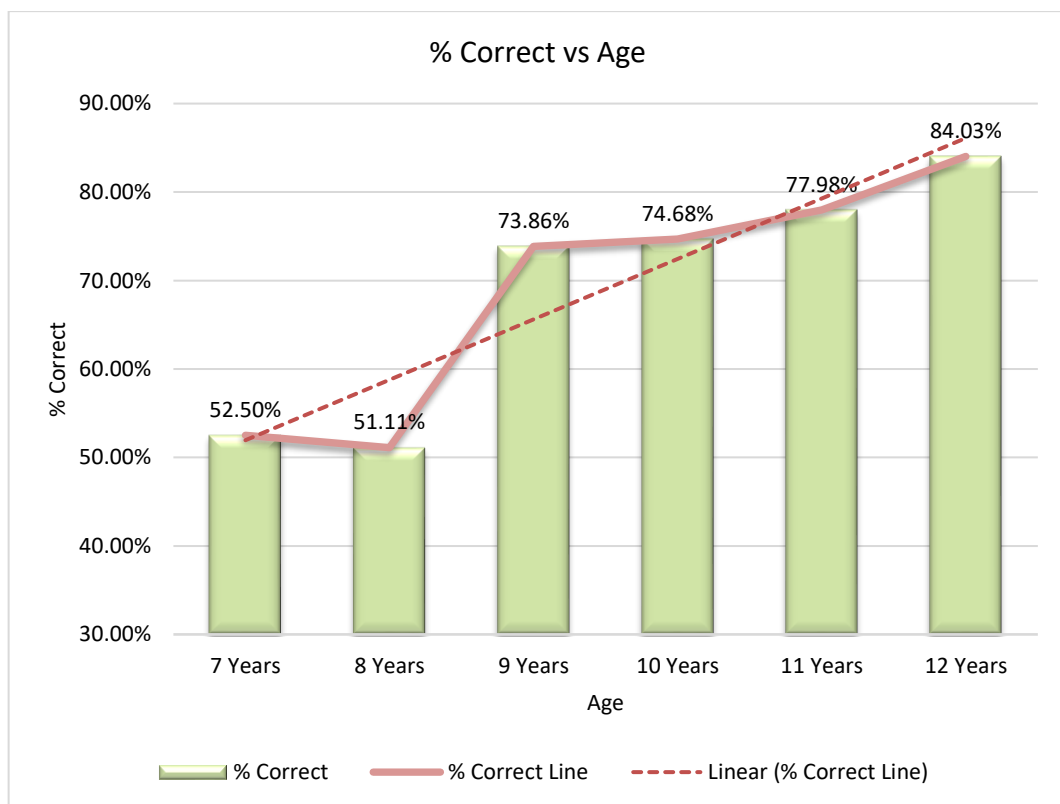


Figure 5.2: Graphical representation of correct responses vs. age of respondents

Figure 5.2 indicates that there is an improvement in idiom comprehension with age, which is probably a result of an increased exposure to the language, and the cognitive development of children. The percentage of correct responses increases with an increase in the age of the respondents. However, there does not seem to be a clear or consistent trend for this, as the actual data can be seen to vary sporadically above or below the ideal trend line (dotted line in red). Therefore, we should instead look at age groups, and check if the data of a particular age group results in any trend. Also, as the objective of this empirical study was to analyse the comprehension of idioms in different age groups, we have summarised the data from that perspective as well.

5.3.3.3. Analysis 3: Summary of correct responses vs. the age groups of respondents

For this analysis, we considered the age group to which the respondent belongs and calculated the average age of the respondents. We computed this average age metric for each age group by taking the weighted mean of the age of children in that age group using the below formula (with children divided into three age groups of 7 – 8 years, 9 – 10 years, and 11 – 12 years).

$$\begin{aligned} \text{Average age of respondent in an age group} = & \\ & (\text{lower age of the age group} * \text{count of subjects with the corresponding age} + \\ & \text{higher age of the age group} * \text{count of subjects with the corresponding age}) \\ & / (\text{Total count of subjects with the corresponding age group}) \end{aligned}$$

For example, average age of children in 7-8 age group calculated as per formula above

$$\begin{aligned} &= (7 * 10 + 8 * 15) / 25 \\ &= 7.6 \text{ years} \end{aligned}$$

Table 5.8: Summary of correct responses vs. age groups of respondents

Age Group	No. of subjects	% Correct Responses	Average Age of Respondent
7 – 8	25	51.67%	7.60
9 – 10	24	74.31%	9.54
11 – 12	32	81.38%	11.56

From, Table 5.8, three subsets of age groups can be derived with a similar number of respondents in each age group. The average age of the respondents is indicative of the mean age, which can be assigned to each individual child in a particular age group, in order to make the quantitative analysis feasible. Percentage of the correct responses for each age group was calculated by summing up all the correct responses of children belonging to the particular age group, and dividing the sum by total responses in the age group. The percentage of correct idioms for each age group offers valuable insight regarding the comprehension pattern of idioms with an increase in cognitive ability and language exposure.

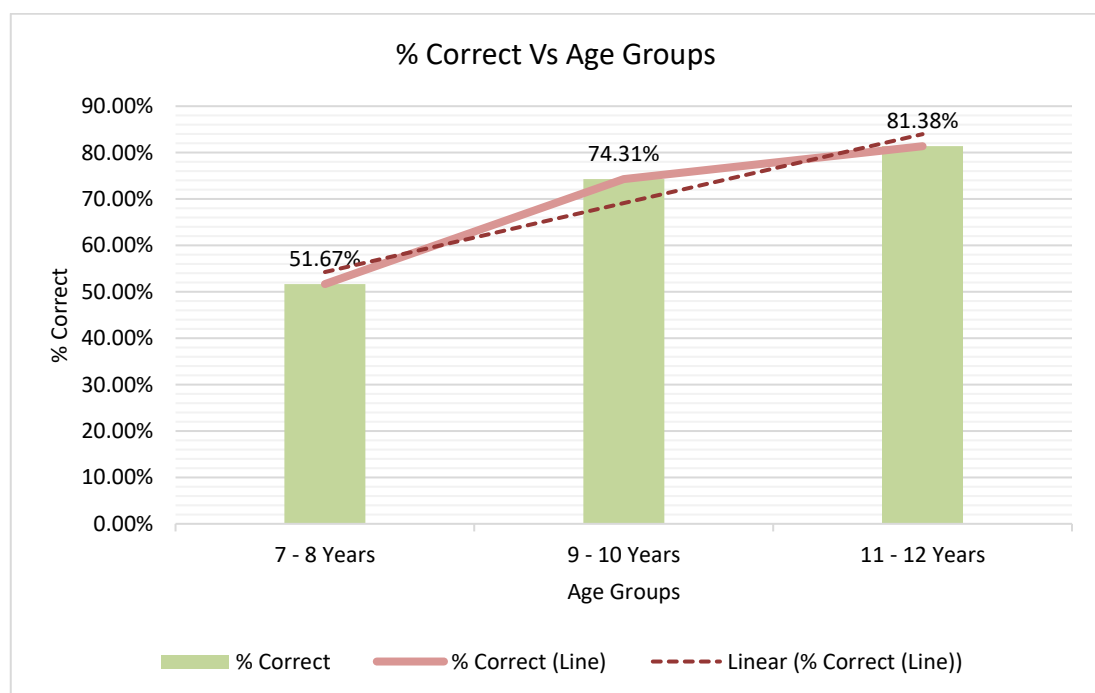


Figure 5.3: Graphical representation of correct responses vs. age group of respondents

From Figure 5.3, it can be observed that the percentage of correct responses increases rather consistently with the increase in the age group, and this increase can be observed to be steeper in the transition between age groups of 7-8 and 9-10 years. Although the children of age-group 11-12 years showed the best comprehension skills, the marginal increase in comprehension accuracy between the children of age groups 9-10 years and 11-12 years seems to be relatively less than the increase between 7-8 years and 9-10 years.

5.3.3.4. Analysis 4: Summary of correct responses vs. grade and age groups of respondents

In this section, we have summarised and analysed the data considering the grade and age of respondents. Table 5.9 and Figure 5.4 provide details of all the responses (correct and incorrect) by children in different grades and age of respondents.

Table 5.9: Summary of correct responses vs. grade and age groups of respondents

Grade and Age	Count of Correct Responses	Count of Semantically Related Responses	Count of Literal Meaning Responses	Count of Out-of-context Responses	Total number of respondents	% of Correct Responses
Grade III						
Age: 7 Years	126	53	49	12	10	52.50%
Age: 8 Years	133	52	57	22	11	50.38%
Grade III Total	259	105	106	34	21	51.39%
Grade IV						
Age: 8 Years	51	24	16	5	4	53.13%
Age: 9 Years	195	46	14	9	11	73.86%
Grade IV Total	246	70	30	14	15	68.33%
Grade V						
Age: 10 Years	233	38	27	14	13	74.68%
Age: 11 Years	89	14	12	5	5	74.17%
Grade V Total	322	52	39	19	18	74.54%
Grade VI						
Age: 11 Years	173	24	12	7	9	80.09%
Age: 12 Years	58	10	3	1	3	80.56%
Grade VI Total	231	34	15	8	12	80.21%
Grade VII						
Age: 12 Years	305	32	13	10	15	84.72%
Grade VII Total	305	32	13	10	15	84.72%
Overall	1363	293	203	85	81	70.11%

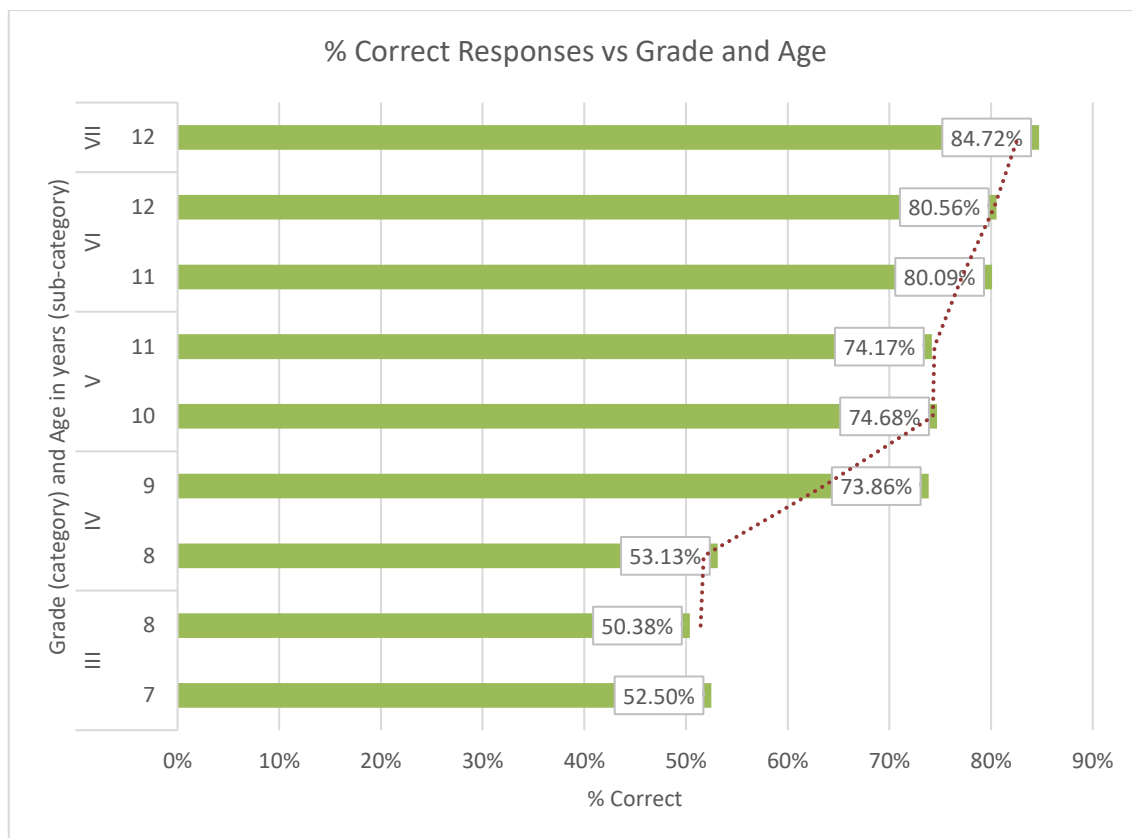


Figure 5.4: Graphical representation of correct responses vs. grade and age groups of respondents

The grade or class of a respondent reflects the exposure to formal education in school, and age groups reflect higher cognitive growth (more world knowledge and exposure to language in general). From Figure 5.4, it can be observed that children of a particular grade seem to perform at a similar level, with a notable exception observed for the children of age approximately 9 years in Grade IV (which falls under 9-10 years' age group as defined in our study). It may lead to an understanding that the growth in idiom comprehension is relatively higher in the age of approximately 9-10 years; however, the data and analysis in this section is insufficient to conclusively establish this, and this is explored further in Section 5.3.3.7 (error analysis of responses).

5.3.3.5. Analysis 5: Summary of correct responses vs. idiom categories

As explained in Section 5.3.2.1.2, the complete set of 24 idioms used in the MCQ task had 6 idioms from each of the 4 categories, i.e. 'frequent and decomposable' (F-D), 'less-frequent and decomposable' (LF-D), 'frequent and less-decomposable' (F-LD), and 'less-frequent and less-decomposable' (LF-LD). In this section of the analysis, we have summarised the responses of children across these different idiom categories.

Table 5.10: Count of responses vs. idiom categories

Idiom	Correct Responses	Literal Meaning Responses	Out-of-context Responses	Semantically Related Responses	% of Correct Responses
Frequent and Decomposable					
ag bəbu:la hona	75	4	1	1	92.59%
əḡhere mē ʔi:r tʃəlana	66	11	3	1	81.48%
əḡhō mē kana radʒa	63	8	5	5	77.78%
əpne pāu pər kulhaʁi: maɾna	66	7	4	4	81.48%
kʰəri: kʰoʔi: sunana	68	6	1	6	83.95%
ʔari:f ke pul bāḡhna	63	8	2	8	77.78%
Frequent and Decomposable Total	401	44	16	25	82.51%
Frequent and Less-Decomposable					
asman sir pər uʔhna	60	16	1	4	74.07%
əkl gʰas tʃərne dʒana	60	4	10	7	74.07%
ḡu:ḡ ka ḡhula hona	65	4	12	0	80.25%
gʰore betʃkər sona	60	5	4	12	74.07%
haʔh pi:la hona	47	11	3	20	58.02%
peʔ mē tʃu:he ku:ḡna	70	2	1	8	86.42%
Frequent and Less-Decomposable Total	362	42	31	51	74.49%
Less-Frequent and Decomposable					
ākʰō ka ʔara hona	67	1	7	6	82.72%
ākʰō mē pani: bʰər ana	69	4	1	7	85.19%
əʔim gʰərija ginna	50	11	1	19	61.73%
dʒan həʔheli: pər rəkʰna	64	3	0	14	79.01%
kʰu:n ka pʒasa hona	49	17	1	14	60.49%
kolhu: ka bəil hona	48	16	3	14	59.26%
Less-Frequent and Decomposable Total	347	52	13	74	71.40%
Less-Frequent and Less-Decomposable					
əʔh se iʔi ʔək	29	2	5	45	35.80%
tʃʰaʔi: pər mu:ŋg dəlna	34	7	3	37	41.98%
guḡri: ka lal hona	46	16	1	18	56.79%
haʔh gərəm kərna	49	10	8	14	60.49%
həʔheli: pər sərso ugana	45	13	2	21	55.56%
kʰəʔtai: mē pər dʒana	50	17	6	8	61.73%
Less-frequent and Less-Decomposable Total	253	65	25	143	52.06%
Overall	1363	203	85	293	70.11%

Table 5.11: Summary (%) of responses vs. idiom categories

Category	% Correct Responses	% Literal meaning Responses	% Semantically Related Responses	% Out of Context Responses
Frequent and Decomposable	82.5%	9.1%	5.1%	3.3%
Frequent and Less-Decomposable	74.5%	8.6%	10.5%	6.4%
Less-Frequent and Decomposable	71.4%	10.7%	15.2%	2.7%
Less-Frequent and Less-Decomposable	52.1%	13.4%	29.4%	5.1%
Overall	70.1%	10.4%	15.1%	4.4%

From Table 5.10 and Table 5.11, it is evident that the F-D category idioms are comprehended better (82% correct) than all the other idioms (overall responses are at 70% correct). The least percentage of correct responses were recorded for LF-LD category idioms, which was at only 52% correct. This significant drop in the comprehension accuracy between the F-D category and the LF-LD category suggests that comprehension of idioms in children is most difficult when both usage-frequency and decomposability are low.

For both F-LD and LF-D idiom categories, we observed a similar percentage of correct responses (74% and 72% respectively). This is an interesting observation and implies that, even if one of the parameters (usage frequency, or decomposability) is favourable, the percentages of correct responses of idioms remains high, and are at a similar level (~73% accuracy).

These results suggested that idioms with high usage frequency and decomposability are likely to be comprehended better by children across all age groups. Therefore, we propose that both the properties of decomposability and usage frequency definitely facilitate the comprehension of idioms.

5.3.3.6. Analysis 6: Summary of correct responses vs. idiom categories and age groups of respondents

Apart from understanding the comprehension patterns of idioms by analysing the responses corresponding to the different idiom categories, we also aimed to identify if these idiom categories are comprehended differently by children of different age groups. For this purpose, we have summarised the data as shown in Figure 5.5, where we have represented the correctness of responses corresponding to each of the 4 idiom categories, by children in the different age groups (7-8 years, 9-10 years, and 11-12 years).

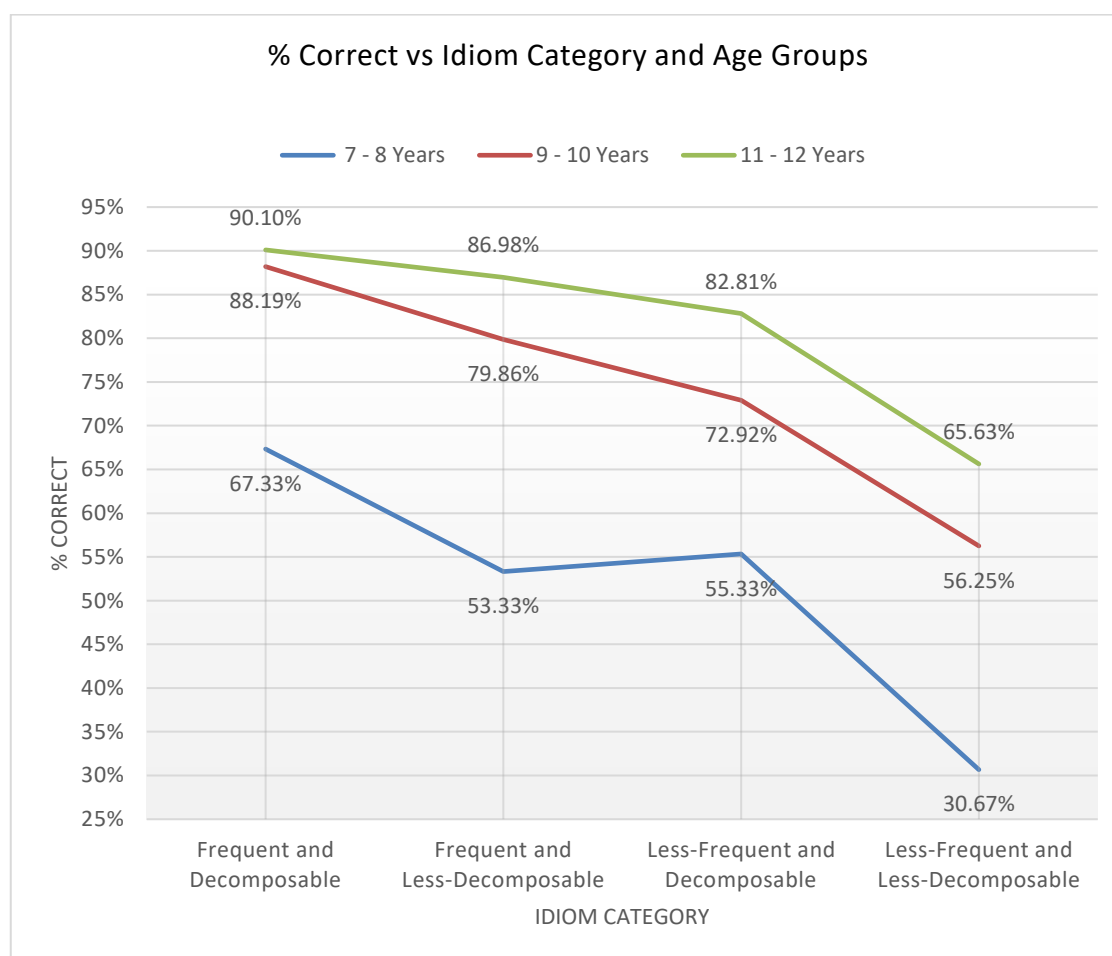


Figure 5.5: % Correct responses received, across the idiom categories, and different age groups

As can be observed from Figure 5.5, the idiom comprehension accuracy of the children belonging to age group 7-8 years was found to be the least accurate. And, among the different idiom categories this group was able to comprehend the ‘frequent and decomposable’ category most successfully. The ‘less-frequent and less-decomposable’ category was found to be the most difficult idiom category to comprehend. The same

trend was observed for the other age groups (9-10 years, and 11-12 years) considered for this study.

There is another interesting observation made from Figure 5.5. Although, in general, it is believed that older children interpret idioms more successfully than younger children (which our empirical study also supports), the category of idiom under consideration is a crucial factor, as we could observe that younger children were able to comprehend the ‘frequent and decomposable’ category idioms more accurately than the older children attempting to comprehend the ‘less-frequent and less-decomposable’ category idioms. For instance, children of age group 7-8 years show 67.3% correct comprehension for the ‘frequent and decomposable’ category, while even the children of age group 11-12 years show only 65.6% accuracy of comprehension for the ‘less-frequent and less-decomposable’ category. This suggests that comprehension accuracy is also determined based on the idiom category under consideration.

Further, we tried to analyse the correct responses by looking at each dimension of usage frequency and decomposability one at a time, by considering the responses corresponding to the categories defined in Table 5.12. It is important to note that we have used the categories defined for an overall understanding of the idiom comprehension and production mechanisms; the categories mentioned here are just an attempt to reanalyse the correct responses on a single parameter of either usage frequency or decomposability.

Table 5.12: Defining dataset for each dimension separately

Dimension	Category	Distributions per the defined categories
Usage Frequency	Frequent	Frequent and Decomposable + Frequent and Less-Decomposable
Usage Frequency	Less-Frequent	Less-Frequent and Decomposable + Less-Frequent and Less-Decomposable
Decomposability	Decomposable	Frequent and Decomposable + Less-Frequent and Decomposable
Decomposability	Less-Decomposable	Frequent and Less-Decomposable + Less-Frequent and Less-Decomposable

Therefore, per the definition in Table 5.12, each of the categories consists of a dataset covering the responses for 12 idioms and 81 respondents. Figure 5.6 represents

the data summarised for this approach of analysis. It can be observed from the image that even in this dataset, the observations made are (a) both the dimensions of usage frequency and decomposability support the comprehension process of idioms in children, (b) in general, the children of higher age group do better comprehension than children of lower age group for similar idioms (idioms belonging to the same idiom category), and (c) in different idiom categories, comprehension accuracy is also driven by the category (which reflects the difficulty level) of idiom under consideration

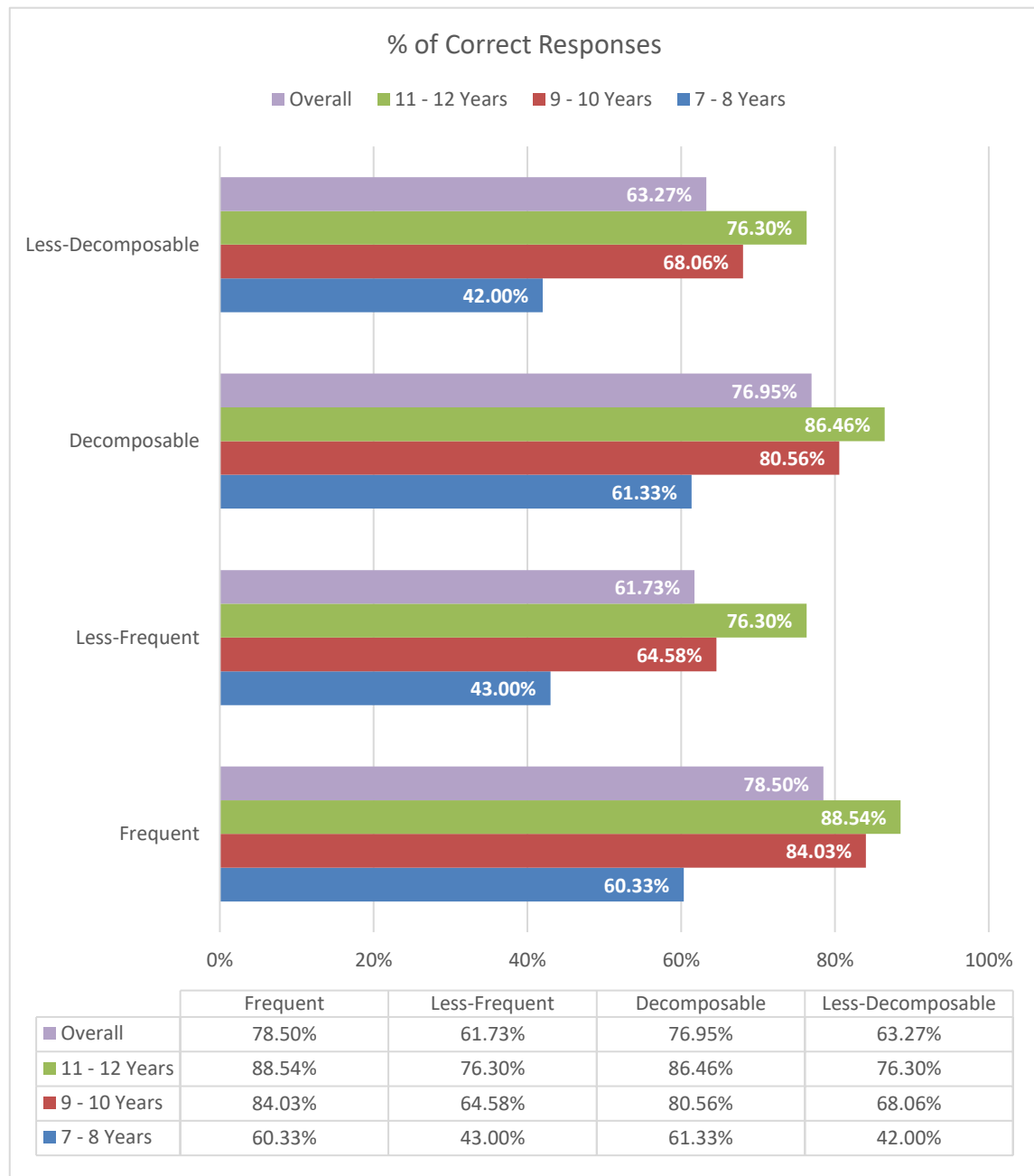


Figure 5.6: Graphical representation of the % of correct responses received, across the dimensions of usage frequency and decomposability of idioms in different age groups

5.3.3.7. Analysis 7: Error analysis of responses

In Sections 5.3.3.1 to 5.3.3.6, we had focused on the analysis of correct responses, i.e. the cases where the respondents (children) have been able to comprehend the idiom provided in the sentential context correctly. In this section, we have presented the analysis for error responses, which is crucial to understand the idiom comprehension process in children. We analysed the errors across the age groups and idiom categories to ascertain if either or both of these factors caused a noticeable impact on the comprehension accuracy. It is crucial to categorise children's responses not as merely correct or incorrect, but as to analyse the particular type of error made, to investigate the comprehension process in greater detail. An in-depth analysis of the data from error responses helped us understand the possible idiom comprehension mechanisms used by children of different age groups, and examine if there are distinguishable phases of idiom acquisition across children of different age groups.

5.3.3.7.1. Analysis 7.1: Error analysis across age and age groups of respondents

In this section, we have focused on finding the trends in error responses across the age and age groups of respondents. All the error responses were categorised and consolidated, as presented in Table 5.13 and Table 5.14. Figure 5.7 provides a visual representation of the different types of errors made by children of different age groups.

Table 5.13 – Summary of responses across age of respondents

Age	% Correct	% Semantically related	% Literal meaning	% Out of context
7 Years	52.50%	22.08%	20.42%	5.00%
8 Years	51.11%	21.11%	20.28%	7.50%
9 Years	73.86%	17.42%	5.30%	3.41%
10 Years	74.68%	12.18%	8.65%	4.49%
11 Years	77.98%	11.31%	7.14%	3.57%
12 Years	84.03%	9.72%	3.70%	2.55%
Overall	70.11%	15.07%	10.44%	4.37%

Table 5.14 – Summary of responses across age groups of respondents

Age Group	% Correct	% Semantically related	% Literal meaning	% Out of context
7 - 8 Years	51.67%	21.50%	20.33%	6.50%
9 - 10 years	74.31%	14.58%	7.12%	3.99%
11 - 12 Years	81.38%	10.42%	5.21%	2.99%

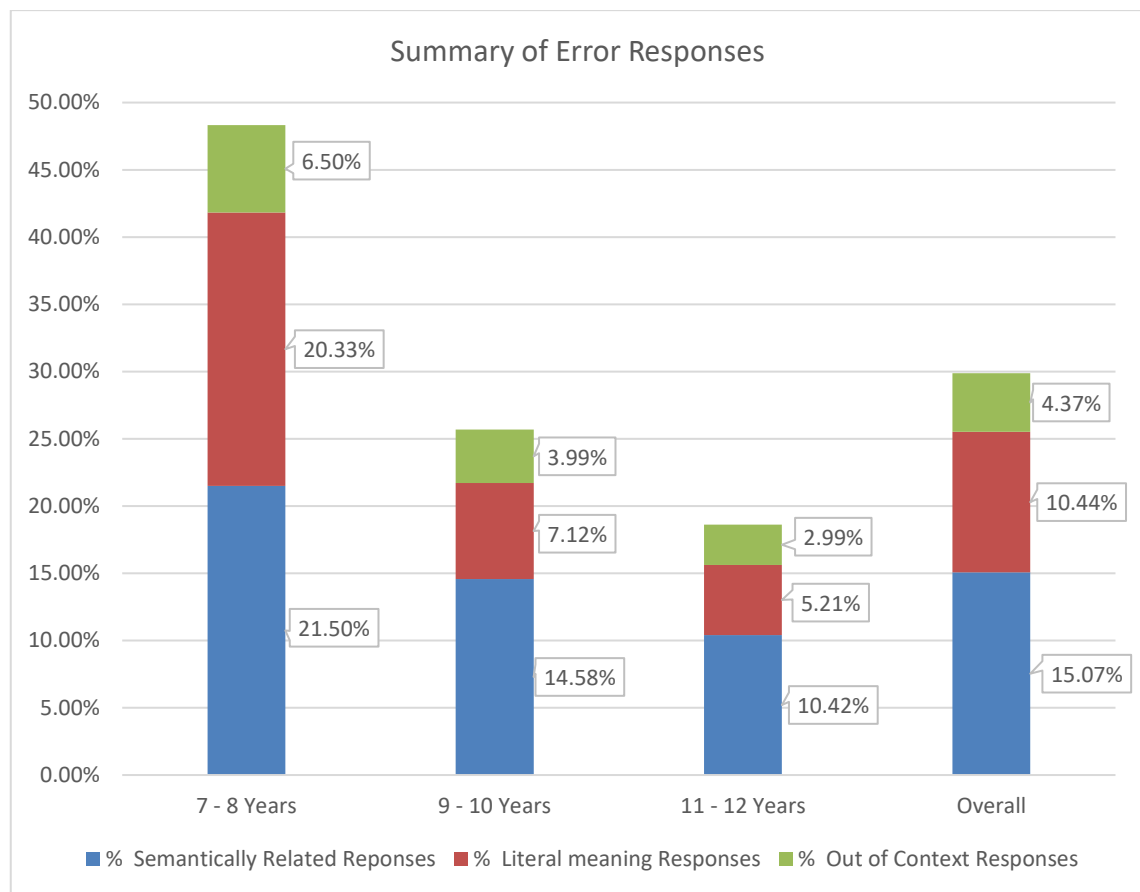


Figure 5.7: Graphical representation of error responses in different age groups

From Table 5.14 and Figure 5.7, it can be observed that the lowest age group of respondents in our study, which is 7-8 years (mean age 7.6), had the highest overall error percentage in their responses, and picked almost the same ratio for the two defined error categories, ‘semantically related responses’ at 21.5%, and ‘literal meaning responses’ at 20.33%. From Table 5.13 and Table 5.14, we observed that the predominant error made by children in the youngest age group of 7-8 years was choosing the paraphrase or literal meaning of the idioms. This error decreases in older children with a significant dip.

This suggests that until the age of ~7-8 years, children were still following the literal strategy of language comprehension and following the “piece by piece elaboration of text understanding” as discussed by Levorato and Cacciari (1995). Literal strategy is the predominantly active strategy in the comprehension of idioms until the age of ~7-8 years. On the other hand, the 21.5% selection of ‘semantically related response’ indicates that they took idioms as a regular expression, i.e. a part of the sentence and interpreted the meaning of the sentence. Both patterns of errors chosen by the younger children

suggests that the ‘pragmatic understanding of language’ at around the age of 7-8 years (mean age 7.6) is underdeveloped. This finding throws some light on another facet of language development, that pragmatic aspects of language are acquired later in the language acquisition phase.

The age group of 9-10 years (mean age 9.54) shows a marked deviation from the aforementioned, and the error responses corresponding to ‘literal meaning responses’ drop sharply to 7%. It is an indication that children at this age are more adept at rejecting the literal meaning of the idioms as their cognitive age increases and language skills improve with more exposure to language components. This rejection of literal meaning indicates that the children of this age-group are in the initial stages of acquiring the pragmatic aspects of language.

The results also indicated that 9-10 years (mean age 9.54), can be considered the ‘growth spurt of idiom comprehension competence’ where children show substantial improvement in rejecting the literal meaning of idioms and displaying the ability to extract the necessary information from the context by abandoning the literal meaning. This phase witnesses a rapid growth in language comprehension skills in general and figurative language competence in particular.

We observed a reduction in ‘out of context’ error responses in the higher age groups (9-10 years, and 11-12 years), probably because of the general advancement in language comprehension skills and ability to infer from context. The error patterns also indicated that ‘semantically related responses’ were the most picked responses by the children across age groups at 15%. This error pattern confirms that children try to infer the meaning of the sentences, even if they could not comprehend the meaning of the idioms embedded in the sentences. This error also reduces in the higher age groups, but the reduction is a gradual one, compared to the sharp decline in errors corresponding to ‘literal meaning responses’.

5.3.3.7.2. Analysis 7.2: Error analysis across idiom categories

In this section, we have focused on finding the trends in error responses across the defined idiom categories. All the responses are categorised and represented in Figure 5.8, which provides a visual representation of the different types of errors made by children across the idiom categories.



Figure 5.8: Graphical representation of correct and error responses, across the dimensions of usage frequency and decomposability of idioms

From Figure 5.8, we get some idea of the distribution of different types of errors in overall responses, but no specific trends are observed. To dig deeper, we needed to understand the proportion of each type of error among the error responses. We evaluated the proportion of different error types to understand the tendency of children to make certain types of errors in each idiom category. As we discussed in Section 5.3.3.5, the ‘frequent and decomposable’ category had a much higher percentage of correct responses than the other categories. However, it would be worth noting that in the small percentage of errors made, which types of error contribute the most. Similarly, this analysis could help us understand the error patterns in the other idiom categories.

Table 5.15 – Types of error across idiom categories (errors in each category as a percentage of total error responses)

Idiom Category	Semantically related responses as % of error responses	Literal meaning responses as % of error responses	Out of context responses as % of error responses
Frequent and Decomposable	29.41%	51.76%	18.82%
Frequent and Less-Decomposable	41.13%	33.87%	25.00%
Less-Frequent and Decomposable	53.24%	37.41%	9.35%
Less-Frequent and Less-Decomposable	61.37%	27.90%	10.73%
Frequent	36.36%	41.15%	22.49%
Less-Frequent	58.33%	31.45%	10.22%
Decomposable	44.20%	42.86%	12.95%
Less-Decomposable	54.34%	29.97%	15.69%
Grand Total	50.43%	34.94%	14.63%

From Table 5.15, we observe that decomposable idioms are more prone to compositional analysis, as most literal errors (as a percentage of error responses) are observed for this category. While the decomposability property of idioms aids comprehension (discussed in Section 5.3.3.5 and Section 5.3.3.8), there is a possibility that children may arrive at a literal paraphrase of the idiom while attempting a compositional analysis. Another important insight gathered is that semantically related responses are higher for the less frequent idioms. A probable explanation of this observation could be that such idioms are less recognisable to children, leading them to resort to contextual information and provide an associative answer to fit the context.

5.3.3.7.3. Analysis 7.3: Error analysis across age groups of respondents and idiom categories

In this section, we have focused on finding the trends in error responses across all age groups and the defined idiom categories. All the responses were categorised and represented in Table 5.16 to Table 5.18. This analysis was done with an objective to understand the error patterns while considering both the factors, i.e. ‘usage frequency’ and ‘decomposability’, and the age groups of children.

Table 5.16 – Summary of responses for the age group of 7-8 years across idiom categories

Category	% Correct	% Semantically related	% Literal meaning	% Out of context
Frequent and Decomposable	67.33%	10.67%	17.33%	4.67%
Frequent and Less-Decomposable	53.33%	16.67%	21.33%	8.67%
Less-Frequent and Decomposable	55.33%	22.67%	19.33%	2.67%
Less-Frequent and Less-Decomposable	30.67%	36.00%	23.33%	10.00%
Decomposable	61.33%	16.67%	18.33%	3.67%
Less-Decomposable	42.00%	26.33%	22.33%	9.33%
Frequent	60.33%	13.67%	19.33%	6.67%
Less-Frequent	43.00%	29.33%	21.33%	6.33%

Table 5.17 – Summary of responses for the age group of 9-10 years across idiom categories

Category	% Correct	% Semantically related	% Literal meaning	% Out of context
Frequent and Decomposable	88.19%	2.78%	6.94%	2.08%
Frequent and Less-Decomposable	79.86%	11.11%	2.08%	6.94%
Less-Frequent and Decomposable	72.92%	17.36%	7.64%	2.08%
Less-Frequent and Less-Decomposable	56.25%	27.08%	11.81%	4.86%
Decomposable	80.56%	10.07%	7.29%	2.08%
Less-Decomposable	68.06%	19.10%	6.94%	5.90%
Frequent	84.03%	6.94%	4.51%	4.51%
Less-Frequent	64.58%	22.22%	9.72%	3.47%

Table 5.18 – Summary of responses for the age group of 11-12 years across idiom categories

Category	% Correct	% Semantically related	% Literal meaning	% Out of context
Frequent and Decomposable	90.10%	2.60%	4.17%	3.13%
Frequent and Less-Decomposable	86.98%	5.21%	3.65%	4.17%
Less-Frequent and Decomposable	82.81%	7.81%	6.25%	3.13%
Less-Frequent and Less-Decomposable	65.63%	26.04%	6.77%	1.56%
Decomposable	86.46%	5.21%	5.21%	3.13%
Less-Decomposable	76.30%	15.63%	5.21%	2.86%
Frequent	88.54%	3.91%	3.91%	3.65%
Less-Frequent	74.22%	16.93%	6.51%	2.34%

From Table 5.16 to Table 5.18, and Figure 5.9, we draw more inferences regarding the comprehension of idioms by children. While the observation that ‘the errors made in idiom comprehension are higher in lower age groups’ holds true, we also noticed that the LF-LD category idioms (less-frequent and less-decomposable) are most prone to errors in idiom comprehension. The graph hits its peaks for the LF-LD category, and the troughs at the F-D category, indicating that the ‘frequent and decomposable’ (F-D) category has the least errors associated.

In particular, for the LF-LD idioms, the semantically related error responses are the highest. This result is important as it suggests that in the absence of meaning transparency and exposure to the idioms, children resort to context to comprehend the sentence in its entirety and idioms may not get recognised at all, thereby causing errors in figurative comprehension. Tables 5.16 to 5.18 clearly present a drop in the literal meaning related errors between the age groups of 7-8 years and 9-10 years across all the idiom categories, while other errors show a more gradual decrease with an increase in the age groups. This reinforces our argument that a literal-first approach starts getting abandoned during the age group of 9-10 years, which we had identified as the ‘growth spurt of idiom comprehension competence’ in Section 5.3.3.7.1.

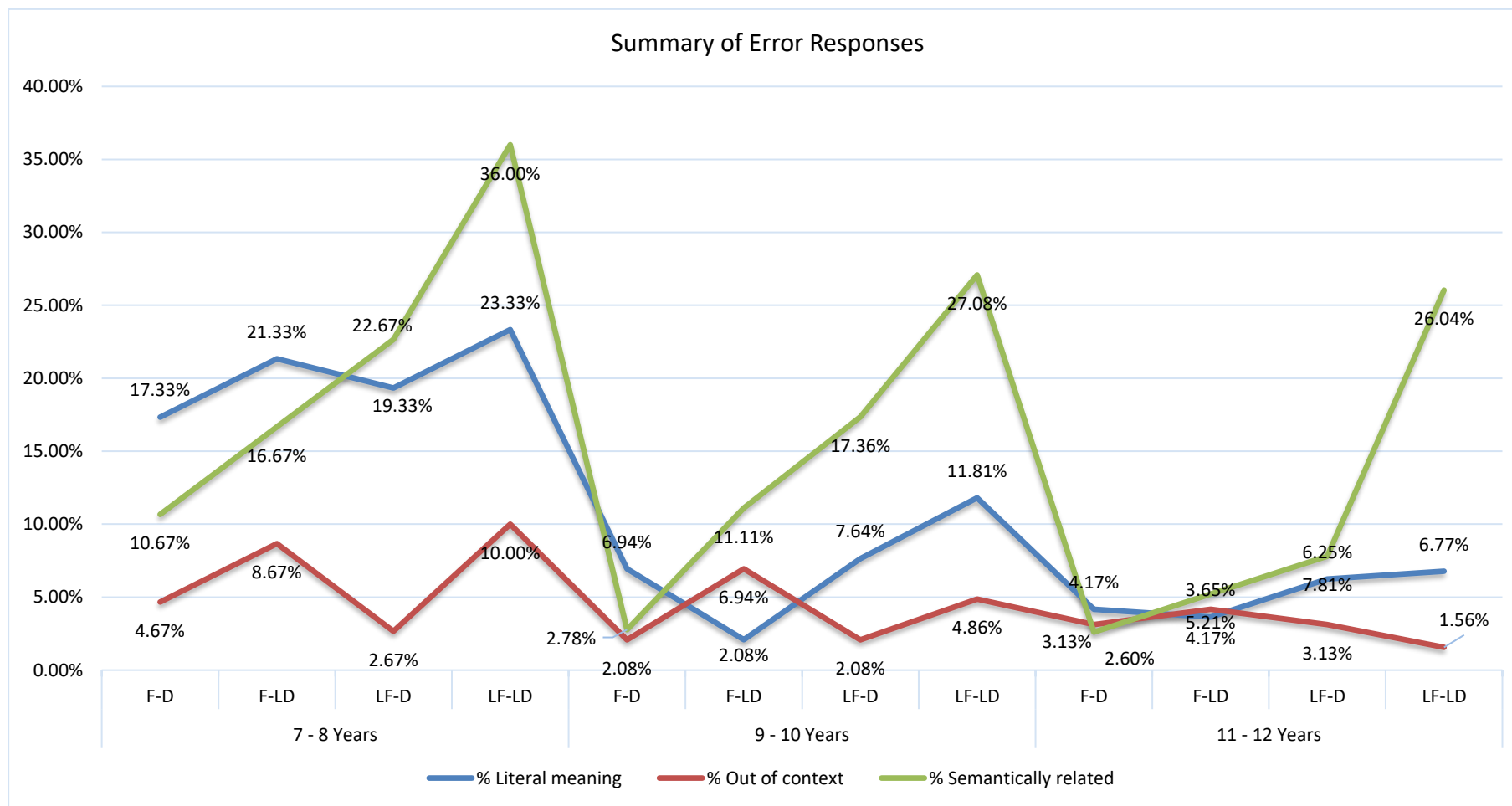


Figure 5.9: Graphical representation of error responses in idiom comprehension by children, across the dimensions of usage frequency and decomposability of idioms in different age groups

Table 5.19: Consolidated responses for comprehension of each idiom, including correct responses and errors made

S. No.	Idiom	Plausible Literal Meaning?	Correct Responses	Literal Meaning Responses	Out of Context Responses	Semantically Related Responses	% Correct Responses	% Literal Meaning Responses	% Out of Context Responses	% Semantically Related Responses
1	ag bəbu:la hona	No	75	4	1	1	92.59%	4.94%	1.23%	1.23%
2	āk ^h ō ka țara hona	No	67	1	7	6	82.72%	1.23%	8.64%	7.41%
3	āk ^h ō mē pani: b ^h ər ana	Yes	69	4	1	7	85.19%	4.94%	1.23%	8.64%
4	asman sir pər ut ^h ana	No	60	16	1	4	74.07%	19.75%	1.23%	4.94%
5	əkl g ^h as tʃərne dʒana	No	60	4	10	7	74.07%	4.94%	12.35%	8.64%
6	ēḡ ^h ere mē ʈi:r tʃəlana	Yes	66	11	3	1	81.48%	13.58%	3.70%	1.23%
7	ēḡ ^h ō mē kana radʒa	Yes	63	8	5	5	77.78%	9.88%	6.17%	6.17%
8	ēṭim g ^h ərijā ginna	No	50	11	1	19	61.73%	13.58%	1.23%	23.46%
9	əpne pāv pər kulhaɾi: maɾna	Yes	66	7	4	4	81.48%	8.64%	4.94%	4.94%
10	əṭ ^h se iṭi ṭək	Yes	29	2	5	45	35.80%	2.47%	6.17%	55.56%
11	tʃ ^h aṭi: pər mu:ŋg dəlna	No	34	7	3	37	41.98%	8.64%	3.70%	45.68%
12	ḡu:ḡ ^h ka ḡ ^h ula hona	Yes	65	4	12	0	80.25%	4.94%	14.81%	0.00%
13	g ^h oɾe betʃkər sona	Yes	60	5	4	12	74.07%	6.17%	4.94%	14.81%
14	guḡɾi: ka lal hona	No	46	16	1	18	56.79%	19.75%	1.23%	22.22%
15	haṭ ^h gərəm kərna	Yes	49	10	8	14	60.49%	12.35%	9.88%	17.28%
16	haṭ ^h pi:la hona	Yes	47	11	3	20	58.02%	13.58%	3.70%	24.69%
17	hət ^h eli: pər sərso ugana	No	45	13	2	21	55.56%	16.05%	2.47%	25.93%
18	dʒan hət ^h eli: pər rək ^h na	No	64	3	0	14	79.01%	3.70%	0.00%	17.28%
19	k ^h əri: k ^h oṭi: sunana	No	68	6	1	6	83.95%	7.41%	1.23%	7.41%
20	k ^h ətai: mē pər dʒana	No	50	17	6	8	61.73%	20.99%	7.41%	9.88%
21	k ^h u:n ka pʒasa hona	No	49	17	1	14	60.49%	20.99%	1.23%	17.28%
22	kolhu: ka bəil hona	No	48	16	3	14	59.26%	19.75%	3.70%	17.28%
23	peṭ mē tʃu:he ku:ḡna	No	70	2	1	8	86.42%	2.47%	1.23%	9.88%
24	țari:f ke pul bāḡ ^h na	No	63	8	2	8	77.78%	9.88%	2.47%	9.88%

5.3.3.7.4. Analysis 7.4: Error analysis across idioms with and without plausible literal meanings

In Table 5.19, we had summarised the types of responses received, both in absolute terms and as a percentage of the total, for each of the 24 idioms used. Apart from recording the responses, we investigated if the presence or absence of a plausible literal meaning affected the number of correct and erroneous responses. For doing such an analysis, we have added a column ‘plausible literal meaning’ with ‘yes’ or ‘no’ values tagged for each idiom in Table 5.19. Based on this tagging and the data presented in Table 5.20, we have summarised the types of responses received for the idioms with plausible and implausible literal meaning in Table 5.20.

Table 5.20: Consolidated responses for comprehension of idioms (analysis regarding comprehension of idioms with plausible and implausible meanings)

Dataset	% Correct	% Literal meaning	% Out of context	% Semantically related
Idioms with plausible literal meaning	69.88%	11.60%	3.29%	15.23%
Idioms with implausible literal meaning	70.51%	8.50%	6.17%	14.81%
Entire dataset (overall values)	70.1%	10.4%	4.4%	15.1%

The analysis indicated that in the case of idioms with implausible literal meaning, the percentage of erroneous responses where the literal meaning was comprehended is marginally lower than the overall average. The reverse is true for idioms with a plausible literal meaning. While this could indicate that the absence of a plausible literal meaning encourages the language user to look for the idiomatic meaning, the numbers are too close to the overall average to conclude based on this data alone. This could also indicate that for children, idioms with such a dual representation in meaning do not create much confusion as the exposure towards the expression is the driving factor which facilitates the ease of comprehension. Lack of familiarity with the idiom may lead to consideration of such an expression as a ‘novel lexical item’ for children. We have explored the effect of the ‘usage frequency’ and ‘decomposability’ factors to establish a statistically significant regression model considering the factors responsible for the ease of comprehension in children, in Section 5.3.3.8.

5.3.3.8. Analysis 8: Linear Regression between comprehension accuracy and the factors influencing comprehension

After the statistical analysis to summarise the data and check for trends, we also executed a linear regression test using the IBM SPSS Statistics tool to check for the statistically significant results. The summarised data and observations discussed in the previous sections indicated that the age group of children, years of formal education, semantic transparency of idioms, and usage frequency of idioms are the crucial factors to facilitate a better comprehension of idioms. In order to get a statistically significant result, and to understand which idiom property has a more significant impact, or a more marked effect, in the correct idiomatic comprehension, we ran the linear regression test using the IBM SPSS Statistics tool. The responses of the 81 respondents were aggregated over three distinct age groups by using Microsoft Excel PivotTables. To do the linear regression analysis, we used the idioms' data aggregated across age groups, and the mean age for each age group calculated in Table 5.8.

The list below indicates that the following variables were used for regression:

1. Dependent variable: Percentage correct; this variable represents the ease of idiom comprehension. Higher the percentage, the more comprehensible is the idiom.
2. Independent (predictor) variables:
 - a. Decomposability index: This variable represents the transparency of meaning of an idiom. The higher the value, more decomposable is the idiom (meaning can be derived from the components).
 - b. Frequency index: This variable represents the usage frequency of an idiom. The higher the value, the more frequently used, heard, or read is the idiom.
 - c. Age group (average age): This variable represents the average age of the respondent in a given age group (calculated in Table 5.8).

Table 5.21 – Linear Regression between comprehension accuracy and the factors influencing comprehension

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Decomposability Index, Age group - Average Age, Frequency Index	.	Enter

a. Dependent Variable: Percentage Correct

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.851 ^a	.725	.713	.1081459

Predictors: (Constant), Decomposability, Age group - Average Age, Frequency Index

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.094	3	.698	59.684	.000 ^b
	Residual	.795	68	.012		
	Total	2.889	71			

a. Dependent Variable: Percentage Correct

b. Predictors: (Constant), Decomposability Index, Age group - Average Age, Frequency Index

Coefficients^a

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.189	.078		-2.404	.019
	Age group - Average Age	.075	.008	.603	9.484	.000
	Frequency Index	.171	.024	.490	7.146	.000
	Decomposability Index	.099	.032	.210	3.057	.003

a. Dependent Variable: Percentage Correct

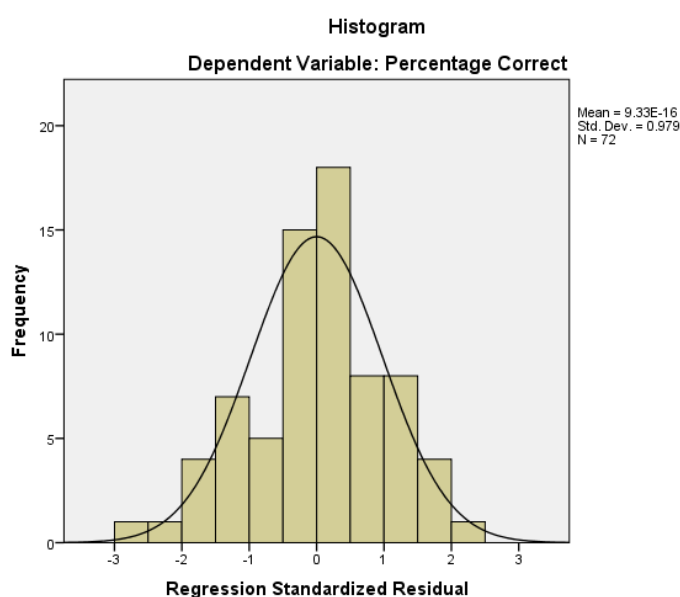


Figure 5.10: Regression standardised residual as close approximation of normal curve

In Table 5.21, we find that the Adjusted R Square statistic of this linear regression is high at 0.713, or 71.3%. The model is able to explain 71.3% of the variance, indicating that the dependent variable ‘percentage correct’ can be explained by this model, and can be predicted by the independent variables (decomposability index, age group - average age, and frequency index). Also, the above table shows that p for this regression is 0.000. ($p < 0.05$ is considered statistically significant), and therefore we conclude that the model developed above is statistically significant. Table 5.21 also indicates that the individual p s for each of the independent variables are significant ($p < 0.05$), and therefore we conclude that each of the independent variables is having a statistically significant effect in determining the dependent variable (% correct). Hence, all the three factors, two factors related to idiom properties (decomposability and usage frequency) and one related to the language user (age group) decide how comprehensible an idiom would be. An idiom with higher usage frequency, higher decomposability, and comprehended by a higher age group, would have more probability of being comprehended correctly.

Next, using the coefficients of linear regression from Table 5.21, we also developed the linear regression equation to quantify the effects of changes in independent variables (decomposability index, age group - average age, and frequency index) on the dependent variable ‘percentage correct’, i.e. to find the most facilitating factors for better comprehension. The regression equation, generated by the IBM SPSS Statistics software, indicates that the usage frequency of idioms is the dominating factor in aiding idiom comprehension. The regression equation is based on the coefficients identified above (% correct variable represents the ease of idiom comprehension). As evident from the following equation, usage frequency has the highest impact on idiom comprehension.

$$\begin{aligned} \% \text{ Correct} = & 0.171 * \text{Frequency Index} + 0.099 * \text{Decomposability Index} \\ & + 0.075 * \text{Age group} - 0.189 \end{aligned}$$

Therefore, it can be said that the usage frequency of an idiom has a greater influence in facilitating correct comprehension than the decomposability. We have also found in our results that there was a minor difference in the percentage of correct responses for the ‘frequent and less-decomposable’ category (74.5%) and the ‘less-frequent and decomposable’ (71.4%) category; the factor which seems to cause this slight variation is the ‘usage frequency’ variable.

5.4. Discussion

In this section, we have discussed the major findings from the analysis done to evaluate the effect of idiom properties (usage frequency and decomposability), cognitive age, and academic exposure (formal education) on idiom comprehension during the idiom acquisition phase in children. Among the idiom acquisition studies, the Global Elaboration Model (GEM) seems to be more comprehensive as it emphasises the role of context in developmental studies and discusses the phases of development of idiomatic competence. Several other studies have indicated significant growth in idiom understanding between the age of 7-12 years (Cain et al., 2009; Levorato and Cacciari, 1999). The results obtained in this empirical study on children seems to provide evidence for multiple aspects theorised by the different models in the acquisition literature. The results indicate that the acquisition of figurative expressions cannot be solely attributed to any single model or hypothesis emphasising a specific idiom property. The results of this study put into perspective the different hypotheses and approaches theorised by the Global Elaboration Hypothesis (Levorato and Cacciari, 1992, 1995, 1999), Decomposition Hypothesis (Gibbs, 1987, 1991), and Acquisition via Exposure Hypothesis (Nippold and Martin, 1989; Ezell and Goldstein, 1991).

Our study indicates that context plays a central role in disambiguating the meaning of idioms which is in agreement with the GEM hypothesis. We observed that idioms' processing happens in a manner similar to the standard language processing, with inputs from context and elaboration of the text to varying extents. The performance of the children in the comprehension task was better than expected, with the children being able to comprehend idioms with a relatively high accuracy of ~70%. To put this number into perspective, the feedback from the language teachers of the respondents indicated that the performance of children in their academic examinations, which focus on memory recall of the meanings of idioms, is only up to 50% on an average. The performance of children from even the youngest age group who could be expected to make the most comprehension errors is good in this task with an accuracy of ~52%, suggesting that a supporting context may have played an essential role in the MCQ comprehension task. The contextual information provides semantic support and eventually facilitates understanding. Such semantic support helps children integrate the meaning of the idiom

from the text and encourages them to “go beyond the piece-by-piece elaboration of text” (Levorato, 1995) and coherently derive the global meaning.

The results indicated a marked difference in the performance between the children of age group 7-8 years, and those belonging to the age groups of 9-10 and 11-12 years. This low performance by younger children is indicative of their relatively undeveloped inferential skills and their inability to detect the semantic anomaly in language. These findings support the arguments discussed by Levorato (1995) that children of young age fail to draw the global meaning and coherence from the context and are inept at integrating the meaning owing to their basic language skills and limited world knowledge. They could not fetch the necessary information from the context and hence could not elaborate the inferences from the clues in the form of sentential context in which idioms are embedded. This result implies the insufficiency of language skills in the youngest age group to comprehend the idioms in situ and integrate the information from context.

We observed a substantial improvement in idiom comprehension accuracy in the age group of 9-10 years. This significant jump specifies that accuracy in the correct interpretation of idiomatic meaning increases with age as children get more exposure to idioms. Evaluating the effect of age on idiom comprehension, we observed that children in the age group of 8-9 years seem to be in the phase where they realise that ‘what is said is not always what is meant in the most literal sense’, probably by making use of the increased world knowledge. According to Levorato (1995), this is the second phase of figurative competence and children around the age of 8 years develop the skill. Our study indicates a similar pattern. In our study, we found that around the age of 9 years is when children start suspending the literal meaning more consistently. This finding is based on an increase in comprehension accuracy and, more importantly, a definite decrease in the literal meaning error response around the age of 9 years, as detailed in Table 5.13 and Table 5.14.

Our study suggests that the ‘growth spurt of idiom comprehension competence’ occurs around the age of approximately 9-10 years (mean age 9.54). This is the broad age range that records the largest increase in correct idiomatic answers. This inference is drawn by evaluating and comparing the performances of children falling in all the three age groups. The results in Table 5.22 suggest that though the age group of 11-12 years (in the age groups we selected for our study) demonstrated the most evolved idiom

comprehension skills, a remarkable improvement is observed between the age groups of 7-8 years and 9-10 years (~24% increase) while the improvement between 9-10 years and 11-12 years is relatively less (~7% increase).

Table 5.22 – Substantial increase in accuracy of responses at the age of 8-9 years

Summary of correct interpretation w.r.t. Age		Summary of correct interpretation w.r.t. Age Groups	
Age	% Correct	Age Group	% Correct
7	52.50%		
8	51.11%	7 – 8	51.67%
9	73.86%	9 – 10	74.31%
10	74.68%		
11	77.98%	11 – 12	81.38%
12	84.03%		
Overall	70.11%	Overall	70.11%

An analysis of the errors made by children gives us further insights into their approach towards idiom comprehension. Younger children (7-8 years) had contributed to the highest overall error percentage and picked almost the same ratio of errors categorised as ‘semantically related responses’ (at 21.5%) and literal meaning responses’ (at 20.33%). The low performance in the task and choosing the literal response again strengthens our argument that young children lack the awareness to draw inferences from contextual clues. This assessment also indicates that their figurative competence is under development, and literal strategy is the predominantly active strategy in the comprehension of idioms.

The developmental trend in idiom competency across age indicates the supremacy of literalness in idiom comprehension around 7-8 years, which gradually gives way to a more figurative assessment around the age of 9-10 years. The overall error patterns in children indicated a tendency to pick the ‘semantically related responses’ across all age groups (at 15%) and reduction in ‘literal responses’ as the cognitive age increases. This pattern suggests that, as the age advances, the cognitive ability increases to find coherence in the text (ability to search the global meaning from the context) even though the meaning of the idioms are not detected. This further suggests that an advanced age group could process the information provided in the text containing the idioms and succeed in

achieving the semantic information from the context. The developmental trends observed in this study were aligned with the phases discussed by Levorato (1995). The initial stage of figurative comprehension comprises a piece-by-piece elaboration strategy, where children tend to infer the idiomatic meaning through the literal meaning of idioms. The GEM model also discussed an overlap of these phases and suggested that they are not strictly sequential; they may co-occur. Our study has indicated that not all the advanced age groups could interpret all the idioms in the same manner as language skills vary even in the same age group, and the idiom properties also play an essential role.

The other variable in our study was the Grade (class) of respondents, which defined the impact of formal education (exposure through classroom learning) on idiom comprehension skills. The Exposure Hypothesis suggests that exposure to idioms in a child's linguistic environment is vital in learning the idioms. Hence, the acquisition, according to this model, happens in a rote manner. To investigate this aspect, we summarised the performance of the children across the age groups and the grades (years of formal education), and the observations seem to be aligned with the Exposure Hypothesis.

From the data gathered in our study, it is quite evident that education does improve the idiom comprehension competence of children. The grade-wise analysis of comprehension performance shows a gradual and consistent increase in the accuracy of idioms' interpretation. The performance in idiom comprehension for Grade III students was observed to be at 51.3% accuracy, Grade IV at 68.33%, Grade V at 74.54%, Grade VI at 80.21%, and Grade VII at 84.72%. These results show that as children's cognitive ability and exposure to idioms increases through a structured academic curriculum, the skill to interpret idiomatic language gets enhanced. Hence, it can be concluded that the exposure to figurative language plays a vital role in the development of figurative competence in children.

We analysed the idiom comprehension across the idiom categories defined on the dimensions of 'usage frequency' and 'compositionality'. In the overall dataset, the F-D (frequent and decomposable) category was comprehended better (at 82% correct) than all the other categories (overall 70% accuracy). The least percentage of correct responses was marked for LF-LD (less-frequent and less-decomposable), which was at only 52% correct. We find a similar percentage of correct responses for both the 'frequent and less-

decomposable' and the 'less-frequent and decomposable' categories (74% and 72% respectively). The results from our study also establish that the performance for idiomatic comprehension increases with an increase in the usage frequency and meaning transparency. Usage frequency ($p = 0.000$), decomposability ($p = 0.003$), and age group of children ($p = 0.000$) are statistically significant factors for accurate idiom comprehension, as observed through the linear regression analysis (Table 5.21).

Overall, we observed the highest percentage of semantically related error responses for LF-LD (less-frequent and less-decomposable) idioms. This result is significant as it suggests that in the absence of meaning transparency and exposure to the idioms, children resort to context to comprehend the sentence in its entirety and idioms may not get recognised at all, thereby causing errors in figurative comprehension. The observations from this study also lead us to believe that children tend to comprehend the meaning of the 'less-frequent and less-decomposable' idioms in a rote manner. The meanings of such idioms are likely to be achieved like any other learnt phrases, resulting in a direct memory retrieval of meanings as the primary comprehension strategy. The results also suggested that less 'literal responses' errors were recorded for frequent idioms compared to the less frequent ones.

Usage frequency of an idiom was found to be the most dominant factor in facilitating idiom comprehension. Idioms that are more frequently encountered by a child in their linguistic environment through written or spoken forms of language tend to be comprehended better. The compositionality of idioms also seems to enhance the comprehension of idioms, which qualifies the argument that idioms also undergo compositional analysis like literal language. Our study shows that children attempted a compositional analysis while comprehending idioms, thereby being able to comprehend idioms with higher meaning transparency in a more accurate manner. The performance dropped when the idioms were 'less-frequent and less-decomposable' (lowest comprehension accuracy was observed for the age group of 7-8 years and LF-LD category at 30.67%). The decomposable idioms (77% accuracy) in our study were comprehended better than the less-decomposable ones (63% accuracy) for all the age groups. Hence, the results support the Idiom Decomposition Hypothesis (Gibbs et al., 1989) as well.

An interesting observation was that the category of idiom under consideration is a crucial factor, as we found even the younger children being able to comprehend the ‘frequent and decomposable’ idioms more successfully than the older children attempting to comprehend the ‘less-frequent and less-decomposable’ idioms. We also observed that even for the youngest age group (7-8 years), the frequently used idioms were comprehended better (60.33% accuracy) than the less frequent ones (43% accuracy). From the error analysis, we observed that more ‘literal responses’ were observed in decomposable categories, hinting that the children are attempting a compositional analysis for idioms having high compositionality. Therefore, we propose that these linguistic dimensions (usage frequency and compositionality) are the crucial factors that need to be considered in the idiom acquisition studies. We have explored these aspects further for the idiom production competence in Chapter 6, where we have conducted idiom production tasks on children.

5.4.1. The model for idiom comprehension

Through this empirical study, we have analysed the idiom properties which guide the idiom comprehension process in children and can be represented through a comprehensive model. The present idiom comprehension study has discussed the effect of idiom properties as well as the influence of supportive context and the cognitive ability of children (determined by age group and academic exposure) to comprehend the different categories of idioms. Based on the insights gained from this study, we have framed an idiom comprehension model for children.

Figure 5.11 captures some of the insights gained in a simplistic and pictorial representation, underlining the improvement observed in ease of comprehension of idiomatic expressions around the two critical linguistic dimensions: the ‘frequency of usage’ and ‘decomposability’. This model represents that idioms can be broadly characterised into four categories. As the usage frequency and decomposability properties become more dominant for certain types of idioms, the ease with which an idiom can be comprehended correctly also increases, and vice versa is also true. The ease of understanding idioms is closely associated with the variance in the categories of idioms. The most challenging idioms for a child would be the ‘less-frequent and less-decomposable’ category idioms. The easier ones are those which are used more frequently in children’s linguistic environment and where the idiomatic meaning is easily

decipherable from the idioms' conventional form through compositional analysis or metaphoric extension.

The learners' language skills and reading ability also determines the successful interpretation of idioms while building coherence with the context. The comprehension skills of the language learners determine the ease of comprehending idioms as it will be easy for learners with good reading skills to infer the meaning from the linguistic boundaries in which the idioms occur. A supportive context is not a one-way aid to idiom comprehension; rather, it is a two-way interaction where children first attempt to infer the idiomatic meaning from context and then integrate it into the context to accomplish a coherent fitment.

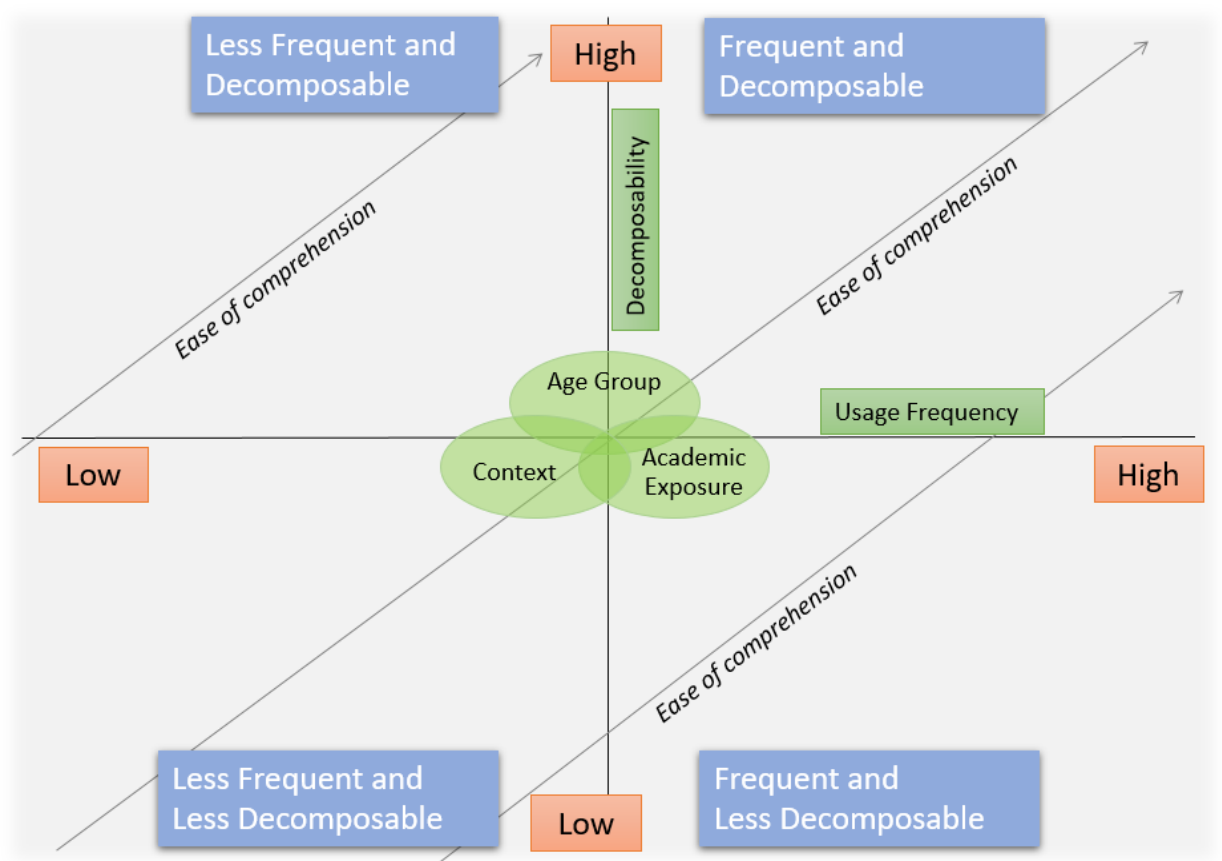


Figure 5.11: A Comprehensive Model of Idiom Comprehension

5.5. Summary

This chapter discussed the empirical studies on children and provided insights into the factors that aid and impede idiom comprehension. We applied the learnings from the empirical study on adults (Chapter 4) to ascertain the attributes which may affect idiom comprehension, and found usage frequency, compositionality, and age group of the children to be the key factors. Across all categories, the most consistent result was that the accuracy of idiom comprehension increases with an increase in age group and grade (years of formal education) of the children as the cognitive ability increases, and with an increase in idioms' usage frequency and decomposability. Our study resulted in insights regarding the comprehension of idioms across the linguistic dimensions of usage frequency and compositionality, and we found both these to be aiding comprehension with usage frequency being the dominant factor. We also did error analysis and found that the younger children (7-8 years) had the highest overall error percentage indicating their figurative competency is under the process of development, and literal strategy is the predominantly active strategy in the comprehension of idioms at this age. The 'growth spurt of idiom comprehension competence' occurs around the age of approximately 9-10 years (mean age 9.54) where a substantial increase in idiom comprehension accuracy is observed. In the next chapter (Chapter 6), we have presented the empirical study conducted on children to understand the production of idioms by children in the categories identified.

Chapter 6: Insights on Production of Hindi Idioms by Children

6.1. Introduction

In this chapter, we have explored the production of idioms by children through an empirical study consisting of two production tasks, and compared the performance of children in these tasks. We explored multiple aspects of idiom production, viz. the interaction with context, access and recall of idioms, and production of relevant idioms as warranted by the communicative goal. As a part of this study, apart from consolidating and analysing the correct responses, we have also analysed the errors made by children in performing these production tasks. The error analysis enabled us to objectively assess the different complexities encountered and strategies adopted by children while producing idioms. Additionally, we compared the performance of children between the comprehension and production tasks to identify if there is a discernible transition through distinct stages in the process of idiom acquisition.

The present chapter is organised as follows. In Section 6.2, we have recapitulated the key takeaways from the relevant research related to idiom production by children. In Sections 6.3 and 6.4, we have discussed the objectives and methodology of this study in detail. We have presented the analysis done, results obtained along with a discussion on the implications, and proposed a model for idiom production in children in Sections 6.5 and 6.6. The study is summarised in Section 6.7.

6.2. A quick recapitulation of the discussion on idiom production done in Chapter 2

As discussed in Chapter 2, Levorato et al. (1989, 1992, 1993, 1995, 2002) published several papers which elaborately discussed idiomatic competence in children. The proposed GEM model (Levorato and Cacciari, 1989) for idiom acquisition highlighted the importance of ‘context’ in idiom comprehension and projected phases of idiom acquisition in children. The GEM model conveyed that production of idioms at the age of 7 years is more difficult compared to the comprehension of idioms. One

significant proposition of this model was that production skill is acquired relatively later than the comprehension skill by a child in the idiom acquisition phase.

The GEM model put emphasis on the four developmental phases in idiom acquisition. According to this theory, ‘phase 1’ lasts approximately up to the age of 7 years, and the strategy adopted in this phase is the piece-by-piece elaboration of the text. In ‘phase 2’, children searching for clues to interpret the idioms. ‘Phase 3’ is the realisation stage where children start understanding that the same communicative purpose can be stated through different modes: literally, figuratively, or ironically. ‘Phase 4’ is the final stage, where the ability to produce and use idioms in different situations is achieved.

On the contrary, ‘Acquisition via Exposure Hypothesis’ (Nippold and Martin, 1989; Ezell and Goldstein, 1991) stressed the ‘frequency of exposure to idioms’ in acquisition and comprehension. Levorato and Cacciari (1989, 1992) had been critical of the ‘Acquisition via Exposure Hypothesis’ and believed that usage-frequency or exposure has a limited role in the acquisition of idioms; frequency only facilitates the meaning since it functions locally in the expression. They further added that it is the context that has a significant role in idiom comprehension because it helps the child to suppress the quest to look for literalness in an expression. They proposed that since contextual information acts globally around the sentence, therefore it prevents the child from interpreting an idiom literally in a rich, informative context.

Studies on children acquiring figurative language have shown that children interpret idioms literally at the age of 9-10 years if the idioms are not presented in an information-rich context. More importantly, Levorato and Cacciari (1992) acknowledged the role of frequency in the production of idioms. They used the completion task (‘fill in the blanks’) as the methodology to arrive at this result. The target idioms in this task appeared towards the end of the sentence where the first two words (of the idioms used) were given as a hint, and children were asked to complete the sentence using those words. Their study argued that “a child can produce familiar idioms more correctly than the non-familiar ones”.

6.3. Objective

Through this empirical study, we aim to explore the development of children's skill or ability to produce idioms during their language development phase. We also attempt to understand the impact of idioms' properties like compositionality and usage frequency (and meaning familiarity), cognitive age of the children, and formal education (class or grade) in idiom production. The study aims to understand the stages of idiom acquisition in children by comparing the performance of children in production tasks with their performance in comprehension task (Chapter 5). Another objective of production tasks was to explore if the recall and production for idioms are better if the idiom or its meaning is conveyed through an image that presents a context, concept, or emotion. For a smaller set of idioms, we used a sentence completion task to understand the production of idioms when children are presented with a minimal sentential context. Furthermore, we aim to study the errors made by children during idiom production. The error analysis can provide us with valuable insights into the crucial decision-making process and the outcome delivered by children to go beyond the literal rule of a language and start recognising the figurative aspects.

6.4. Methodology

6.4.1. Design

This empirical study was executed in the form of a controlled experiment through two tasks: the 'picture identification' task and the 'fill in the blanks' task. The first task was the 'picture identification' task which required the children to identify the idiom represented by an image. The second task was the 'fill in the blanks' task which required children to complete each incomplete sentence presented to them using an appropriate idiom. These tasks also assessed the cognitive maturity of children, as they warranted a complex mental activity which involved a quick understanding of the stimulus presented, and then getting involved in a cognitive process of recall and production of the appropriate idioms. In Sections 6.4.1.1 and 6.4.1.2, we have explained the tasks in detail along with the rationale behind choosing these tasks for the idiom production study on children. We have provided the details of the participants and idioms used in Sections 6.4.2 and Section 6.4.4.2 respectively.

6.4.1.1. Picture Identification task

Multiple studies have suggested that language learners can develop and improve their understanding of concepts by learning through visual mediums. In idiom studies, scholars have used picture tasks essentially to test the comprehension aspect of idiom acquisition, by adding a supporting story (context) to the pictures and providing options to pick (guided selection). These experiments are designed using closed-ended questions that guide interpretation or comprehension skills but limit the production outcomes.

As language usage scenarios tend to be fluid or dynamic, we designed this task to be open-ended and allowed the subjects to provide multiple responses for each image, as deemed appropriate by the respondents. Therefore, this method was suitable to analyse and accommodate those responses also where children were unable to produce the exact target idioms but did attempt a metaphorical route and produced figurative answers (displayed figurative competency). Such an analysis can eventually add to the assessment of recall and production of idioms and can define the structural orientation of the minds of children.

We used the images representing the target idioms without any supporting text or story (context), assuming the picture stimulus would generate the imagery (schema) for children to perceive the information and construct a structure to the knowledge gained through shapes, frequent patterns, uniformity of actions, perceptions, etc. The other reason for choosing a visual medium was to explore if images can be a good medium to link the idioms to concepts, which can aid in the idiom recall and production processes, eventually leading to the production of the expected target idiom(s).

One of the considerations for choosing this task and colourful images was that it could help in engaging the students better by holding on to their attention throughout this complex cognitive activity. We had to be mindful that any disinterest in the activity can cause huge errors. Keeping the task interesting for young children (with understandably short attention span) was as essential as any other aspect of this study. For the ‘picture identification’ task, the booklet contained images matching the target idioms along with sufficient space to enter their response(s). To ensure clarity, each page in the section for the ‘picture identification’ task contained only two or three images. We provided enough space in the test booklet to allow multiple responses for each image (if multiple idioms could explain the image under consideration). The images were presented for idioms

across the different idiom categories in a randomised order. Each image provided in the booklet (representing a specific idiom) was chosen carefully, considering the age of the children and fitment for providing certain clues to children to enable them to identify the corresponding target idioms unambiguously. The idioms presented for the picture identification task were intentionally randomised in the test booklet so that idioms of the same category do not appear together (to avoid any bias).

A careful selection of images for this task was made to include different types of image representations. For some idioms, we used images that depicted the idiomatic meaning, while for others, a metaphorical representation was chosen. For another set of idioms, images that represented the idioms in their pure lexical form by depicting the literal meanings of idioms were chosen. The reason for choosing these variations was to encourage the respondents to analyse each idiom in isolation. Additionally, for a few idioms, the idiomatic meaning appeared to be a more feasible representation or the closet stimulus for idiom recognition. In contrast, their lexical representation (form) was thought to be the closet stimulus or more identifiable for idiom recognition for another set of idioms. Along with this, most of the images selected contained one or more clues representing the keywords of target idioms. Two samples used in this task are mentioned below for purposes of illustration in Table 6.1.

Table 6.1: Samples of idioms used for the ‘picture identification’ task

S. No.	Image (stimulus)	Target Idiom and Explanation
1		Idiom: आँखों में पानी भर आना $\ddot{a}k^h\ddot{o}$ mē pani: b^həɾ ana Literal Meaning: Water filled in eyes Figurative Meaning: To become very emotional Idiom Category: Less-Frequent and Decomposable <u>Image Association: Lexical Representation + Emotion</u> The image shows a tear-drop rolling out from the eyes of a person, which corresponds to the literal form of this idiom. Also, the image can be perceived to denote an emotional state of a person, hence relatable to the concept of sorrow. Keywords: ‘tears’ ($\ddot{a}k^h\ddot{o}$), ‘eyes’ (pani:)

2		Idiom: आग बबूला होना ag babu:la hona Literal Meaning: To be fire boil Figurative Meaning: To be extremely angry Idiom Category: Frequent and Decomposable <u>Image Association: Idiomatic Meaning Representation + Concept</u> The image denotes extreme anger through the gesture of closed eyes, grinding teeth, and tightly closed fist. The flames behind the boy represents the intensity of anger. Intensity of extreme anger is metaphorically relatable to the concept of FIRE (conceptual metaphor). Keyword: 'fire' (ag)
---	---	--

6.4.1.2. Fill in the Blanks task

The second task presented to children was the 'fill in the blanks' task, where the children were required to complete the sentences presented to them using idioms. For the 'fill in the blanks' task, in order to control the influence of context, a minimal sentential context was provided in the form of similarly structured and short sentences. There were some considerations made for having this as one of the production tasks. We wanted to conduct the production tasks for the same twenty-four idioms which were used in the comprehension task on children (Chapter 5) so that we could compare the comprehension and production abilities to a certain extent. However, representing some idioms through a picture would either not be feasible, or could have caused ambiguity, thereby causing an error in the experiment. An unambiguous representation of this would be challenging to achieve and could cause errors, considering that our subjects were children of a very young age.

For example, let us consider the idiom 'dʒan hətʰeli: pər rəkʰna' (literal meaning: 'to keep life on the palm of the hand'; figurative meaning: 'to perform a very risky or daring act'). This idiom's literal meaning, i.e. the picture of a man holding life (or a symbol of life) on his palm, would not have made sense. On the contrary, denoting this idiom's idiomatic meaning through an image could have led to ambiguity, as an image of someone risking his life could be perceived as 'angry', 'dangerous', 'stupid', or even 'reckless'. Either way of representation, i.e. through the idiom's literal meaning or

through the figurative meaning, would have failed to pull the responses from our target set. Hence, we chose a sentential context through the ‘fill in the blanks’ task for such idioms. Another reason for choosing this task was to investigate the production capabilities of children using more than one stimulus or medium and compare the performances.

For the ‘fill in the blanks’ task, the booklet contained eight incomplete sentences with the blanks highlighted using underlined spaces, to be filled in using the appropriate target idioms. For this task, we constructed sentences in a way where the sentences could be completed using the target idioms in their appropriate form and with proper fitment in the context. The first word of the target idiom was provided as a clue and was underlined, and the remaining constituents were to be filled in by the respondents in the underlined blank spaces. Since that first word of the target idiom was provided, it limited the scope to only a few options where the conventional forms of idioms were designed to be the best fit.

Two items from this task are reproduced here for the purposes of illustration. Complete details (all idioms) are available in Appendix 4.

1. mən̩sa ke haṭṭṱhõ se guldasta gir ke tu:t̩ gəja. uski: malkin ne use kḥəri: _____.

The vase fell down from the hands of Mansa and broke. Her master told her harsh _____.

2. sena ke jawan bḥarəṭ ki: rəkṣa ke lije dʒan _____ ṭaijar rəhṭe hāi.

Soldiers of the army, for protecting India, are ready to _____ life.

The idioms ‘kḥəri: kḥoṭi: sunana’ and ‘dʒan həṭṭṱheli: pər rəkḥna’ are the target idioms (for items 1 and 2 above) where the first word of the respective idioms (‘kḥəri:’ and ‘dʒan’) was provided.

6.4.2. Participants

A total number of 60 students in the age group of 8 to 13 years were selected to participate in this study. All the respondents were students in Grades IV to VII at Woodbine Modern School (CBSE curriculum), Darbhanga, India. All the respondents were multilingual having Hindi as their mother tongue, belonged to middle and lower-middle socioeconomic status, and were from a semi-urban societal setting. The respondents' profile is shown below in Table 6.2 and Table 6.3.

Table 6.2 – Respondent profile vs. gender of respondents

Gender	# of Respondents
F	24
M	36
Overall	60

Table 6.3 - Respondent profile vs. grade, age, and age group of respondents

Class (Grade)	Age Group (years)	Age (years)	# of Respondents
Grade IV	8-9 Years	8 Years	3
		9 Years	4
	10-11 Years	10 Years	6
		11 Years	3
	12-13 Years	12 Years	1
Grade V	10-11 Years	10 Years	6
		11 Years	6
	12-13 Years	12 Years	5
Grade VI	10-11 Years	10 Years	3
		11 Years	4
	12-13 Years	12 Years	4
		13 Years	1
Grade VII	10-11 Years	10 Years	1
		11 Years	1
	12-13 Years	12 Years	6
		13 Years	6

In Figure 6.1, we have represented the participants' information in the chart for a better visual representation of the respondent sample on which the production tasks were conducted.

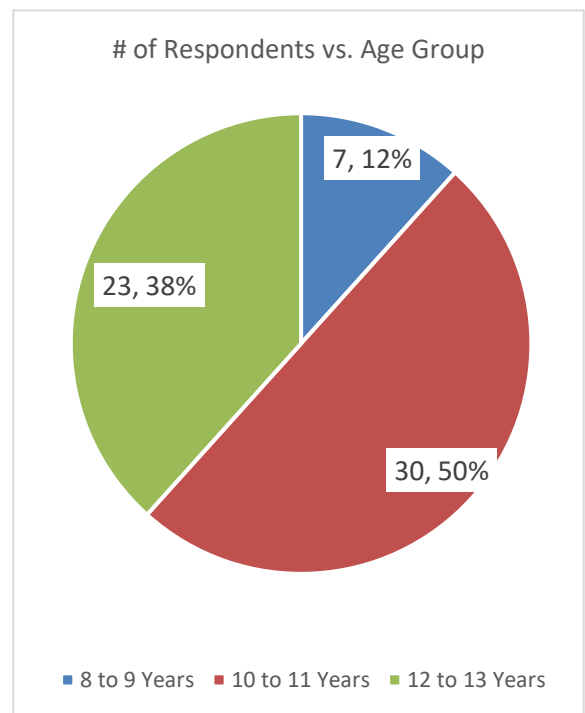
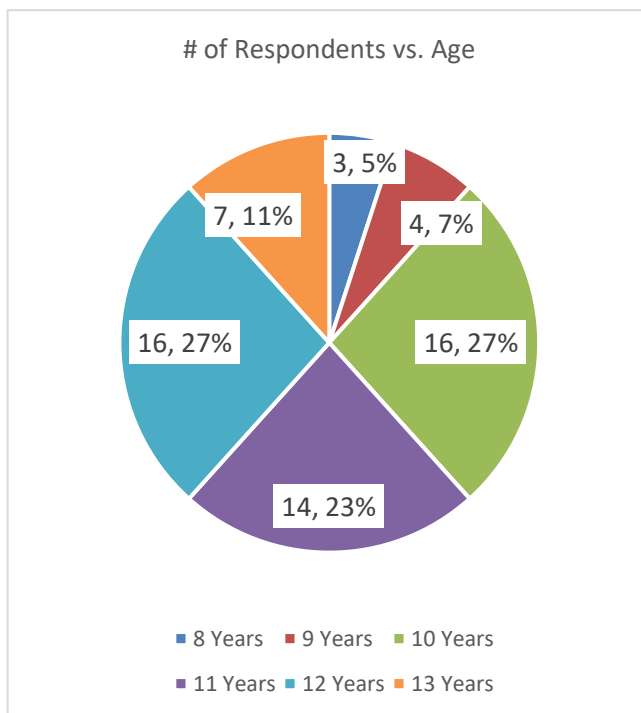
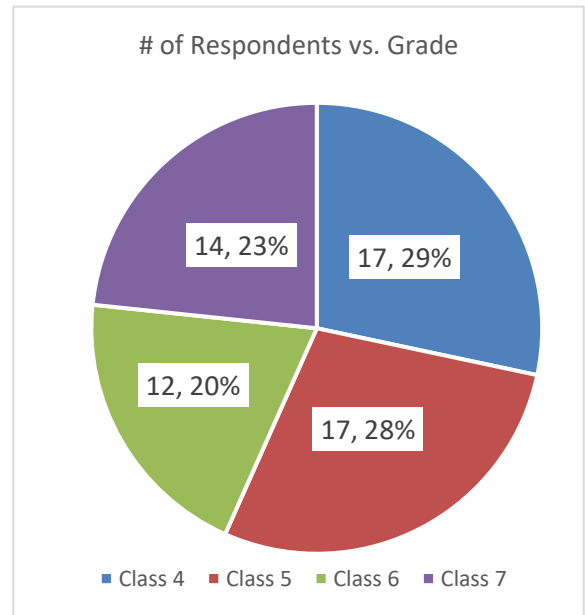
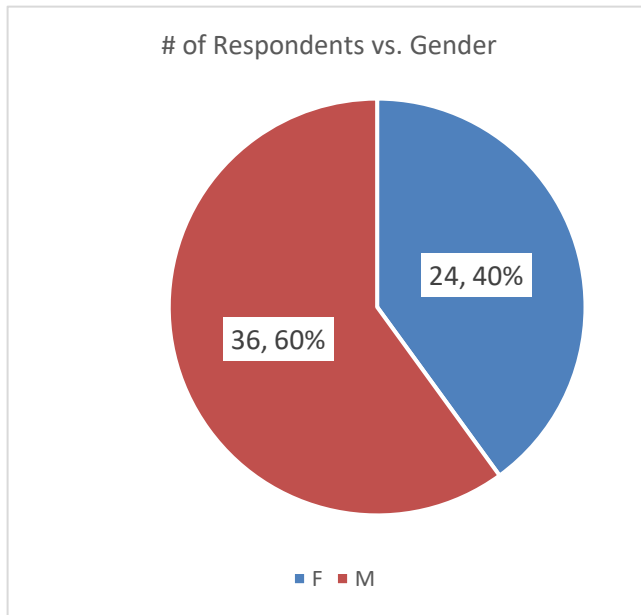


Figure 6.1 - Respondent profile vs. gender, grade, age, and age group

6.4.3. Method

The production tasks were conducted, after a month's gap, on the same set of students who had participated in the comprehension tasks, excluding the Grade III students. The deliberate exclusion of Grade III students was done because production tasks need a higher level of language skills which children at the age groups in Grade III may not have. The respective class teachers were consulted to understand the language skills and children's exposure to idioms in their respective grades to make this choice. Studies by Levorato (1992, 1995) had also pointed out that the production tasks are of a higher difficulty level than the comprehension tasks. Additionally, we had observed in Chapter 5 that the performance of Grade III students was also the lowest in the comprehension task conducted by us (50% correct compared to the overall average of 70%) indicating that they are at an initial stage of idiom acquisition.

Once the overall group of respondents was identified, it was divided into batches of four to seven participants, such that each batch had all members from the same class or grade. The experiment was carried out in a quiet room in the school premises, with sufficient time allocation to finish the task (by not keeping this activity time-bound). At the beginning of each session for the batch of participants, both tasks were explained verbally to all the participants. After explaining the tasks, quick demonstrations of both tasks were carried out by using a sample image and a sample sentence. These demonstrations were done to ensure that the participants understood the tasks completely before attempting them.

After we were absolutely convinced that the participants understood the tasks, we provided them the test booklets containing the instructions, images (for the 'picture identification' task), and incomplete sentences (for the 'fill in the blanks' task). The participants were asked to mark the responses on the provided booklet and return the booklet after the activity was completed. Restricting each batch's size to 4 to 7 participants was to ensure a proper understanding and controlled execution of the task enabled by the small size of the batch. Bearing in mind the very reasonable time constraints on the available time of students, and with permission from the school's management, the production study was done on only one batch in a day, and it took a total of 12 working days to be completed.

6.4.4. Material

6.4.4.1. Test booklet

A single test booklet containing instructions and questions pertaining to both the production tasks was used for this study. Each respondent was provided with a copy of the same booklet. We reused the twenty-four idioms (used across the four idiom categories in the previous idiom comprehension study on children) for the two production tasks in this study. Sixteen idioms were used for the ‘picture identification’ task, and the remaining eight idioms were used for the ‘fill in the blanks’ task. The booklet contained questions capturing the language proficiency information, instructions, and questions corresponding to the two production tasks. The test booklet started with questions capturing the language proficiency of the participants to ensure that they were from the same region, and had a similar language exposure. The information sought from the respondents was ‘name’, ‘age’, ‘gender’, ‘class/grade’, ‘years of education’, ‘native place’, and ‘place of longest stay’. We also confirmed with the participants if Hindi was their mother tongue by asking the language they use to communicate with their family members. We checked if they had any challenges in understanding and communicating in Hindi, and if they also knew any other languages apart from Hindi. The complete booklet with all instructions and both tasks is provided in Appendix 4.

6.4.4.2. Idioms used

Table 6.4: Idioms used for the ‘picture identification’ task

S. No.	Image (stimulus)	Target Idiom and Explanation
1		Idiom: आँखों में पानी भर आना ākhō mē pani: bʰər ana Literal Meaning: Water filled in eyes Figurative Meaning: To become very emotional Idiom Category: Less-Frequent and Decomposable <u>Image Association: Lexical Representation + Emotion</u> The image shows a tear-drop rolling out from the eyes of a person, which corresponds to the literal form of this idiom. Also, the image can be perceived to denote an emotional state of a person, hence relatable to the concept of sorrow. Keywords: ‘tears’ (ākhō), ‘eyes’ (pani:)

2		Idiom: आग बबूला होना ag bəbu:la hona Literal Meaning: To be fire boil Figurative Meaning: To be extremely angry Idiom Category: Frequent and Decomposable <u>Image Association: Idiomatic Meaning Representation + Concept</u> The image denotes extreme anger through the gesture of closed eyes, grinding teeth, and tightly closed fist. The flames behind the boy represent the intensity of anger. Intensity of extreme anger is metaphorically relatable to the concept of FIRE (conceptual metaphor). Keyword: ‘fire’ (ag)
3		Idiom: तारीफ़ के पुल बांधना tāri:f ke pul baṁdh̃əna Literal Meaning: To tie bridges of praise Figurative Meaning: To praise someone generously Idiom Category: Frequent and Decomposable <u>Image Association: Idiomatic Meaning Representation</u> The image depicts a man who is being praised by his colleagues. Praise is represented by the action of clapping and appreciative gestures by the people surrounding him. Keyword: ‘praise’ (tāri:f)
4		Idiom: हाथ पीला होना haṭṭʰ pi:la hona Literal Meaning: Hands being yellow Figurative Meaning: To get married Idiom Category: Frequent and Less-Decomposable <u>Image Association: Idiomatic Meaning Representation + Lexical Representation</u> The image represents a marriage ceremony with ‘haldi’ being applied, and ‘mehndi’ present on the hands of ladies. Both ‘mehndi’(henna) and ‘haldi’(turmeric) are culturally associated with marriages in India. The colour ‘yellow’ is highlighted in the image. Keywords: ‘hand’ (haṭṭʰ), ‘yellow’ (pi:la)

5		Idiom: अपने पांव पर कुल्हाड़ी मारना apne pāu pər kulhaṛi: marna Literal Meaning: To strike axe on one's own foot Figurative Meaning: To cause harm to oneself / To act stupidly causing harm to oneself Idiom Category: Frequent and Decomposable <u>Image Association: Lexical Representation</u> The image depicts a person ready to hit his own foot with an axe, hence causing harm to himself. The swing and motion of the axe (striking his own foot) is indicated using the directional arrows. Keywords: 'axe' (kulhaṛi:), 'foot' (pāu), 'strike' (marna)
6		Idiom: आँखों का तारा होना ākḥō ka t̥ara hona Literal Meaning: To be the star of eyes Figurative Meaning: To be very dear to someone Idiom Category: Less-Frequent and Decomposable <u>Image Association: Idiomatic Meaning Representation</u> The image depicts a mother lovingly holding a child, denoting extreme affection (motherly love). Keyword: None (Image is metaphorical in nature)
7		Idiom: आसमान सिर पर उठाना asman sir pər uṭḥana Literal Meaning: To lift sky on head Figurative Meaning: To create a huge ruckus Idiom Category: Frequent and Less-Decomposable <u>Image Association: Lexical Representation</u> The image shows a man lifting sky (clouds which represent sky) over his head, and shouting aloud. Keywords: 'sky' (asman), 'head' (sir)
8		Idiom: हाथ गरम करना haṭḥ gəɾəm kərna Literal Meaning: To heat hand Figurative Meaning: To bribe someone Idiom Category: Less-Frequent and Less-Decomposable <u>Image Association: Idiomatic Meaning Representation</u>

		The image shows two businessmen exchanging cash and shaking hand which denotes a monetary cash transaction along with a gesture of agreement, which can be perceived as an act of giving bribe. Keyword: ‘hand’ (haṭṭḥ)
9		Idiom: अंधों में काना राजा āṇḍhō mē kana rāḍḍa Literal Meaning: One-eyed person being king among blind people Figurative Meaning: Less qualified person being the most prominent among a group of unqualified persons Idiom Category: Frequent and Decomposable <u>Image Association: Lexical Representation</u> The image shows multiple faces wearing black goggles hinting that these persons are blind. Only one face is wearing an eye-patch on one eye, while the other eye is uncovered and supposedly functional, hence denoting a one-eyed person. The one-eyed person is wearing a crown, like a king, and is smiling, while all the blind persons are having neutral facial expressions. This image can be perceived of a scenario where a one-eyed person is the ruler or king among all blind persons. Keyword: ‘blind persons’ (āṇḍhō), ‘one-eyed person’ (kana), ‘king’ (rāḍḍa)
10		Idiom: पेट में चूहे कूदना pet mē tḥu:he kūḍḍna Literal Meaning: To have mice jumping in stomach Figurative Meaning: To be very hungry Idiom Category: Frequent and Less-Decomposable <u>Image Association: Idiomatic Meaning Representation</u> The image shows a child who is having a meal, and is enjoying it because he is probably hungry - children generally relate food with hunger. The image of mice in a thought-bubble provides further clues. Keyword: ‘mice’ (tḥu:he)
11		Idiom: अंतिम घड़ियाँ गिनना āṭim gḥarījā ginna Literal Meaning: To count last days Figurative Meaning: To be on the verge of death Idiom Category: Less-Frequent and Decomposable

		<u>Image Association: Idiomatic Meaning Representation</u> The image shows a man lying on a bed with his eyes closed, surrounded by many worried-looking persons, and a doctor monitoring his pulse. This can be perceived as the image of a sick man who is on his death-bed and is surrounded by his well-wishers. Keyword: 'last' (अंतिम)
12		Idiom: घोड़े बेचकर सोना g^hore betfkar sona Literal Meaning: To sleep after selling horses Figurative Meaning: To sleep peacefully / To have a deep sleep Idiom Category: Frequent and Less-Decomposable <u>Image Association: Idiomatic Meaning Representation</u> The image shows a person who is snoring heavily, and seems to be in a state of deep sleep. Keyword: 'sleep' (sona)
13		Idiom : अक्ल घास चरने जाना əkl g^has tʃərne dzana Literal Meaning: To have mind gone for grazing grass Figurative Meaning: To lose logical understanding or common sense Idiom Category: Frequent and Less-Decomposable <u>Image Association: Idiomatic Meaning Representation + Lexical Representation</u> The image shows a donkey grazing grass. In the Indian cultural context, a foolish person is typically referred to as, or compared with, a donkey. The pictorial representation tries to relate to the lexical form of idiom (grazing grass), and at the same time metaphorically represents stupidity through the symbolism of a donkey. Keyword: 'grass' (g^has), 'grazing' (tʃərne)
14		Idiom : अंधेरे में तीर चलाना əṁd^here mē tī:r tʃəlana Literal Meaning: To shoot arrows in the dark Figurative Meaning: To make a wild guess Idiom Category: Frequent and Decomposable <u>Image Association: Idiomatic Meaning Representation + Lexical Representation</u>

		The image shows a blindfolded person shooting multiple arrows at a practice-range, with most shots missing the target. Making attempts to hit the target while being blindfolded can be compared to making wild guesses, most of which are likely to be incorrect (missing the target), with only sheer luck making it possible for any guess to be actually right (arrow hitting the target). Keywords: 'arrow' (t̪iːɾ), 'shooting' (tʃəlana)
15		Idiom: खून का प्यासा होना kʰuːn ka pəjasa hona Literal Meaning: To be thirsty for blood Figurative Meaning: To intend to harm or kill someone Idiom Category: Less-Frequent and Decomposable <u>Image Association: Idiomatic Meaning Representation</u> The image shows two soldiers fighting very intensely, depicting an intent to seriously harm each other. The subtle imagery of blood suggests the severity of this fight, and also provides a hint of extreme enmity. Keyword: 'blood' (kʰuːn)
16		Idiom : कोल्हू का बैल होना kolhuː ka bəil hona Literal Meaning: To be the ox which is used to draw out water from well Figurative Meaning: To be extremely hard working/ To do inconsiderate amount of work Idiom Category: Less-Frequent and Decomposable <u>Image Association: Lexical Representation</u> The image depicts an ox working a machine (kolhuː) which is generally used in villages for extremely labour-intensive tasks like drawing out oil from raw-material, or to fetch water from a well for irrigation purposes. The image hence denotes a very hard worker (ox). Keyword: 'machine'(kolhuː), 'ox' (bail)

Table 6.5: Idioms used for the ‘fill in the blanks’ task

S. No.	Idioms	Idiom Category
1	खरी खोटी सुनाना $k^h\text{eri} : k^h\text{oti} : \text{sunana}$ Literal Meaning: To make one hear raw (unfiltered) and defected Figurative Meaning: To scold someone	Frequent and Decomposable
2	जान हथेली पर रखना $d\text{zan } h\text{ə}t^h\text{eli} : p\text{ər } r\text{ə}k^h\text{na}$ Literal Meaning: To keep life on the palm of the hand Figurative Meaning: To perform a very risky or daring act	Less-Frequent and Decomposable
3	दूध का धुला होना $d\text{u} : d^h\text{ ka } d^h\text{ula hona}$ Literal Meaning: To be washed with milk Figurative Meaning: To be very pure / To act like a very pure and ethical person	Frequent and Less-Decomposable
4	अथ से इति तक $\text{ə}t^h\text{ se i}t^i\text{ tək}$ Literal Meaning: From start to finish Figurative Meaning: From start to finish	Less-Frequent and Less-Decomposable
5	छाती पर मूंग दलना $t\text{ʃ}^h\text{a}t^i : p\text{ər } m\text{u} : \eta\text{g } d\text{ə}l\text{na}$ Literal Meaning: To grind gram pulses on someone’s chest Figurative Meaning: To trouble someone incessantly	Less-Frequent and Less-Decomposable
6	गुदड़ी का लाल होना $g\text{u}d\text{ri} : \text{ka } l\text{al hona}$ Literal Meaning: Worn out clothes becoming red Figurative Meaning: To be an extraordinary person born in a poor family or locality	Less-Frequent and Less-Decomposable
7	हथेली पर सरसों उगाना $h\text{ə}t^h\text{eli} : p\text{ər } s\text{ə}r\text{s}\text{ō } u\text{gana}$ Literal Meaning: To grow mustard on the palm of one’s hand Figurative Meaning: To attempt an impossible task	Less-Frequent and Less-Decomposable
8	खटाई में पड़ जाना $k^h\text{ə}t\text{ai} : m\text{ē } p\text{ər } d\text{zana}$ Literal Meaning: To fall into sourness Figurative Meaning: Some task or work getting stuck because of some obstacles	Less-Frequent and Less-Decomposable

6.5. Analysis and Results

In this section, we have analysed the responses for the ‘picture identification’ and the ‘fill in the blanks’ tasks across different age groups, grades, and idiom categories. To analyse the overall data, we summarised the responses of 60 respondents in the production of the 24 target idioms selected across the 4 idiom categories. The analysis of responses was done together (consolidated) for both the tasks, as well as separately for each task - the ‘picture identification’ task with responses corresponding to the sixteen idioms used, and the ‘fill in the blanks’ task with responses corresponding to the eight idioms used. As the participants of both the tasks (‘picture identification’ and ‘fill in the blanks’) were the same, we were also able to compare the performances in these two tasks, by drawing a parallel or baselining the analysis with the comprehension tasks. The objective of this baselining analysis was to be able to compare the performance of children across idiom categories in the production and comprehension tasks. This approach enabled us to analyse the performance of children while accounting for the varying difficulty levels in the idiom categories and the tasks. The rationale, approach, and observations are explicated in Section 6.5.2.

We consolidated the responses using Microsoft Excel and Excel PivotTables. Apart from the correct responses, data corresponding to the error responses was also collated for analysis. We have used tables and charts to represent the summarised data for both the tasks for easy comparison. In Sections 6.5.1 to 6.5.6, we have focused only on the ‘correct responses’ for the two tasks and idioms under consideration, across the variables of age, grade, age group, and idiom categories, as a percentage of overall responses in the dataset. Error analysis (analysis of incorrect responses) is presented in Section 6.5.7. In Section 6.5.8, we have presented the findings of the linear regression test to check for statistically significant results using the IBM SPSS Statistics tool.

6.5.1. Analysis 1: Understanding the production accuracy across overall idiom dataset

In Table 6.6, we have presented the summary of all the correct responses by the respondents (in both the tasks across all 24 idioms). The purpose of this summarisation was to develop an understanding of the entire data set and present an overview of the production accuracy for each idiom, which was a prerequisite for further detailed analysis.

Table 6.6: Production tasks - summary of correct responses

S. No.	Target Idiom	Target Idiom Category	Task	% of Correct Responses
1	आग बबूला होना ag bəbu:lə hona Literal Meaning: To be fire boil Figurative Meaning: To be extremely angry	Frequent and Decomposable	Picture Identification	90.00%
2	अंधेरे में तीर चलाना əṁd̪ʰere mē t̪i:r tʃəlana Literal Meaning: To shoot arrows in the dark Figurative Meaning: To make a wild guess	Frequent and Decomposable	Picture Identification	16.67%
3	अंधों में काना राजा əṁd̪ʰõ mē kana radʒa Literal Meaning: One-eyed person being king among blind people Figurative Meaning: Less qualified person being the most prominent among a group of unqualified persons	Frequent and Decomposable	Picture Identification	28.33%
4	अपने पांव पर कुल्हाड़ी मारना əpne pāu pər kulhaṛi: marna Literal Meaning: To strike axe on one's own foot Figurative Meaning: To cause harm to oneself / To act stupidly causing harm to oneself	Frequent and Decomposable	Picture Identification	86.67%
5	खरी खोटी सुनाना kʰəri: kʰoṭi: sunana Literal Meaning: To make one hear raw (unfiltered) and defected Figurative Meaning: To scold someone	Frequent and Decomposable	Fill in the Blanks	51.67%
6	तारीफ़ के पुल बांधना t̪ari:f ke pul bāṁd̪ʰna Literal Meaning: To tie bridges of praise Figurative Meaning: To praise someone generously	Frequent and Decomposable	Picture Identification	8.33%
7	आसमान सिर पर उठाना asman sir pər utʰana Literal Meaning: To lift sky on head Figurative Meaning: To create a huge ruckus	Frequent and Less-Decomposable	Picture Identification	40.00%
8	अक्ल घास चरने जाना əkl gʰas tʃərne dʒana Literal Meaning: To have mind gone for grazing grass	Frequent and Less-Decomposable	Picture Identification	20.00%

	Figurative Meaning: To lose logical understanding or common sense			
9	दूध का धुला होना ḍu:ḍʰ ka ḍʰula hona Literal Meaning: To be washed with milk Figurative Meaning: To be very pure / To act like a very pure and ethical person	Frequent and Less-Decomposable	Fill in the Blanks	56.67%
10	घोड़े बेचकर सोना gʰore betʃkər sona Literal Meaning: To sleep after selling horses Figurative Meaning: To sleep peacefully / To have a deep sleep	Frequent and Less-Decomposable	Picture Identification	71.67%
11	हाथ पीला होना haṭʰ pi:la hona Literal Meaning: Hands being yellow Figurative Meaning: To get married	Frequent and Less-Decomposable	Picture Identification	46.67%
12	पेट में चूहे कूदना pet mə tʃu:he ku:ḍna Literal Meaning: To have mice jumping in stomach Figurative Meaning: To be very hungry	Frequent and Less-Decomposable	Picture Identification	93.33%
13	आँखों का तारा होना ākʰõ ka ṭara hona Literal Meaning: To be the star of eyes Figurative Meaning: To be very dear to someone	Less-Frequent and Decomposable	Picture Identification	71.67%
14	आँखों में पानी भर आना ākʰõ mə pani: bʰər ana Literal Meaning: Water filled in eyes Figurative Meaning: To become very emotional	Less-Frequent and Decomposable	Picture Identification	35.00%
15	अंतिम घड़ियाँ गिनना əṭim gʰərijā ginna Literal Meaning: To count last days Figurative Meaning: To be on the verge of death	Less-Frequent and Decomposable	Picture Identification	21.67%
16	जान हथेली पर रखना dʒan həṭʰeli: pər rəkʰna Literal Meaning: To keep life on the palm of the hand Figurative Meaning: To perform a very risky or daring act	Less-Frequent and Decomposable	Fill in the Blanks	20.00%

17	खून का प्यासा होना k^hu:n ka pja:sa hona Literal Meaning: To be thirsty for blood Figurative Meaning: To intend to harm or kill someone	Less-Frequent and Decomposable	Picture Identification	20.00%
18	कोल्हू का बैल होना kolhu: ka bæil hona Literal Meaning: To be the ox which is used to draw out water from well Figurative Meaning: To be extremely hard working/ To do inconsiderate amount of work	Less-Frequent and Decomposable	Picture Identification	20.00%
19	अथ से इति तक əṭ^h se iṭi tək Literal Meaning: From start to finish Figurative Meaning: From start to finish	Less-Frequent and Less-Decomposable	Fill in the Blanks	3.33%
20	छाती पर मूंग दलना tʃ^hat̪i: pər mu:ŋg dəlna Literal Meaning: To grind gram pulses on someone's chest Figurative Meaning: To trouble someone incessantly	Less-Frequent and Less-Decomposable	Fill in the Blanks	5.00%
21	गुदड़ी का लाल होना guḍṛi: ka lal hona Literal Meaning: Worn out clothes becoming red Figurative Meaning: To be an extraordinary person born in a poor family or locality	Less-Frequent and Less-Decomposable	Fill in the Blanks	6.67%
22	हाथ गरम करना haṭ^h gərəm kərna Literal Meaning: To heat hand Figurative Meaning: To bribe someone	Less-Frequent and Less-Decomposable	Picture Identification	5.00%
23	हथेली पर सरसों उगाना həṭ^heli: pər sərsoṁ ugana Literal Meaning: To grow mustard on the palm of one's hand Figurative Meaning: To attempt an impossible task	Less-Frequent and Less-Decomposable	Fill in the Blanks	3.33%
24	खटाई में पड़ जाना k^hət̪ai: mē pər dʒana Literal Meaning: To fall into sourness Figurative Meaning: Some task or work getting stuck because of some obstacles	Less-Frequent and Less-Decomposable	Fill in the Blanks	8.33%

The overall % of correct responses for both the production tasks was 34.58%. For the picture identification task, the percentage of correct responses was 42.19%. For the fill in the blanks task, the percentage of correct responses was only 19.38%. As both the tasks in this empirical study were open-ended production tasks, we made sure to account for cases where children did not produce the exact target idiom but were able to respond with another idiom that exactly or closely matched the production stimulus presented.

For example, for the idiom ‘k^hu:n ka pjasa hona’ (literal meaning: ‘to be thirsty for blood’, figurative meaning: ‘to intend to harm or kill someone’), we presented the image stimulus of two soldiers fighting intensely (Table 6.2). Apart from the exact target idiom, the respondents also produced idioms such as ‘ḍāṭ k^hətṭe kərna’ (literal meaning: ‘to make teeth sour’, figurative meaning: ‘to defeat someone comprehensively’) and ‘i:t ka dʒəvab pətṭ^hər se ḍena’ (literal meaning: ‘to give reply for brick by stone’, figurative meaning: ‘to give a strong reply to an aggressor’). Both these responses were considered correct because they fulfilled the criteria of respondents being able to process the stimulus and produce a relevant idiom, in this case for ‘an intense fight’, ‘revenge’, or ‘counterattack’.

The most correctly identified idiom was from the ‘frequent and less-decomposable’ category: ‘pet mē tʃu:he ku:ḡna’ (literal meaning: ‘to have mice jumping in stomach’, figurative meaning: ‘to be very hungry’), with the production accuracy at 93.33%. The least correctly identified idioms were: ‘hətheli: pər sərsoḡana’ (literal meaning: ‘to grow mustard on the palm of one’s hand’, figurative meaning: ‘to attempt an impossible task’), and ‘əṭ^h se iṭi ṭək’ (literal meaning: ‘from start to finish’, figurative meaning: ‘from start to finish’), with the production accuracy for both at 3.33%. Both these idioms were from the ‘less-frequent and less-decomposable’ category.

Another observation of significance was that the children performed better in the ‘picture identification’ task than the ‘fill in the blanks’ task. However, this observation could not be concluded without a baselining analysis with the comprehension task. We have discussed this further in Section 6.5.2. We have analysed the entire data set further against the different respondent demographic parameters (age, age group, and years of formal education), and idiom properties (usage frequency and decomposability) in Sections 6.5.3 to 6.5.7.

6.5.2. Analysis 2: Comparing the performance of children across both production tasks through baselining

An essential aspect of this study was to understand how the performance of children in producing idioms varies when the stimulus or production scenario is presented in the form of an image or a picture, and when the stimulus is a minimal context provided in the incomplete sentences presented. This analysis had practical implications in improving the language teaching methodology for children, and hence was central to our study. Also, by comparing the children's performance in the comprehension and production tasks, we were able to build an understanding of the stages of development of idiomatic competence.

As observed from Table 6.7, a direct comparison of the performance of children across the two production tasks would be erroneous, because different categories of idioms dominated the two production tasks, thereby changing the difficulty level of idioms. Therefore, any direct comparative assessments regarding the performance of children in these two production tasks can be made only after accounting for the variations caused by the factor 'differences in the difficulty level of idioms'. The reason for distributing the idioms across both the production tasks has been discussed as part of the methodology considerations discussed in Sections 6.4.1.1 and 6.4.1.2.

Table 6.7: Production tasks – distribution of idioms

Task	Frequent and Decomposable Category (F-D)	Less-Frequent and Decomposable Category (LF-D)	Frequent and Less-Decomposable Category (F-LD)	Less-Frequent and Less-Decomposable Category (LF-LD)
Picture Identification Task	5 Idioms	5 Idioms	5 Idioms	1 Idiom
Fill in the Blanks Task	1 Idiom	1 Idiom	1 Idiom	5 Idioms

The sets of idioms on which either of the production tasks was conducted were mutually exclusive, i.e. no idiom was repeated across the two production tasks. Hence, to be able to make a valid comparison, we had to first establish a baseline for each idiom, and the performance of children in the comprehension tasks served as the reference on which the relative performance in these production tasks could be compared. This approach is outlined in Figure 6.2. First, we compared the performances of children

corresponding to each of the 16 idioms used in the ‘picture identification’ task and the performance for the same set of idioms in the comprehension task. Second, we compared the performances of children corresponding to the 8 idioms used in the ‘fill in the blanks’ task and the performance for the same set of idioms in the comprehension task. Baselining in such a way helped us compare, on an average, the performance of children across both the production tasks.

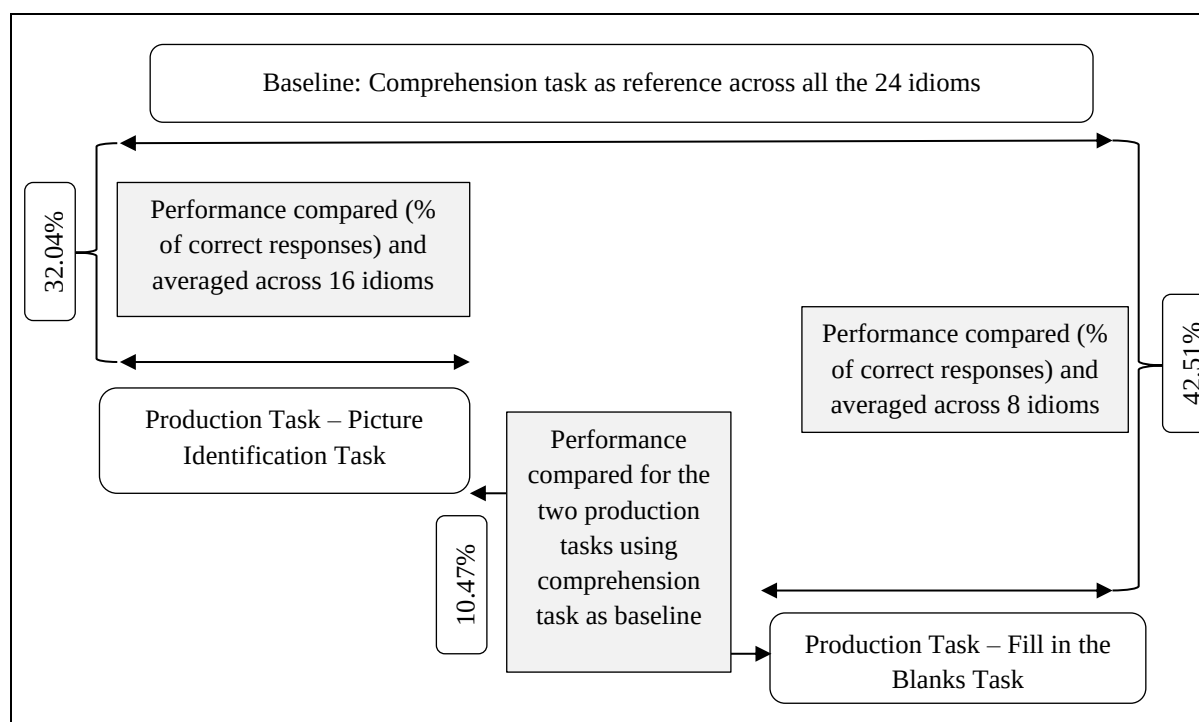


Figure 6.2 – Baselining wrt comprehension task

As per the baselining approach discussed earlier, in Table 6.8 we have summarised the performance data for each of the 24 idioms in the respective tasks. As evident, the performance in production tasks can be seen to be lower than comprehension task consistently except for 2 idioms used in the ‘picture identification’ task (‘əpne pāv pər kulhaɾi: marna’ and ‘pet mē tʃu:he ku:ɔna’) where the image stimulus seemed to enhance the memory retrieval to a greater extent. Table 6.8 presents the data for each of the 24 idioms, and in Table 6.9, we have averaged the performance data for the entire dataset of the responses across 24 idioms, 3 tasks, and 141 respondents. In our empirical studies, although the children chosen for production tasks were one year older than the children who participated in the comprehension task (MCQ), an overall reduction in performance of ~35% is observed in idiom production when compared with idiom comprehension.

Table 6.8: Performance wrt each idiom in Production and Comprehension Tasks

S. No.	Idioms	Category	% Correct in the Comprehension (MCQ) Task	Production Task	% Correct in the Production Task	Decrement in % Correct for Production Task when compared with the Comprehension (MCQ) Task
1	ag bəbu:la hona	F-D	92.59%	Picture Identification	90.00%	2.59%
2	ẽq ^h ere mē ɽi:r tʃəlana	F-D	81.48%	Picture Identification	16.67%	64.81%
3	ẽq ^h õ mē kana radʒa	F-D	77.78%	Picture Identification	28.33%	49.44%
4	əpne pāu pər kulhaɽi: maɾna	F-D	81.48%	Picture Identification	86.67%	-5.19%
5	k ^h əri: k ^h oɽi: sunana	F-D	83.95%	Fill in the Blanks	51.67%	32.28%
6	ɽari:f ke pul bāq ^h na	F-D	77.78%	Picture Identification	8.33%	69.44%
7	asman siɾ pər uɽ ^h ana	F-LD	74.07%	Picture Identification	40.00%	34.07%
8	qu:q ^h ka q ^h ula hona hona	F-LD	80.25%	Fill in the Blanks	56.67%	23.58%
9	g ^h ore betʃkər sona	F-LD	74.07%	Picture Identification	71.67%	2.41%
10	haɽ ^h pi:la hona	F-LD	58.02%	Picture Identification	46.67%	11.36%
11	peɽ mē tʃu:he ku:q ^h na	F-LD	86.42%	Picture Identification	93.33%	-6.91%
12	əkl g ^h as tʃərne dʒana	F-LD	74.07%	Picture Identification	20.00%	54.07%
13	āk ^h õ ka ɽara hona	LF-D	82.72%	Picture Identification	71.67%	11.05%
14	āk ^h õ mē pani: b ^h ər ana	LF-D	85.19%	Picture Identification	35.00%	50.19%
15	ẽɽim g ^h əɽijã ginna	LF-D	61.73%	Picture Identification	21.67%	40.06%
16	dʒan həɽ ^h eli: pər rək ^h na	LF-D	79.01%	Fill in the Blanks	20.00%	59.01%
17	k ^h u:n ka pʒasa hona	LF-D	60.49%	Picture Identification	20.00%	40.49%
18	kolhu: ka bəil hona	LF-D	59.26%	Picture Identification	20.00%	39.26%
19	k ^h əɽtai: mē pər dʒana	LF-LD	61.73%	Fill in the Blanks	8.33%	53.40%

20	əṭ ^h se iṭi ṭək	LF-LD	35.80%	Fill in the Blanks	3.33%	32.47%
21	tʃ ^h əṭi: pər mu:ng ḡəlna	LF-LD	41.98%	Fill in the Blanks	5.00%	36.98%
22	guḍṛi: ka lal hona	LF-LD	56.79%	Fill in the Blanks	6.67%	50.12%
23	haṭ ^h gərəm kərna	LF-LD	60.49%	Picture Identification	5.00%	55.49%
24	həṭ ^h eli: pər sərsō ugana	LF-LD	55.56%	Fill in the Blanks	3.33%	52.22%

Table 6.9: Overall performance in Production Tasks vs Comprehension Task

#	Comparison	Decrement in % Correct
1	Comprehension vs Production Tasks (all idioms)	35.53%
2	Comprehension vs Picture Identification Task (all idioms)	32.04%
3	Comprehension vs Fill in the Blanks Task (all idioms)	42.51%
4	Picture Identification Task vs Fill in the Blanks Task (all idioms)	10.47%
5	Comprehension vs Production Tasks (F-D idioms)	35.56%
6	Comprehension vs Production Tasks (F-LD idioms)	19.76%
7	Comprehension vs Production Tasks (LF-D idioms)	40.01%
8	Comprehension vs Production Tasks (LF-LD idioms)	46.78%
9	Comprehension vs Production Tasks (F idioms)	27.66%
10	Comprehension vs Production Tasks (LF idioms)	43.40%
11	Comprehension vs Production Tasks (D idioms)	37.79%
12	Comprehension vs Production Tasks (LD idioms)	33.27%

From Table 6.9, we observed that there is a ~35% dip in the accuracy of idiom production as compared with idiom comprehension. The dip in performance in production tasks suggested that idiom comprehension skills precede the idiom production skills in figurative language acquisition. The overall reduction in performance was ~32% in the picture identification task when compared to the idiom comprehension (MCQ) task, while it was ~42% in the ‘fill in the blanks’ task. This metric indicates that overall, children seem to have performed better (with ~10% higher accuracy) in the ‘picture identification’ task when compared with the ‘fill in the blanks’ task. This is an important finding, as the

image/picture stimulus being a better stimulus for idiom production can be used as an important tool in classroom-teaching methodologies for teaching idioms to children. Denoting an idiom through an image may help building multiple associations. This can help in linking the domain of knowledge to the abstract concepts which needs to be tailored based on the idiom being taught. The role for usage frequency in idiom production (across both tasks) is also visibly obvious from Table 6.9, as we find that ‘frequent’ category idioms were produced ~16% better than the ‘less-frequent’ category idioms. A similar significant reduction was not observed for the decomposability factor. We have explored this further in Section 6.5.5.

6.5.3. Analysis 3: Summary of correct responses vs. grade of respondents

For this section of the analysis, we have explored the production accuracy corresponding to different grades. The grade or class of a respondent reflects the years of formal education. Students in higher grades have enhanced language skills and higher exposure to idioms through a structured academic curriculum. While the formal introduction to idioms happens as early as Grade III, the respondents in this study were chosen from Grade IV to Grade VII. Table 6.10 shows the production accuracy of idioms in both the production tasks by children across the different grades.

Table 6.10: Production tasks - summary of correct responses wrt grade

Grades	% of correct idioms identified		
	Overall – Both Production Tasks	Picture Identification Task	Fill in the Blanks Task
IV	24.02%	30.88%	10.29%
V	32.35%	39.71%	17.65%
VI	38.89%	46.88%	22.92%
VII	46.43%	54.91%	29.46%
Overall	34.58%	42.19%	19.38%

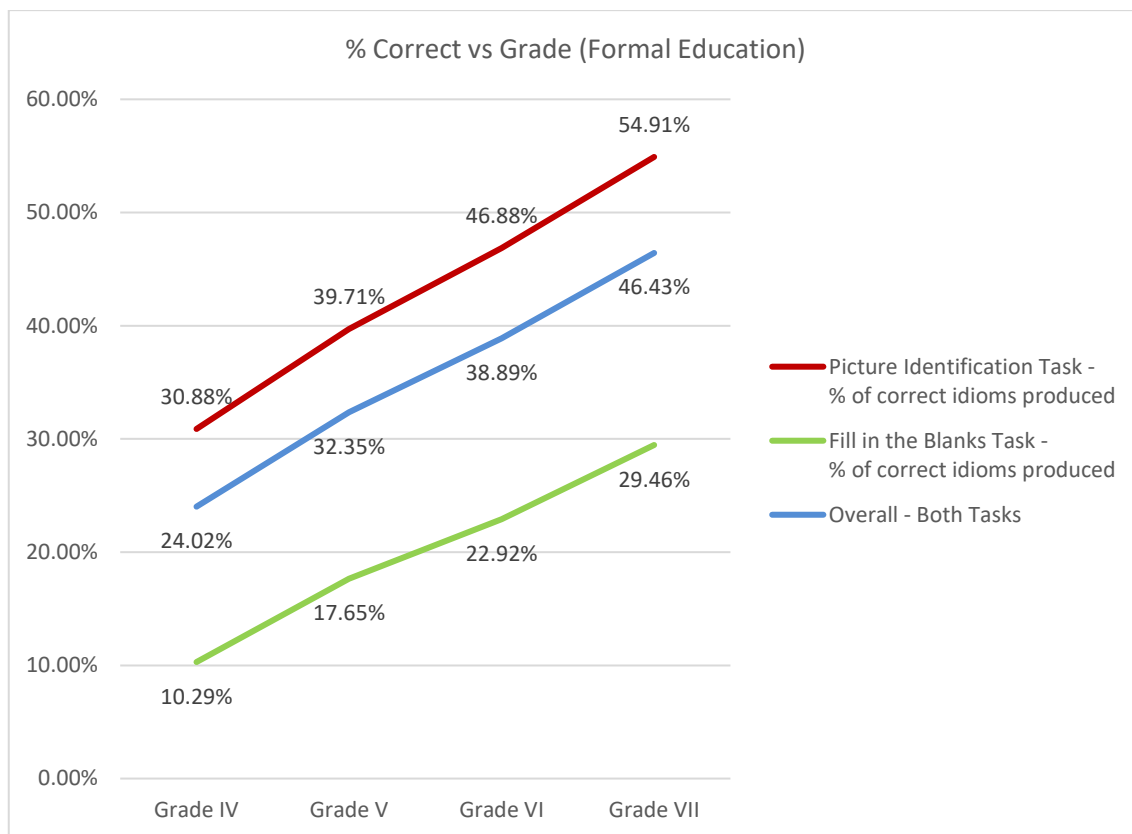


Figure 6.3 - % Correct vs Grade of respondents (Formal Education)

As observed in Table 6.10 and Figure 6.3, the percentage of correct responses increases steadily with the increase in the years of formal education. This pattern is seen irrespective of the production task used, and hence clearly emphasizes the role of formal education in the idiom acquisition process. The increase in idiom production competency (reflected by % of correct responses) is almost linear. It hints towards a gradual effect of formal education on idiom production competency, probably because the children chosen in this study are still in the formative years of their idiomatic competency development.

6.5.4. Analysis 4: Summary of correct responses vs. age and age groups of respondents

For this section of the analysis, we have looked at the production competency of children corresponding to their age and age groups, with the age factor accounting for cognitive maturity and higher exposure to language in their surrounding linguistic environment. We have considered the usage frequency of idioms as a separate independent variable for further analysis in the later sections of this chapter. The respondents in this study were from the age of 8 to 13 years (which are the formative years of idiomatic competency as discussed in idiom literature).

Table 6.11: Production tasks - summary of correct responses wrt age

Age (Years)	% of Correct idioms identified		
	Overall – Both Production Tasks	Picture Identification Task	Fill in the Blanks Task
8 Years	29.17%	39.58%	8.33%
9 Years	16.67%	21.88%	6.25%
10 Years	27.08%	33.98%	13.28%
11 Years	39.58%	50.00%	18.75%
12 Years	36.72%	42.58%	25.00%
13 Years	49.40%	57.14%	33.93%
Overall	34.58%	42.19%	19.38%

Table 6.11 shows the distribution of correct responses in both the production tasks, calculated by summing up all the correct responses of children belonging to the particular age/age group, and dividing the sum by total responses in the age/age group. As observed from Table 6.11 and Figure 6.4, the development of production competency of idioms increases overall, but does not show a uniformly increasing trend for each age.

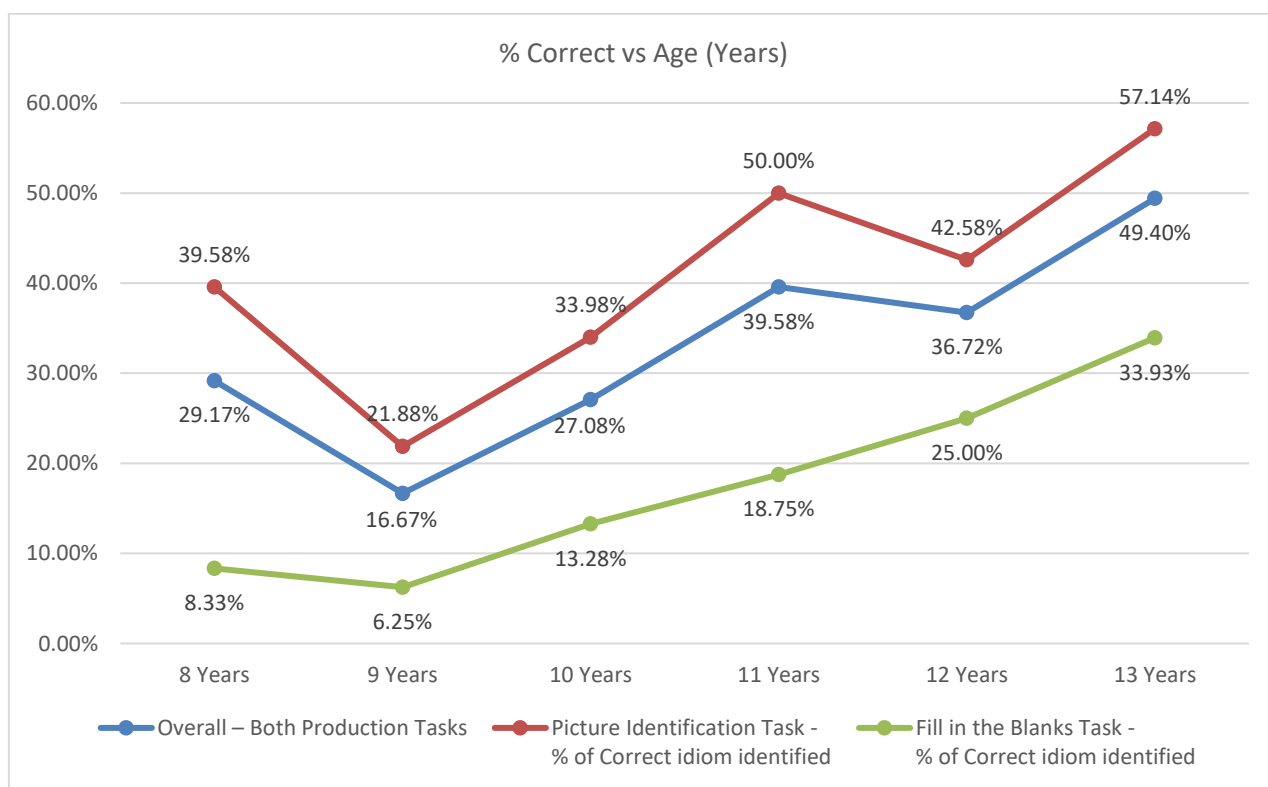


Figure 6.4 - % Correct vs Age (in years) of respondents

In general, the pattern seems to be that there is an increase in the production competency as the age increases. However, the data also suggests that this dependence is not exact. Both the magnitude and direction of increase seem to change for specific ages, for example, at the age of ‘9 years’ and ‘12 years’. Therefore, to eliminate any incorrect observations, having a secondary look at the data by categorising the children into specific age groups was needed. Table 6.12 and Figure 6.5 present the distribution of respondents across the different age groups identified for the purpose of analysis.

Table 6.12: Age groups of respondents

Age Group	Age	Respondents	Total
8 Years to 9 Years	8 Years	3	7
	9 Years	4	
10 Years to 11 Years	10 Years	16	30
	11 Years	14	
12 Years to 13 Years	12 Years	16	23
	13 Years	7	

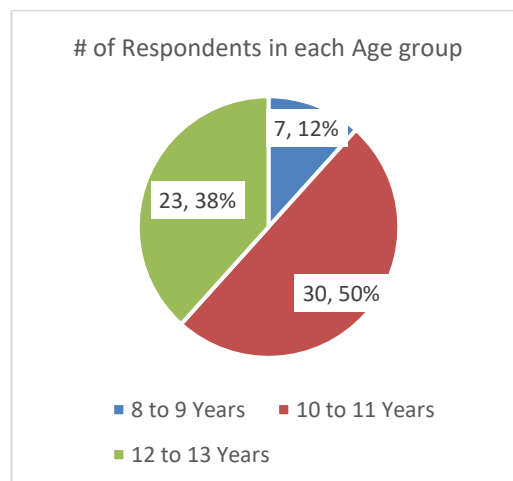


Figure 6.5 - % Correct vs age group of respondents

Table 6.13: Production tasks - summary of correct responses wrt age group

Age (Years)	% of Correct idioms identified		
	Overall – Both Production Tasks	Picture Identification Task	Fill in the Blanks Task
8 - 9 Years	22.02%	29.46%	7.14%
10 - 11 Years	32.92%	41.46%	15.83%
12 - 13 Years	40.58%	47.01%	27.72%
Overall	34.58%	42.19%	19.38%

As observed from Table 6.13, the development of production competency of idioms (measured through ‘% correct’) definitely shows a consistently increasing trend across the age groups, as expected. A few important patterns seem to be emerging from this data. Across all the age groups, the use of an image seems to facilitate the idiom-production more than a sentential context stimulus, as overall levels of correctness are

high for image stimulus. This finding reinforces the argument made in Section 6.5.2 that the children performed better in the ‘picture identification’ task when compared with the ‘fill in the blanks’ task.

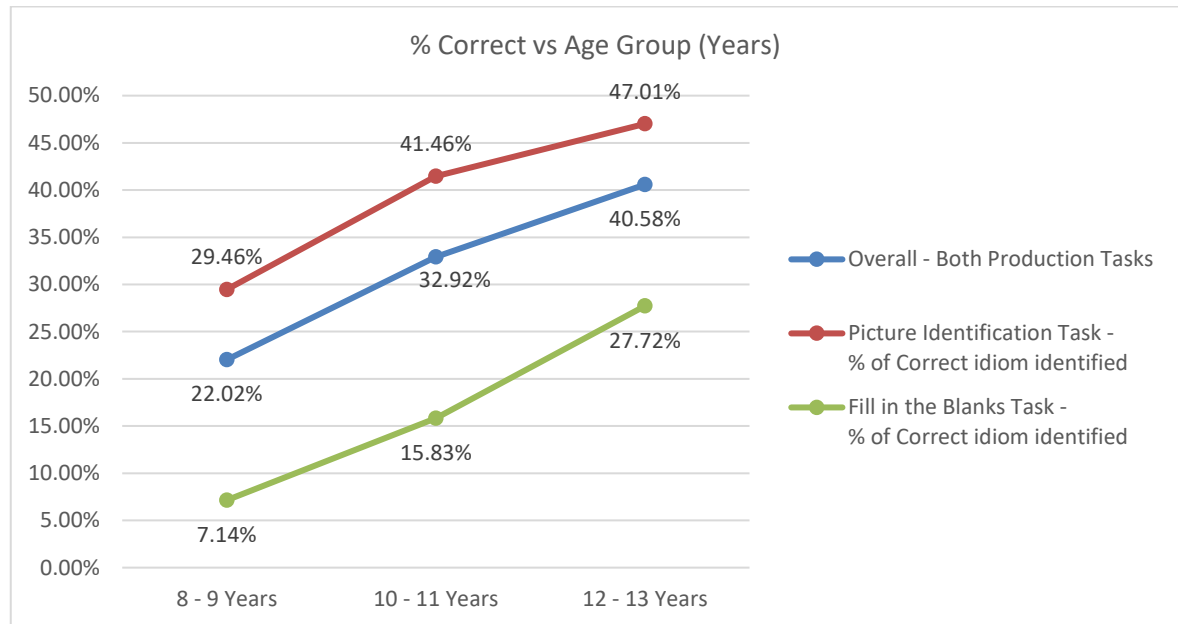


Figure 6.6 - % Correct vs Age Group (in Years) of respondents

In Figure 6.6, it can be observed that the overall percentage of correct responses across the two tasks is higher in the children of older age groups. The increase is observed to be steeper in the transition between age groups of 8-9 and 10-11 years, being the highest around the age of 10-11 years, which can also be observed in Figure 6.4. As observed in Chapter 5, the increase in idiom comprehension competency was highest at the age of approximately 9 to 10 years. Hence the data seems to indicate that development of the idiom production competency trails the development of idiom comprehension by around 1 to 2 years, with other variables like social, linguistic, and academic environment kept the same. The increase in production competence for lower age groups seems to be higher when the image is used as a stimulus, i.e. picture identification task shows more increase in the correct responses between the age groups of 8-9 years and 10-11 years (~12% increase). Sentential context seems to facilitate idiom production more in the age groups of 10-11 and 12-13 years (~12% increase). This finding has implications on how to evolve the idiom teaching methodology to maximise the learning as children mature through the ages of 8-13 years.

6.5.5. Analysis 5: Summary of correct responses vs. categories of idioms

For this section of the analysis, we have looked at the production competency of children corresponding to the categories of idioms, for the 24 idioms presented in both the production tasks. As mentioned previously, there were 6 idioms from each of the 4 categories, i.e. ‘frequent and decomposable’ (F-D), ‘less-frequent and decomposable’ (LF-D), ‘frequent and less-decomposable’ (F-LD), and ‘less-frequent and less-decomposable’ (LF-LD). The analysis includes the calculation of idiom production accuracy (% correct) for idioms across all the established idiom categories on the dimensions of ‘usage frequency’ and ‘decomposability’.

Table 6.14: Production tasks - summary of correct responses wrt idiom categories

Idiom Category	% of Correct idioms identified		
	Overall – Both Production Tasks	Picture Identification Task	Fill in the Blanks Task
Frequent, Decomposable (F-D)	46.94%	46.00%	51.67% ⁹
Frequent, Less-Decomposable (F-LD)	54.72%	54.33%	56.67%
Less-Frequent, Decomposable (LF-D)	31.39%	33.67%	20.00%
Less-Frequent, Less-Decomposable (LF-LD)	5.28%	5.00%	5.33%
All Frequent (F-D and F-LD)	50.83%	50.17%	54.17%
All Decomposable (F-D and LF-D)	39.17%	39.83%	35.83%
All Less-Frequent (LF-D and LF-LD)	18.33%	28.89%	7.78%
All Less-Decomposable (F-LD and LF-LD)	30.00%	46.11%	13.89%
Overall	34.58%	42.19%	19.38%

Table 6.14 shows the percentage of correct responses across the categories and the tasks. It is evident that for both the production tasks combined, children were able to

⁹ For the analysis corresponding to the idiom categories, it is essential to understand the distribution of idioms across both tasks, as mentioned in Table 6.7. The picture identification task used five idioms each from F-D, F-LD, and LF-D categories and one idiom from LF-LD category. Conversely, the fill in the blanks task used five idioms from LF-LD category, and one each from F-D, F-LD, and LF-D categories. As one idiom should not be considered a representative of a category, in Table 6.14 we have struck-out the % values for LF-LD category in picture identification task, and the F-D, F-LD, and LF-D categories in fill in the blanks task. We have not used these specific % values anywhere in this analysis. However, all responses and data-points are considered valid for the analysis of overall data (both production tasks’ combined), as all 6 idioms each from the 4 categories were used in both the production tasks combined.

produce the frequent idioms with more accuracy. Frequent idioms were produced correctly for ~51% of responses, while the less frequent idioms were produced correctly for only ~18% of responses. F-D (~ 47% correct), and F-LD (~ 55% correct) idiom categories were produced with higher accuracy levels. A reduction in frequency across the idiom categories, with the decomposability factor being controlled, causes a significant decrement, with values of idiom production accuracy observed as: F-D: ~47%, LF-D: ~31% which indicates a 16% decrement, and F-LD: ~54%, LF-LD: ~5% which indicates a 49% decrement.

The impact of decomposability does not seem to be substantial and leaves sufficient room for ambiguity. Decomposable idioms were produced correctly for ~39% of responses, while the less decomposable idioms are produced correctly for ~30% of responses. However, a reduction in decomposability across the idiom categories, with the frequency factor being controlled, does not provide any trend of consistent change in the production competency, as reflected through the following correctness values: F-D: ~47%, F-LD: ~54% which indicates a 7% increment, and LF-D: ~31%, LF-LD: ~5% which indicates a 26% decrement. This aspect can be understood considering the nature of the idiom decomposability property, that it comes into play when analysing an idiom during the comprehension process, and may not be contributing to the idiom production, except for a probably marginal relationship that the more decomposable idiom category tends to be considered ‘easier’ and hence such idioms are likely to be used or produced more. However, as we had established in the previous idiom comprehension tasks in Chapter 5, decomposability is not directly correlated, with a statistical significance, to the meaning familiarity or usage frequency of idioms.

The overall result of this analysis is different from that for the comprehension task, with the critical difference being that the usage frequency seems to be playing a much more significant role in the production of idioms than the compositionality or decomposability property of idioms. For the comprehension tasks, the % correct of the ‘frequent and less-decomposable’ and the ‘less-frequent and decomposable’ categories were similar, which is not the case here, with a substantial difference observed (F-LD: ~54%, LF-D: ~31% - it indicates a 23% difference). The accuracy of responses was the least for the ‘less-frequent and less-decomposable’ (LF-LD) category at approximately 5%. It indicates that, like comprehension, idiom production also becomes relatively more difficult for idioms in the ‘less-frequent and less-decomposable’ (LF-LD) category which

has a disadvantage on each of the factors: usage frequency and compositionality. This finding is consistent across both the empirical studies, and this category seems to be the most challenging idiom category for comprehension as well as production by children.

It could be inferred from this study that, the principal mechanism for idiom production could be memory recall of the idiom after identifying the context (in this case a picture or sentence) in which it was planned to be used, and hence usage frequency of an idiom would be a driving factor behind the correct idiom usage. Higher usage frequency would mean that the idioms are more easily produced (or recalled) in linguistic environments where children are frequently encountering those idioms, for example, if the family members use idioms in the daily conversation scenarios, or if idioms are more frequently encountered in books, televisions, or social media.

6.5.6. Analysis 6: Summary of correct responses vs. categories of idioms and age groups of respondents

For understanding the idiom production patterns in children at different stages of their growth, while also accounting for the different categories of idioms, we summarised the data corresponding to all responses in their respective idiom categories and age groups of children in Table 6.15 and Figure 6.7. It can be observed that the respondents of higher age groups performed better, and idioms that are more frequently used tend to be produced with a higher accuracy. Overall, the F-LD category seems to be produced better than the remaining categories of idioms across all age groups, except for the age group of 10-11 years which shows a minor (1%) deviation. That deviation is also explained later in error analysis, as we see an increased percentage of metaphorical error responses for this age group. The probable reason for better performance could be that the F-LD category idioms are produced like long words or learnt phrases that generally undergo a recall process.

These findings also reinforce that when an image is presented as the stimulus, the idiom production seems to be better across all age groups. Current idiom-teaching methods make less use of the picture-based or concept-based idiom identification which could have a greater overall impact on the idiom production competency. Teaching a set of idioms which denote similar concepts together, and explaining the concept through pictures could lead to better idiom production and learning in all age groups.

Table 6.15: Production tasks - summary of correct responses wrt age groups of respondents and idiom categories

Age Group	Idiom Category	Overall (Both Production Tasks) % Correct	Picture Identification % Correct	Fill in the Blanks % Correct
8 to 9 Years	F-D	28.57%	31.43%	14.29%
	F-LD	33.33%	34.29%	28.57%
	LF-D	23.81%	28.57%	0.00%
	LF-LD	2.38%	0.00%	2.86%
10 to 11 Years	F-D	47.78%	48.00%	46.67%
	F-LD	46.67%	46.67%	46.67%
	LF-D	32.78%	36.00%	16.67%
	LF-LD	4.44%	10.00%	3.33%
12 to 13 Years	F-D	51.45%	47.83%	69.57%
	F-LD	71.74%	70.43%	78.26%
	LF-D	31.88%	32.17%	30.43%
	LF-LD	7.25%	0.00%	8.70%

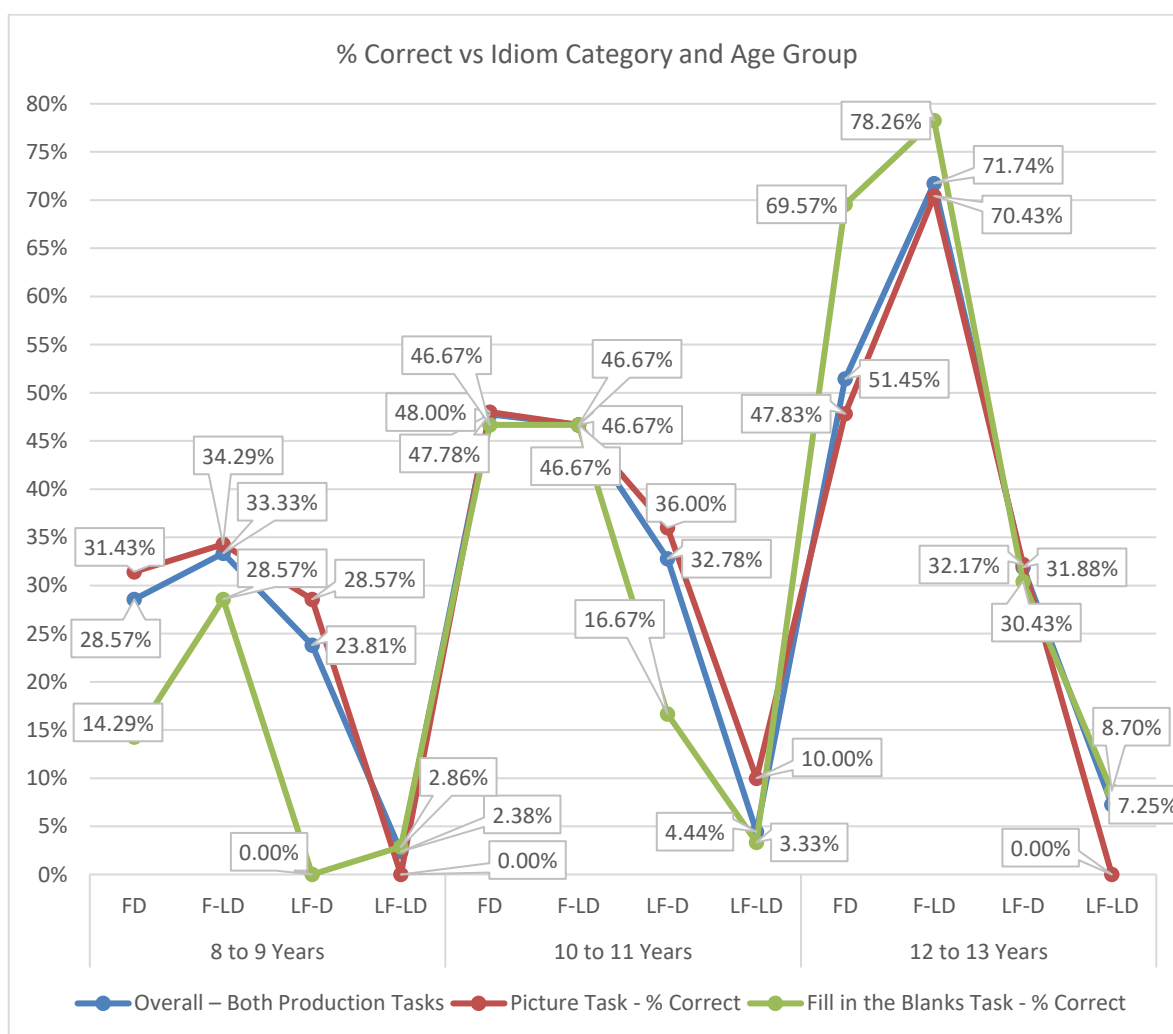


Figure 6.7 - Production tasks - summary of correct responses wrt age groups of respondents and idiom categories

6.5.7. Analysis 7: Error analysis of responses

We analysed the errors made in the production tasks in order to get additional insights into the development of idiom production competence of children during their language acquisition phase. This error analysis helped us to understand how children process the linguistic information and perceive the figurative language. We consolidated the types of errors made, and checked if any trends emerged for the idioms of different categories. The error analysis helped us understand the types of errors made by children of different age groups and uncover any underlying themes.

6.5.7.1. Categorisation of responses for picture identification task:

The responses received for the picture identification task were classified into the following categories.

1. Correct idioms produced – We have considered those responses as ‘correct’, where the exact target idiom was produced, or an equivalent alternate idiom was produced which was apt for the pictorial context depicted in the image.

Example:

- Target idiom: ‘kolhu: ka bæil hona’ (literal meaning: ‘to be the ox which is used to draw out water from well’; figurative meaning: ‘to be extremely hard working’)
- Equivalent alternate idiom provided in response: ‘k^hu:n pəsi:na ek kəɾna’ (literal meaning: ‘to do blood and sweat one’; figurative meaning: ‘to work extremely hard’)

2. Incorrect metaphorical or figurative responses – In this category, we have classified those error responses where a different idiom or metaphorical response, not apt for the image stimulus provided or unfitting the pictorial context, was produced.

Example:

- Target idiom: ‘kolhu: ka bæil hona’ (literal meaning: ‘to be the ox which is used to draw out water from well’; figurative meaning: ‘to be extremely hard working’)
- Metaphorical response provided: ‘mehnəɬ ka p^həl mi:t^ha hona’ (meaning: ‘hard work leads to sweet results’; ‘sweet’ stands for ‘good’)

3. Contextual interpretation and non-idiomatic responses – In this category, we have classified those error responses which were non-figurative and were based on inferences drawn from the pictorial context:

- i. Responses with idiom's meaning identified from the pictorial context – For the responses in this error category, the respondents understood the idiom being presented in the image stimulus, but were unable to recall and produce the idiom itself, therefore just responded with the idiom's meaning.

Example:

- Target idiom: 'kolhu: ka bæil hona' (literal meaning: 'to be the ox which is used to draw out water from well'; figurative meaning: 'to be extremely hard working')
- Idiom's meaning identified in the response: 'bəhu:ʈ mehnəʈ kəɾna' (meaning: 'to work extremely hard')

- ii. Responses representing the literal interpretation of the image provided – In this error category, the respondent responded with a literal description of the scenario depicted in the image.

Example:

- Target idiom: 'əḡhere mə ʈi:ɾ tʃəɭana' (literal meaning: 'to shoot arrows in dark'; figurative meaning: 'to make a wild guess')
- Literal interpretation of the image in the response: 'bina deke ʈi:ɾ tʃəɭana' (meaning: 'to shoot arrow without seeing')

4. Out of context responses – In this category, we have classified those error responses which were completely irrelevant to the image presented, or the respondent did not provide any response for the image stimulus.

Example:

- Out of context response - Target idiom: 'əkl gʱas tʃəɾne dʒana' literal meaning: 'to have mind gone for grazing grass'; figurative meaning: 'to lose logical understanding or common sense'
- Response provided: 'ulʈa kam kəɾna' (meaning: 'to do opposite action')

6.5.7.2. Categorisation of responses for fill in the blanks task:

1. Correct idioms produced – We have considered those responses as ‘correct’, where the sentences were completed with the exact target idiom or an equivalent alternate idiom which was apt as per the context in the incomplete sentence.

Example:

- Target idiom: ‘dʒan hətʰeli: pər rəkʰna’ (literal meaning: ‘to keep life on the palm of the hand’; figurative meaning: ‘to perform a very risky or daring act’)
- Equivalent alternate idiom provided in response: ‘dʒan ki: badʒi: ləgana’ (literal meaning: ‘to bet on one’s life’; figurative meaning: ‘to perform a very risky or daring act’)

2. Incorrect metaphorical or figurative responses - In this category, we have classified those error responses where sentences were completed using an incorrect idiom (unsuitable to the context) or with a figurative or metaphorical response.

Example:

- Target idiom: ‘tʃʰaʈi: pər mu:ŋg dəlna’ (literal meaning: ‘to grind gram pulses on someone’s chest’; figurative meaning: ‘to trouble someone incessantly’)
- Metaphorical response provided: ‘tʃʰaʈi: pər bʰar rəkʰna’ (meaning: ‘to put weight on one’s chest’; ‘weight’ stands for ‘worry’)

3. Contextual interpretation and non-idiomatic responses – In this category, we have classified those error responses where the sentences were completed in a literal manner. The literal completion was done based on a shallow understanding of context and using the first word of the target idiom (which was provided as a cue).

Example:

- Target idiom: ‘tʃʰaʈi: pər mu:ŋg dəlna’ (literal meaning: ‘to grind gram pulses on someone’s chest’; figurative meaning: ‘to trouble someone incessantly’)
- Contextual completion in the response provided: ‘tʃʰaʈi: pər laʈ marʌna’ (meaning: ‘to kick on one’s chest’)

4. Out of context responses – In this category, we have classified those error responses which were completely irrelevant to the sentence (context) presented, or the respondent did not provide any response.

Example:

- Target idiom: ‘k^hətai: mē pər dzana’ (literal meaning: ‘to fall into sourness’; figurative meaning: ‘some task or work getting stuck because of some obstacles’)
- Out of context response provided: ‘k^hətai: se ur gəja’ (meaning: ‘to fly with sourness/cot’)

6.5.7.3. Analysing the errors to ascertain the phases of figurative competence development

The types of errors made by children in idiom production offered us some insights regarding the developmental process of figurative language. These errors reflected the magnitude of the difficulties faced by children in producing idioms. The error analysis also helped us to understand the transition between certain stages in children, on the key aspects of extracting the necessary information from context and producing apt idioms.

Across both tasks:

- A correct idiomatic response indicates that the children were able to process the linguistic context (through the image or sentential context), make a judgement that a figurative completion is feasible in the context provided, and retrieve an apt idiom which fits suitably in its conventional form and meaning into the context provided.
- Incorrect metaphorical or figurative responses indicate that children have developed the ability to go beyond a literal analysis; however, they are limited by an inability to retrieve certain idioms in their conventional forms. This error indicates that the children’s mind has evolved to acknowledge the need for a figurative completion.
- Literal completions, which were observed more in children of lower age groups and grades, indicate children’s inability to absorb all the contextual information and a tendency to process the stimulus (image or sentential context) in a literal manner. Such responses could result from the inability to understand the semantic ambiguity and the context presented, with the inertia of using literal forms of language hindering a figurative completion.

A ‘metaphorical response’ error indicates the presence of a higher figurative ability than a ‘literal interpretation’ error or an ‘out of context’ error. An ‘out of context’ response indicates the inability to process the context or use even the literal phrases to satisfy the context and hence is considered to be at the lowest rung of the language skill. Based on the types of errors made, we have presented the transition between different stages of idiom production competence in Figure 6.8.

Any child in the language acquisition phase can make all of these errors for different idioms. The model proposed in Figure 6.8 does not suggest that a child will produce a specific type of error for all idioms. On the contrary, this analysis examines the tendency of children of a particular age group to produce certain types of errors, hence underlining their conceptual system and cognitive growth.

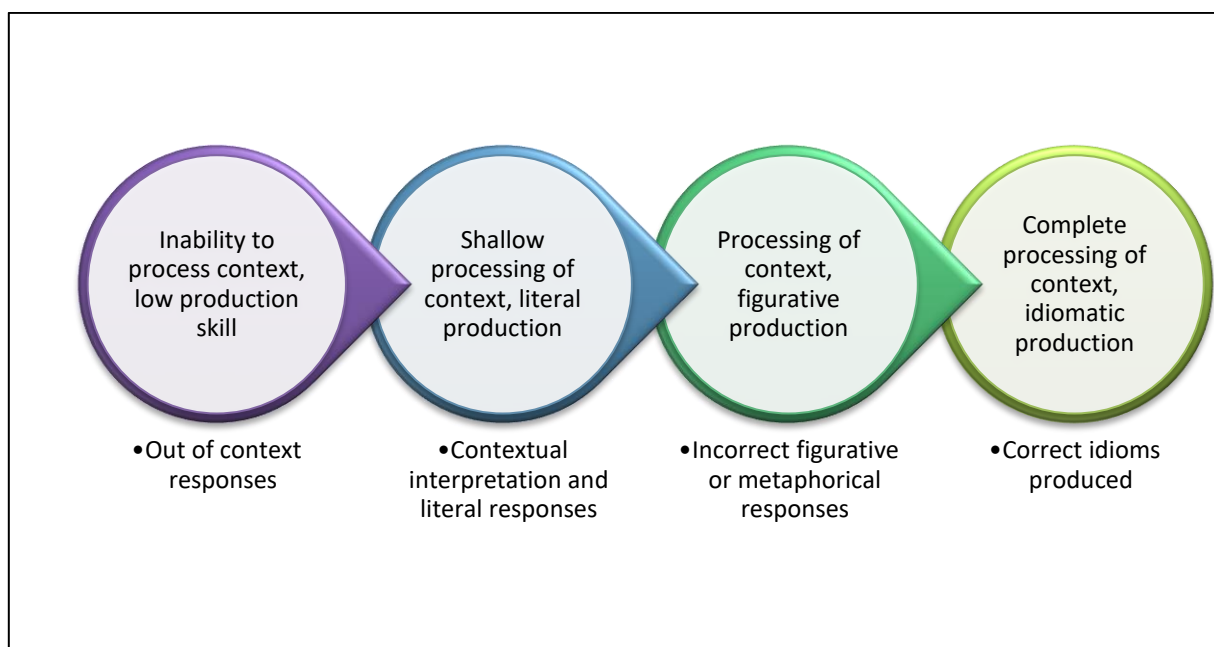


Figure 6.8 - Production tasks - errors associated with development of figurative competence

In Sections 6.5.7.4 to 6.5.7.7, we have presented and analysed the data corresponding to grade, age, and age groups of respondents, and across both production tasks the corresponding idiom categories. The responses are summarised corresponding to each of the production tasks in these sections.

6.5.7.4. Error analysis of responses across both production tasks

In this section, we have looked at the errors made by respondents for both the tasks, categorised under the error categories defined in Section 6.5.7.1 and Section 6.5.7.2.

Table 6.16: Error analysis of responses across both production tasks

Task	% of incorrect metaphorical responses	% of contextual interpretation and non-idiomatic responses		% of out of context responses
		% of responses with idiom's meaning identified from the pictorial context	% of responses as literal interpretation of the image provided	
Picture Identification	6.15%	7.92%	35.31%	8.44%
Fill in the Blanks	20.21%	18.75%		41.67%

From Table 6.16, it can be observed that the highest % of errors for the picture identification task was ‘contextual interpretation and non-idiomatic responses’, i.e. responses containing a literal description of the image context or the idiomatic meaning using the context provided. This error is at ~43.2% for the picture identification task and ~18.7% for the fill in the blanks task. For the fill in the blanks task, the highest overall error ~41.7% was observed for the ‘out of context’ responses.

For idiom production, there are two essential aspects: (a) to process the contextual information (an emotion, situation, or concept) in order to prepare a suitable thought to express, and (b) to be able to retrieve an apt idiom to express the intended thought and achieve the communicative goal. The image stimulus seemed to help in idiom production with the first part, which could be seen from a larger number of responses under ‘contextual interpretation and non-idiomatic responses’. On the other hand, the large number of ‘out of context’ errors in the ‘fill in the blanks’ task indicated that children found it more difficult in this task to even process the context in order to produce the right idioms. This gives us an important insight that the picture stimulus provided certain clues and probably helped in generating schemas to conceptualise the idioms presented in the image, thereby aiding figurative production to an extent in even the cases where the correct idiom was not produced. The incomplete sentence stimulus could not provide

enough information to enable the generation of such schemas. This insight can be applied to enhance the teaching methodologies, where the application of image stimulus can help create a better learning environment for children learning idioms.

6.5.7.5. Error analysis of responses across the grade (class) of respondents

In this section, we have analysed the errors made by respondents for both the production tasks across the grade (or class) of respondents, which represents the academic exposure through classroom learning. The different types of error responses are calculated across respondents of each grade and presented in Table 6.17 and Table 6.18.

Table 6.17: Picture identification task - summary of error responses wrt grade

Grades	Error responses (total) as % of overall responses	% of incorrect metaphorical responses	% of contextual interpretation and non-idiomatic responses		% of out of context responses
			% of responses with idiom's meaning identified from the pictorial context	% of responses as literal interpretation of the image provided	
IV	69.12%	2.21%	8.46%	51.10%	7.35%
V	60.29%	3.68%	8.46%	38.60%	9.56%
VI	53.13%	10.42%	7.81%	25.52%	9.38%
VII	45.09%	10.27%	6.70%	20.54%	7.59%
Overall	57.81%	6.15%	7.92%	35.31%	8.44%

Table 6.18: Fill in the blanks task - summary of error responses wrt grade

Grades	Error responses (total) as % of overall responses	% of incorrect metaphorical responses	% of contextual interpretation and non-idiomatic responses	% of out of context responses
IV	89.71%	17.65%	23.53%	48.53%
V	82.35%	25.74%	13.97%	42.65%
VI	77.08%	22.92%	18.75%	35.42%
VII	70.54%	14.29%	18.75%	37.50%
Overall	80.63%	20.21%	18.75%	41.67%

Students in higher grades have a higher exposure to idioms through a structured academic curriculum and can be expected to produce idioms with higher accuracy (%)

correct). Tables 6.17 and 6.18 establish that children in higher grades made fewer errors in both the production tasks, most likely because they have higher exposure to idioms and comparatively better language skills. It is an intuitive outcome that formal education does contribute to building the idiom production competency.

A comparative assessment of both the tasks suggests that errors made in the ‘fill in the blanks’ task were much higher than those made in the ‘picture identification’ task across all grades of respondents. This was found to be true both in terms of the absolute percentage of error responses and the types of error responses as defined in Section 6.5.7.3. More ‘out of context’ and ‘contextual interpretation’ errors were observed for the ‘fill in the blanks’ task across children of all the grades (Grade IV to Grade VII).

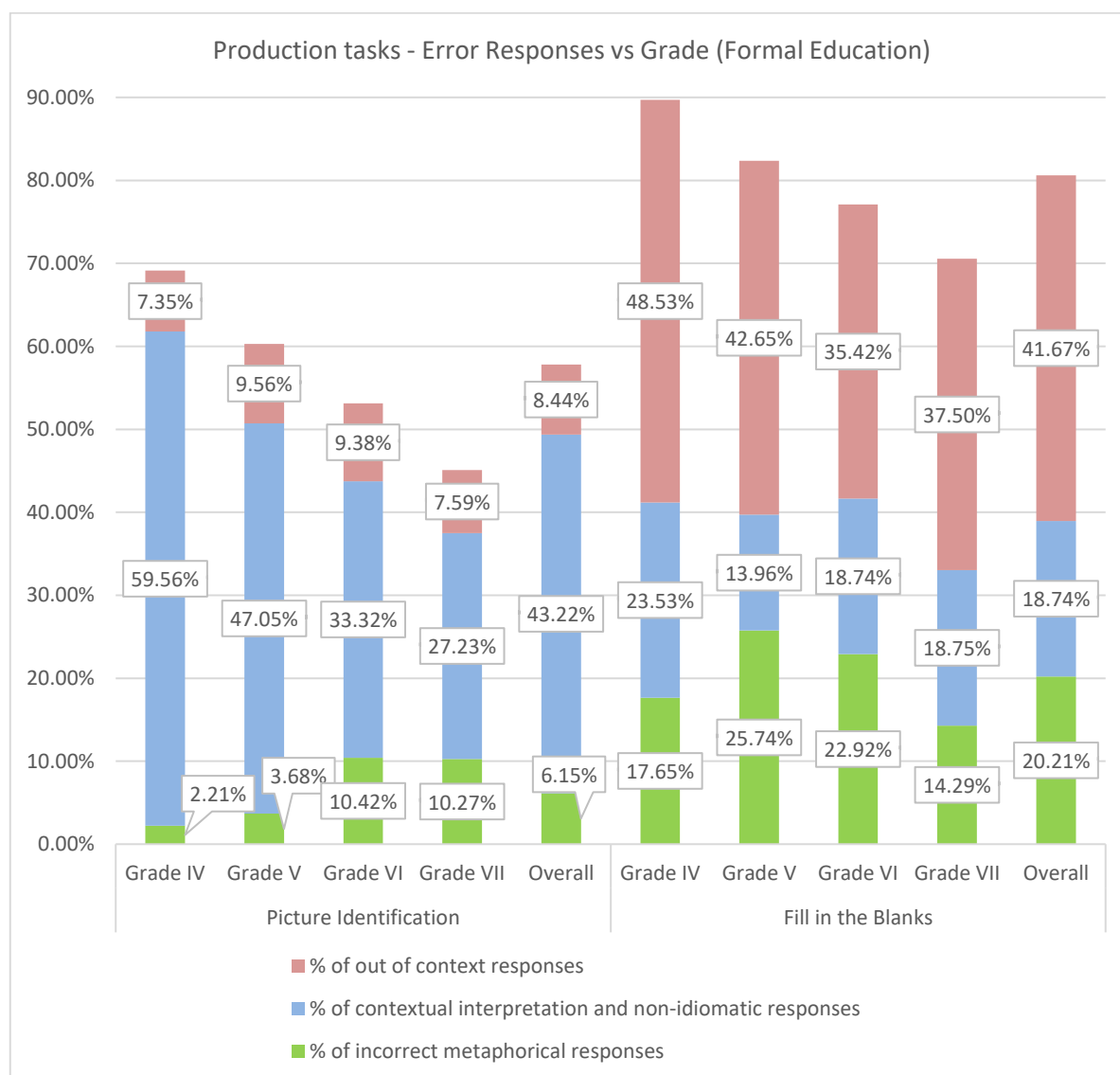


Figure 6.9 - Production tasks - summary of errors observed wrt the grades of respondents

We have also evaluated the proportion of different error types (among the error responses) to understand the tendency of children to make certain types of errors. This analysis helped us to investigate if the proportion of errors shows any specific trend for the children belonging to different grades. The percentage values are presented in Table 6.19 and Table 6.20, where we calculated and compared the proportion of error responses under each error category (error responses of a particular error category divided by the total error responses for all respondents in that grade).

Table 6.19: Picture identification task - Proportion of different types of error corresponding to grade of respondents

Grades	Error responses (total) as % of overall responses	Incorrect metaphorical responses as % of total error responses	Contextual interpretation and non-idiomatic responses as % of total error responses		Out of context responses as % of total error responses
			Responses with idiom's meaning identified from the pictorial context as % of total error responses	Literal interpretation of the image provided as % of total error responses	
IV	69.12%	3.19%	12.23%	73.94%	10.64%
V	60.29%	6.10%	14.02%	64.02%	15.85%
VI	53.13%	19.61%	14.71%	48.04%	17.65%
VII	45.09%	22.77%	14.85%	45.54%	16.83%
Overall	57.81%	10.63%	13.69%	61.08%	14.59%

Table 6.20: Fill in the blanks task - Proportion of different types of error corresponding to grade of respondents

Grades	Error responses (total) as % of overall responses	Incorrect metaphorical responses as % of total error responses	Contextual interpretation and non-idiomatic responses as % of total error responses	Out of context responses as % of total error responses
IV	89.71%	19.67%	26.23%	54.10%
V	82.35%	31.25%	16.96%	51.79%
VI	77.08%	29.73%	24.32%	45.95%
VII	70.54%	20.25%	26.58%	53.16%
Overall	80.63%	25.06%	23.26%	51.68%

Tables 6.19 and 6.20 indicate that, although the severity and number of error responses reduced with an increase in grade, the proportion of 'out of context' errors to

other kinds of errors remained similar in each grade of respondents. This percentage was close to the overall average of ~14% for the picture identification task, and ~52% for the fill in the blanks task.

The metaphorical error responses seem to increase steadily across grades for the ‘picture identification’ task, hinting that more children of higher grades are attempting to produce an idiomatic response even if they do not eventually succeed in producing the target idiom. Such errors indicate an awareness of the figurative aspects of language and the prevalence of some issues in retrieving the apt idiom. This steady increase was not observed for the ‘fill in the blanks’ task.

For the contextual interpretation and non-idiomatic error responses, the ‘picture identification’ task shows a consistent decline only for ‘literal interpretation’ errors as the grade of respondents increases. This analysis reconfirms that the children of higher grades are at a higher level of figurative competence, measured not only by their correct responses, but also by the larger number of metaphorical error responses and a decline in the literal response errors. Another possible inference could be that the pictures as a stimulus or a learning medium do not lose relevance in children of higher grades, as the increase in metaphorical errors was noticed only in the picture identification task.

The overall proportion of errors under ‘out of context’ and ‘contextual interpretation’ responses does not show any trend, i.e. no consistent increase or decrease across grades was observed. It indicates that these errors seem to stem from the nature of the task stimulus, or the difficult level of idiom category, rather than the level or years of formal education of the respondent. While the overall error responses decrease as the respondents’ grade increases, the proportion of these errors remains similar across the grades. This reemphasises the importance of the stimulus used in teaching methodologies.

6.5.7.6. Error analysis of responses wrt age groups

In this section, we have analysed the errors made by respondents for both the production tasks across the age groups of respondents, with the age group aspect accounting for children’s cognitive maturity and expansion of their linguistic ability (language skills). The different types of error responses are calculated across respondents of each age group and presented in Table 6.21 and Table 6.22.

Table 6.21: Picture identification task - summary of error responses wrt age group

Age Group (Years)	Error responses (total) as % of overall responses	% of incorrect metaphorical responses	% of contextual interpretation and non-idiomatic responses		% of out of context responses
			% of responses with idiom's meaning identified from the pictorial context	% of responses as literal interpretation of the image provided	
8 - 9 Years	70.54%	1.79%	7.14%	52.68%	8.93%
10 - 11 Years	58.54%	4.38%	8.96%	37.50%	7.71%
12 - 13 Years	52.99%	9.78%	6.79%	27.17%	9.24%
Overall	57.81%	6.15%	7.92%	35.31%	8.44%

Table 6.22: Fill in the blanks task - summary of error responses wrt age group

Age Group (Years)	Error responses (total) as % of overall responses	% of incorrect metaphorical responses	% of contextual interpretation and non-idiomatic responses	% of out of context responses
8 - 9 Years	92.86%	16.07%	28.57%	48.21%
10 - 11 Years	84.17%	24.17%	17.50%	42.50%
12 - 13 Years	72.28%	16.30%	17.39%	38.59%
Overall	80.63%	20.21%	18.75%	41.67%

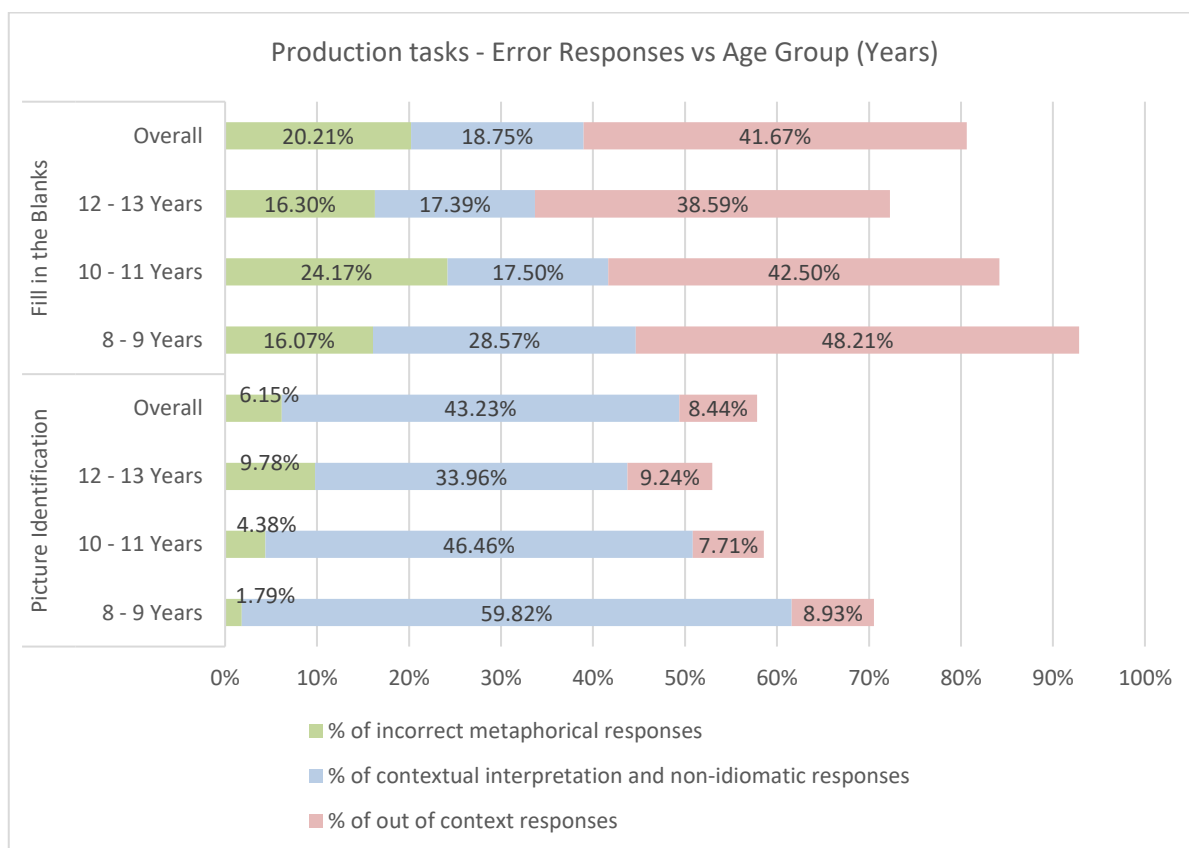


Figure 6.10 - Production tasks - summary of errors observed wrt the age groups of respondents

Tables 6.21 and 6.22 indicate that fewer errors were made by children of higher age groups. The difficulty in idiom production seems more apparent in younger children. This is evident as the overall percentage of error responses in children of the youngest age group (8-9 years) is the highest and the percentage of incorrect metaphorical responses is the lowest. It indicates that children of this age group have difficulty not only in producing the target idiom but also in producing even an incorrect figurative response, i.e. they resort to producing literal expressions even when they understand the context to some extent.

Another consistent finding is that, for each age group, the image stimulus seems to have aided idiom production. Errors made in the ‘fill in the blanks’ task were much higher than those made in the ‘picture identification’ task. As evident from Figure 6.10, ‘out of context’ responses seem to be considerably higher for the ‘fill in the blanks’ task, but do not seem to vary a lot among the age groups in a particular task.

Similar to the analysis of error response across the grade of respondents in Section 6.5.7.5, we evaluated and compared the proportion of error responses under each error category across age groups (error responses of a particular error category divided by the total error responses for all respondents in that age group).

Table 6.23: Picture identification task - Proportion of different types of error corresponding to age groups of respondents

Age Group (Years)	Error responses (total) as % of overall responses	Incorrect metaphorical responses as % of total error responses	Contextual interpretation and non-idiomatic responses as % of total error responses		Out of context responses as % of total error responses
			Responses with idiom's meaning identified from the pictorial context as % of total error responses	Literal interpretation of the image provided as % of total error responses	
8 - 9 Years	70.54%	2.53%	10.13%	74.68%	12.66%
10 - 11 Years	58.54%	7.47%	15.30%	64.06%	13.17%
12 - 13 Years	52.99%	18.46%	12.82%	51.28%	17.44%
Overall	57.81%	10.63%	13.69%	61.08%	14.59%

Table 6.24: Fill in the blanks task - Proportion of different types of error corresponding to age groups of respondents

Age Group (Years)	Error responses (total) as % of overall responses	Incorrect metaphorical responses as % of total error responses	Contextual interpretation and non-idiomatic responses as % of total error responses	Out of context responses as % of total error responses
8 - 9 Years	92.86%	17.31%	30.77%	51.92%
10 - 11 Years	84.17%	28.71%	20.79%	50.50%
12 - 13 Years	72.28%	22.56%	24.06%	53.38%
Overall	80.63%	25.06%	23.26%	51.68%

From Table 6.23 and Table 6.24, it can be observed that the dominant errors in the ‘picture identification’ task were the ‘literal interpretation’ errors, while that in the ‘fill in the blanks’ task were the ‘out of context’ errors. This shows that idioms’ production is an advanced skill, and children in their language acquisition phase may have not built a rich functional repository or vocabulary of many idioms. The percentage of ‘out of context’ responses as a proportion of the total error responses remains similar across all age groups; close to the overall average of ~14% for the ‘picture identification’ task and ~52% for the ‘fill in the blanks’ task. This establishes that these errors seem to be because of the difference in task stimulus (pictorial representation versus incomplete sentence). The difference in task stimulus can cause a variation in results.

Similar to the analysis for errors across the grades of respondents, the analysis across age groups also shows that the metaphorical error responses increase steadily over age groups for the ‘picture identification’ task. The possible reason is that images facilitate identification and recall across all age groups, including the advanced age groups, which could not be achieved through the incomplete sentences. An increase in the percentage of correct responses as well as the metaphorical error responses for the ‘picture identification’ task indicates that children of higher age groups are demonstrating a strong tendency to produce more figurative responses (correct or incorrect). This finding argues against the present idiom teaching approach followed in classroom teaching, which emphasises teaching through images only for younger children, that too for only a few idioms and as an ancillary help. For the ‘fill in the blanks’ task, although the percentage of correct responses showed an increase from the age group of 10-11 years to

12-13 years, the proportion of metaphorical error responses showed a slight decrease in this transition. This could be because, for this task, the transition from the age group of 10-11 years to 12-13 years recorded a higher increase in the percentage of correct idiomatic responses with more successful recalls leading to more idiom production accuracy and less metaphorical errors. At the age of 12-13 years, the efficiency of idiom production is higher than the lower age groups.

6.5.7.7. Error analysis of responses wrt idiom categories

In this section, we have looked at the error responses and considered all the types of errors made by respondents across idiom categories. The analysis of the correct responses presented in Section 6.5.5 and Section 6.5.6 had already established that the idioms belonging to more frequent categories (F-D and F-LD) are less prone to error responses, and the respondents of higher age groups performed better across all idiom categories. This section adds to these findings and elaborates the types of error responses in each category of idioms. The different types of errors in the responses are consolidated in Table 6.25 and Figure 6.11. In addition to the four categories across the dimensions of ‘usage frequency’ and ‘decomposability’, we have also consolidated the responses on each of these dimensions individually.

Table 6.25: Production tasks - summary of error responses wrt idiom categories

Idiom Category	Error responses (total) as % of overall responses	% of incorrect metaphorical responses	% of contextual interpretation and non-idiomatic responses	% of out of context responses
F-D	53.06%	5.00%	34.17%	13.89%
F-LD	45.28%	5.56%	31.11%	8.61%
LF-D	68.61%	11.67%	48.89%	8.06%
LF-LD	94.72%	21.11%	26.11%	47.50%
F	49.17%	5.28%	32.64%	11.25%
D	60.83%	8.33%	41.53%	10.97%
LF	81.67%	16.39%	37.50%	27.78%
LD	70.00%	13.33%	28.61%	28.06%

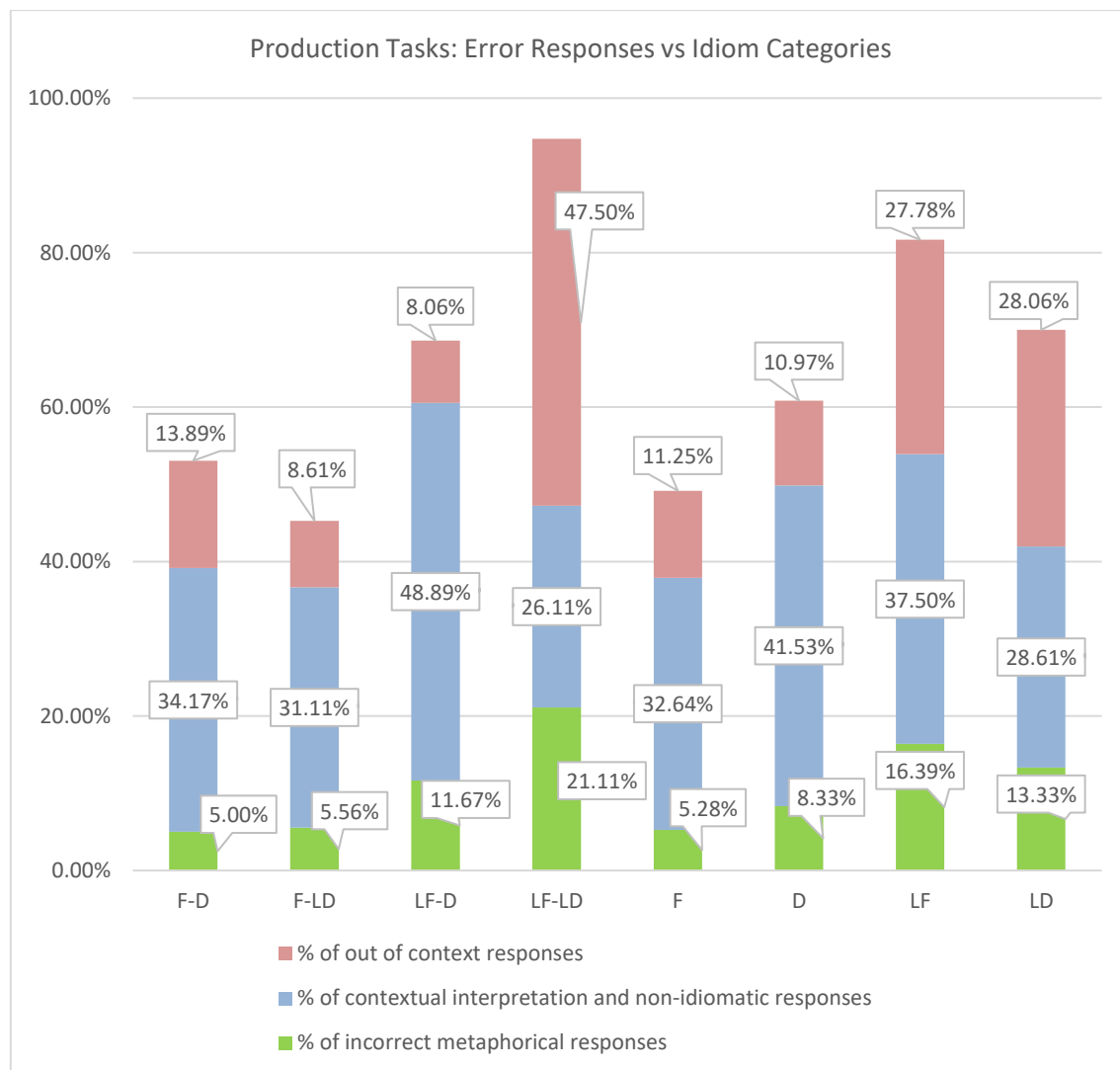


Figure 6.11 - Production tasks - summary of errors observed wrt the idiom categories

As observed in Table 6.25 and Figure 6.11, the fewest errors were seen in all categories consisting of ‘frequently used’ idioms. The ‘frequent and less-decomposable’ category idioms were produced most correctly, with an error percentage of ~45%. The possible reason is that such expressions, being less decomposable, are stored in the mental lexicon as long multiword expressions and retrieved as one unit. Because of a higher exposure (higher usage frequency which accounts for both and exposure and usage), such idioms can be recalled more easily. The idioms belonging to the ‘all frequent idioms’ and the ‘frequent and decomposable’ categories were also produced with more accuracy than those belonging to the other categories. Decomposability seems a secondary consideration only, and this aspect is scrutinised further in the linear regression analysis in Section 6.5.8.

On further examination, we found that apart from resulting in the highest overall percentage of errors, the highest percentage of ‘out of context response errors’ was also observed for the LF-LD category idioms. Compared to the other categories, the errors observed for this category were distinctly high and could be attributed to this category being most difficult to acquire, as a similar finding was recorded for comprehension tasks. Except for the LF-LD category, errors in the remaining idiom categories seem to be predominantly of the type ‘contextual interpretation and non-idiomatic responses’. This type of error suggests that children were able to process the context through the stimulus presented but resorted to a literal response or description of the image context as part of regular language processing. They could not produce the target idioms or even an incorrect figurative response because of less exposure to world knowledge, and limited development of idiom vocabulary and figurative competence.

In Figure 6.12, we have summarised the types of errors produced by children of each age group across the idiom categories. The youngest age group (8-9 years) made the most ‘out of context’ errors for the LF-LD idiom category, while the metaphorical responses were the lowest in this age group, indicating an undeveloped figurative language competence. All the three age groups follow a similar trend-line of idiom production errors, with the only notable exception being that the children in the age group of ‘10 to 11 years’ made the highest ‘incorrect metaphorical responses’ error, as compared to the other age groups. This reinforces our argument that this is the age group where figurative competence increases rapidly, as also observed in Section 6.5.4. Across all age groups and among all idiom categories, most metaphorical and ‘out of context’ errors were observed in the LF-LD category idioms.

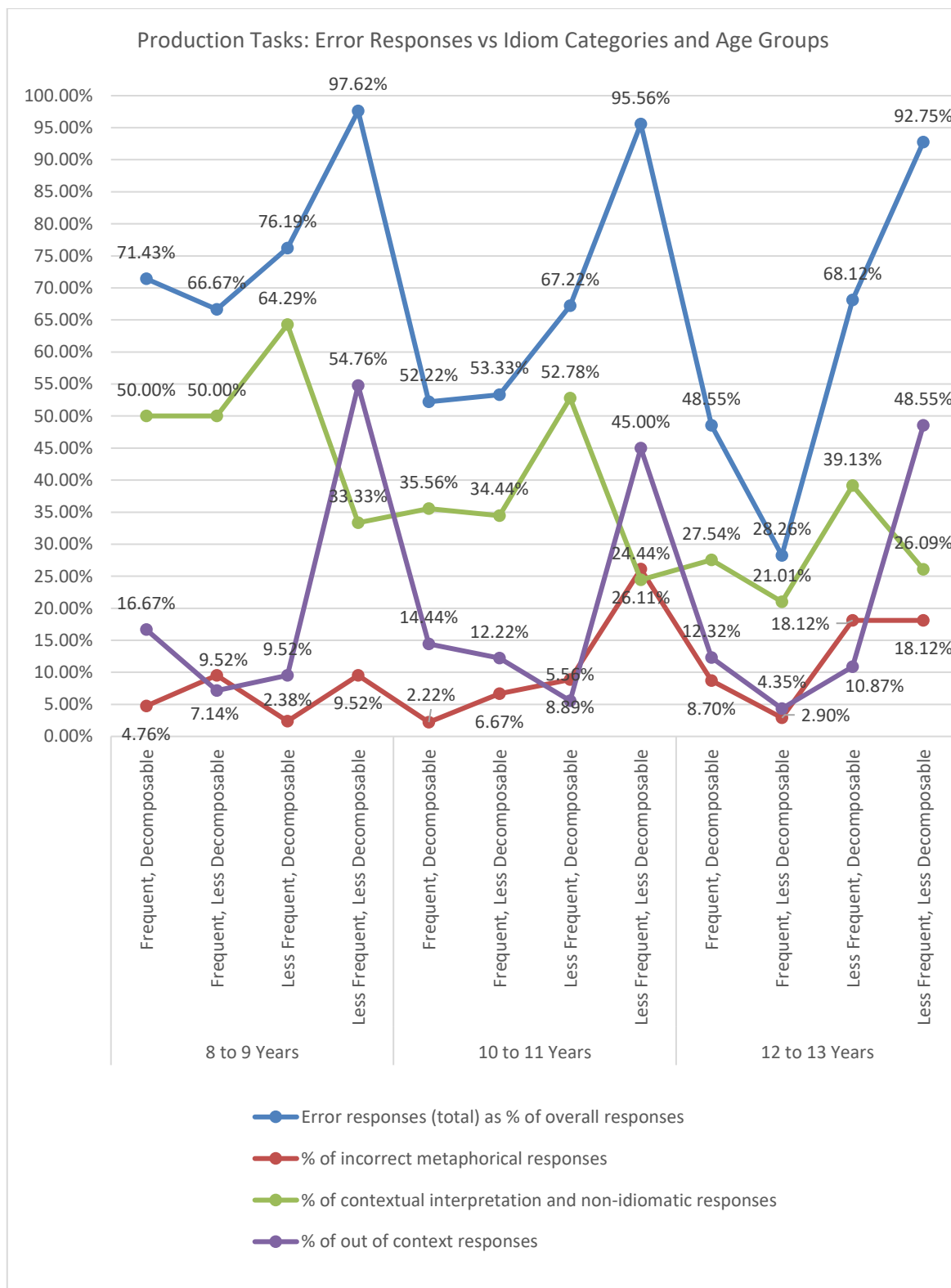


Figure 6.12 - Production tasks - summary of errors wrt the idiom categories and age groups

6.5.8. Analysis 8: Linear Regression between production accuracy, usage frequency, decomposability, and age groups of respondents

While the analysis of correct and erroneous responses to the production task gave us valuable insights into possible trends in the idiom production process, we also executed a linear regression test using the IBM SPSS Statistics tool to check for the statistically significant results. The observations discussed in Sections 6.5.2 to 6.5.7 indicate the advantage of age, years of formal education, and usage frequency of idioms as the crucial factors to facilitate idiom production. As mentioned in Section 6.5.5, decomposability (semantic transparency) of idioms did not seem to influence idiom production accuracy. To execute the linear regression test using the IBM SPSS Statistics tool, we aggregated the responses of the 60 respondents over the three distinct age groups using Microsoft Excel PivotTables. The mean age for each age group was calculated in Table 6.26. We used the same formula to quantify the age group variable as used in Chapter 5 to analyse responses to the comprehension task, i.e. by taking the weighted mean of the individuals' ages in the groups identified.

$$\begin{aligned} &\text{Average Age of Respondent in an age group} = \\ &(\text{Lower Age of the Age Group} * \text{Count of subjects with the corresponding age} + \\ &\text{Higher Age of the Age Group} * \text{Count of subjects with the corresponding age}) / \\ &(\text{Total count of subjects with the corresponding age group}) \end{aligned}$$

Table 6.26: Age groups of respondents

Age Group	Age	Respondents	Total Respondents	Average Age
8 Years to 9 Years	8 Years	3	7	8.57
	9 Years	4		
10 Years to 11 Years	10 Years	16	30	10.47
	11 Years	14		
12 Years to 13 Years	12 Years	16	23	12.30
	13 Years	7		

To understand the impact of idiom properties on idiom production, we executed the first linear regression test between production accuracy (measured by the percentage of correct responses), idiom properties of usage frequency and decomposability, and the mean ages of each age groups as identified and listed under Table 6.26.

Following variables were used for regression:

1. Dependent variable: Percentage of correct responses; this variable represents the accuracy of idiom production. The higher the percentage, the more accurately an idiom was produced.
2. Independent (predictor) variables:
 - a. Decomposability index: This variable represents the meaning transparency of an idiom. The higher the value, the more decomposable is the idiom (meaning can be derived from the components).
 - b. Usage Frequency index: This variable represents the usage frequency of an idiom. The higher the value, the more frequently used, heard, or read is the idiom.
 - c. Age group (age group): This variable represents the average age of the respondent in a given age group (calculated in Table 6.26).

Table 6.27: Linear Regression between production accuracy, usage frequency, decomposability, and age groups of respondents

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Average Age, Decomposability Index, Usage Frequency Index ^b	.	Enter
a. Dependent Variable: % of Correct idioms produced			
b. All requested variables entered.			

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.657 ^a	.431	.406	23.70458%
a. Predictors: (Constant), Average Age, Decomposability Index , Usage Frequency Index				

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28991.323	3	9663.774	17.198	.000 ^b
	Residual	38209.675	68	561.907		
	Total	67200.998	71			
a. Dependent Variable: % of Correct idioms produced						
b. Predictors: (Constant), Average Age, Decomposability Index, Usage Frequency Index						

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-42.625	19.746		-2.159	.034
	Usage Frequency Index	32.753	5.196	.618	6.304	.000
	Decomposability Index	-2.076	6.971	-.029	-.298	.767
	Average Age	4.980	1.834	.248	2.714	.008
a. Dependent Variable: % of correct idioms produced						

From Table 6.27, we observe that p for this regression is 0.000. As $p < 0.05$ is considered statistically significant, we conclude that the linear regression model developed above is statistically significant. Also, the Adjusted R Square statistic of this linear regression is 0.406, i.e. the linear regression model is able to explain ~40% of the variance, which again suggests that the model is able to explain the variance in the production accuracy. The individual p s for the usage frequency index and the average age are 0.000 and 0.008 respectively, which are both less than 0.05. Hence, these factors are statistically significant.

However, p for the decomposability index is 0.767, and hence this factor is not significant. Therefore, idiom production cannot be said to be influenced by the degree of decomposability of the idiom. In fact, the fitment of the linear regression model should benefit by eliminating the decomposability index as an independent variable. Therefore, we tested the linear regression model again with the dependent variable ‘percentage correct’ and the independent variables as ‘average age’ and ‘usage frequency’. The result of this linear regression is listed under Table 6.28.

Table 6.28: Linear Regression between production accuracy, usage frequency, and age groups of respondents

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Average Age, Usage Frequency Index	.	Enter
a. Dependent Variable: % of Correct idioms produced			
b. All requested variables entered.			

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.656 ^a	.431	.414	23.54752%
a. Predictors: (Constant), Average Age, Usage Frequency Index				

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28941.480	2	14470.740	26.098	.000 ^b
	Residual	38259.518	69	554.486		
	Total	67200.998	71			
a. Dependent Variable: % of Correct idioms produced						
b. Predictors: (Constant), Average Age, Usage Frequency Index						

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-43.132	19.542		-2.207	.031
	Usage Frequency Index	32.195	4.814	.608	6.688	.000
	Average Age	4.980	1.822	.248	2.733	.008
a. Dependent Variable: % of Correct idioms produced						

From Table 6.28, we observe that p for this linear regression model is 0.000 and hence is statistically significant. Also, the Adjusted R Square statistic of this linear regression is 0.414, i.e. the linear regression model is able to explain ~41.4% of the variance, which is a slight increase from the previous model and indicates a better fitment. The individual p s for the usage frequency index and the average age are 0.000 and 0.008 respectively. Hence, the two factors, one factor related to idiom properties (usage frequency) and one related to the language user (age group) decisively influence the idiom production competency in children. An idiom with higher usage frequency (more frequently used or encountered in written or spoken language scenarios), and produced

by a higher age group, would have more probability of being produced correctly. Using the linear regression coefficients from Table 6.28, we also developed the linear regression equation to quantify the effects of changes in the independent variables (age group - average age, and frequency index) on the dependent variable ‘percentage correct’, i.e. to find the most facilitating factor for better production.

$$\% \text{ Correct} = 32.195 * \text{Usage Frequency Index} + 4.980 * \text{Age group} - 43.132$$

As evident from the linear regression equation, usage frequency has the highest impact on the accuracy of idiom production. A possible application of this insight could be that a higher frequency of usage of idioms can help boost idiom production even for younger children.

6.6. Discussion

The idiom production study on children provided us with insights into the acquisition of idioms and phases of growth in children’s figurative competence. The observations of this study help put into perspective the challenges faced by children in producing the idioms belonging to different categories. The results indicate that the acquisition of idioms cannot be solely attributed to a single factor of age, exposure to idioms, or idiom properties, but is influenced by each of these factors, along with the medium of teaching idioms. The error analysis across both the production tasks also helped us derive insights into the challenges children face in idiom production and their progress in idiom acquisition and figurative language development. The dominance of particular types of errors in certain age groups or grades of children provided us with valuable insights into their current stage in figurative language development and the processes involved in conceptualising figurative language and step-by-step development of the figurative competence.

The results obtained by this empirical study tend to agree with the theories on idiom acquisition which hypothesise that production skills are acquired later than comprehension skills. Multiple observations reinforce this argument. First, in a direct comparison with the comprehension study, we find that the overall performance of children in production tasks was close to 34.6% (accuracy of idiom production), while in comprehension task, it was close to 70.1% (accuracy of idiom comprehension). This result was observed despite slightly modifying the participants’ list by choosing children

of higher age; comprehension study was done on children from Grade III to Grade VII (ages 7 to 12 years) while the production task was done on children from Grade IV to Grade VII (ages 8 to 13 years). Second, the ‘growth spurt of idiom production competence’, or the age group which showed the biggest improvement in idiom production was noticed in the age group of 10-11 years, while the ‘growth spurt of idiom comprehension competence’ was around 9-10 years. This finding reinforces our argument that the development of idiom production competence trails the development of idiom comprehension competence by approximately 1 to 2 years, with all other factors of education, linguistic exposure, academic environment, socio-economic status, and cultural surroundings remaining the same. Third, from the error analysis, we observed that children of the same age or grade made more errors for idiom production tasks than the idiom comprehension tasks.

In the two production tasks conducted, the stimuli used were different and the idioms used were mutually exclusive, as presented in Table 6.7. Therefore, by baselining them with comprehension tasks (explained in detail in Section 6.5.2), we compared the performance of children in these two production tasks. Results indicate that children were able to produce idioms more accurately in the ‘picture identification’ task where the stimulus for producing idiom was a pictorial representation of the idiom or its meaning. As explained through the baselining approach and captured in Table 6.9, the performance of children was ~10% higher in the ‘picture identification’ task than the ‘fill in the blanks’ task. In the ‘fill in the blanks’ task, the errors made consisted of significantly more ‘out of context’ responses (Table 6.16 indicates that children made approximately 33% more ‘out of context’ errors in this task). The errors of the type ‘contextual interpretation and non-idiomatic responses’ were higher in the ‘picture identification’ task, indicating that children can better process this stimulus to absorb the information from context, but failed to recall the apt idioms. This finding has significant applications in designing the idiom teaching material and methodology.

The accuracy of idiom production showed an overall increase with age; older children (age 13 years) performed better than children of all other ages in both idiom production tasks. However, there was no consistent trend of idiom production competence development observed in the transition from one age to another, particularly in the transition between 8 years to 9 years and 11 years to 12 years. The analysis done on age groups of respondents showed a consistently increasing trend of idiom production

accuracy across the age groups. The oldest age group (12-13 years) could produce idioms with an accuracy of ~41%, while the accuracy was only at ~22% for the youngest age group (8-9 years). The effect of age group on idiom production was reviewed through a linear regression analysis, which confirmed that ‘age group of respondents’ was a statistically significant factor ($p = 0.008$).

The growth of idiom production competence in picture identification task shows more increase between the age groups of 8-9 and 10-11 years while being the steepest around the age of 10-11 years (~12%). In ‘fill in the blanks’, idiom production accuracy increased more steeply between the age groups of 10-11 and 12-13 years (~12% increase). This result indicates that by the age of ~11 years, children develop the competence of producing idioms but may face challenges if an insufficient stimulus or context is encountered or if the idiom category is more challenging (less familiar). Therefore, we observed a delayed increase in production accuracy in the ‘fill in the blanks’ task. The production accuracy for the age group of 12-13 years in the ‘picture identification’ task was ~20% higher than the ‘fill in the blanks’ task. The most plausible explanation is that images facilitate absorption of information from context and recall across all age groups (including the advanced ones), which could not be achieved through incomplete sentences, indicating that the picture stimulus did not lose relevance for children of higher ages and age groups. Another reason could be more difficult (LF-LD category) idioms used for the ‘fill in the blanks’ task.

Among all the age groups, the youngest age group of children (8-9 years) made the most errors (~71% in the ‘picture identification’ task and ~93% in the ‘fill in the blanks’ task). In ‘fill in the blanks’ task, for the youngest age group, the dominant error was ‘out of context’ responses (~48%), indicating a shallow understanding of the context and an incongruent completion of the sentences. For the same age group, the other dominant error which was found in the ‘picture identification’ task was ‘literal interpretation of the image’ (~53%), which indicated a partial understanding of the context and an inability to produce figurative forms resulting in a literal description of the task stimulus. The literal description of images meant that children had processed the context depicted through the pictorial representation. However, they lack either the awareness of semantic ambiguity in language, or the competence to produce figurative expressions. This could be further verified by observing that the proportion of incorrect metaphorical responses among the error responses was the lowest in this age group.

The age group of 10-11 years showed the highest increase in the overall percentage of correct responses for the ‘picture identification’ task. In the ‘fill in the blanks’ task, this age group indicated the highest proportion of ‘metaphorical errors’ along with a steady increase in correct responses. Therefore, across both tasks, this seems to be the phase where children get more adept at the production of idioms and other figurative forms. This can be referred to as the ‘growth spurt of idiom production competence’, which marks a suspension of literal production strategies and the development of an ability to gather more information from context to attempt the production of idioms. The proportion of metaphorical error responses increased steadily, along with an increase in the correct responses, over age groups for the ‘picture identification’ task. This result suggests an increase in awareness of the figurative forms and the development phase of idiomatic competence. The ‘metaphorical errors’ indicated that the respondents absorbed the information from context and tried to produce a figurative response but probably were limited by their idiom vocabulary to produce the idioms in their conventional forms. An increase in ‘metaphorical errors’ suggests that pictorial representation is a more reliable tool to encourage figurative production, even for the cases where the vocabulary of children limits them from producing apt idioms.

The oldest age group (12-13 years), as expected, reported the least errors in idiom production and the lowest proportion of ‘literal interpretation’ errors. This group seems to be in a more evolved stage of figurative competence but still shows a better performance in the ‘picture identification’ task than the ‘fill in the blanks’ task. Interestingly, in each of the production tasks, the proportion of ‘out of context’ responses among the error responses remain similar across all age groups, close to the overall average of ~15% for the ‘picture identification’ task and ~51% for the ‘fill in the blanks’ task. This result is counterintuitive and suggests that there are scenarios in each age group across both tasks where children are unable to process the context at all. Therefore, it can be assumed that some language scenarios and idioms would be considered difficult to all age groups; the improvements in idiom production in all age groups should be targeted to be achieved through richer context and improved teaching or communication mediums of pictures, videos, stories, etc.

Apart from age groups, another factor reviewed was the effect of formal education or academic exposure in boosting idiom production. Across both the production tasks, a consistent finding was that idiom production accuracy increased in students of a higher

grade. The academic exposure does seem to benefit children by helping them build a good repository of idioms from which a recall can happen as per the communication need. The increase in production accuracy across grades is almost linear, thereby suggesting a steady growth of the language skills and figurative competence in general and idiomatic competence in particular.

The current teaching methods adopt picture-based teaching more consistently for lower grades, implying younger children. However, our results suggest that the picture stimulus did not lose relevance for children of higher grades, as the performance of children from even the highest grade (Grade VII) was ~25% better in the ‘picture identification’ task. Across all grades, children performed ~20% to ~25% better when the stimulus was in the form of a pictorial representation, as observed in Figure 6.3. Similar to the trend seen across age groups, the proportion of ‘metaphorical error’ responses increased consistently across grades in the ‘picture identification’ task. While the overall error responses were definitely higher in children of lower grades, the proportion of different types of error among the error responses suggested that picture stimulus aided better absorption of context.

Among the idiom categories defined on the dimensions of usage frequency and decomposability, we found that the categories comprising of frequently used idioms (F-D, F-LD, and all frequent) recorded higher idiom production accuracy than the other categories (LF-D, LF-LD, and all less-frequent). The usage frequency seems to aid idiom production significantly. A reduction in frequency across the idiom categories, with the decomposability factor being controlled, causes a significant decrement, with values of % correct observed as: F-D: ~47%, LF-D: ~31%, which indicates a 16% decrement, and F-LD: ~54%, LF-LD: ~5%, which indicates a 49% decrement. This finding was substantiated through linear regression analysis, which confirmed usage frequency as a statistically significant factor ($p = 0.000$). The error responses across categories show that the most metaphorical errors were produced for the LF-LD category (across all age groups at ~21% and age group 10-11 years at ~25%) indicating that such expressions have irregular structures and are therefore recognised as non-literal forms of language.

The role of decomposability was ambiguous, as a decrease in decomposability did not necessarily cause a dip in idiom production as noted in idiom production accuracy values: F-D: ~47%, F-LD: ~54% which indicates a 7% increment, and LF-D: ~31%, LF-

LD: ~5% which indicates a 26% decrement. In fact, the F-LD category seems to be most conducive for idiom production across all the respondents and even for the youngest age group. The LF-LD category was found to be the most challenging idiom category for comprehension and production, as evident from the least correct responses and the most ‘out of context’ errors. It may appear that the idioms being less decomposable was a hindrance to idiom production; however, this could also be attributed to the low usage frequency values for idioms in this category. The linear regression test confirmed that decomposability was not a statistically significant factor ($p = 0.767$) for idiom production.

The idiom properties of usage frequency and decomposability were different in the idiom production study than the idiom comprehension study. For idiom comprehension, both were found to be statistically significant factors with a slight advantage to usage frequency. On the contrary, for idiom production, usage frequency is the dominant driver of idiom production. Decomposability is a non-significant factor; its role, at best, can be described as a passive contributor (based on the slight increase in production accuracy for decomposable idioms). The similarities in comprehension and production study were that: (a) age group of respondents and usage frequency were found to be statistically significant factors in both studies, (b) both studies observed a growth spurt phase in idiomatic competence, (c) LF-LD category was found to be the most challenging and prone to more errors, and (d) older children displayed a better figurative understanding (apart from more correct responses).

6.6.1. The model for idiom production

Based on the insights from the two idiom production tasks, we propose a model that explains the influence of idiom properties on idiom production by children. Along with idiom properties, the model also accounts for the growth in production competence with an increase in the age of children. By factoring in children’s cognitive ability (determined by age group and academic exposure) and integrating the role of usage frequency and stimulus effect, the model illustrates the influence of these variables on idiom production for different categories of idioms.

Figure 6.13 presents the idiom production model in a simplistic and pictorial representation, underlining the improvement observed in ease of production of idiomatic expressions around the two critical linguistic dimensions: the ‘frequency of usage’ and ‘decomposability’, keeping the role of age, stimulus, and academic exposure to idioms

(formal education) as an integral unit or a common facilitating factor. This model represents that, idioms can be broadly characterised into four categories and the probability of correct recall relies heavily on familiarity with idioms. Unlike idiom comprehension, decomposability has a minimal effect on idioms' production, and usage frequency becomes a more dominant influence on recall processes in communication. The variance in idioms' categories determines the ease in production of idioms leading to the 'less-frequent and less-decomposable' category idioms to be the most challenging idioms for a child. The easier ones are those which are used more frequently in children's linguistic environment and easy to recall.

The effect of task stimulus has emerged as an important factor with many practical applications in teaching idioms. The stimulus or medium of teaching idioms also helps children build a better idiom vocabulary and achieve better production skills. The learners' academic exposure also determines the successful production of idioms, as it is directly linked to a gradual exposure to a larger number of idioms, therefore, enabling the creation of a rich idiom vocabulary at a child's disposal.

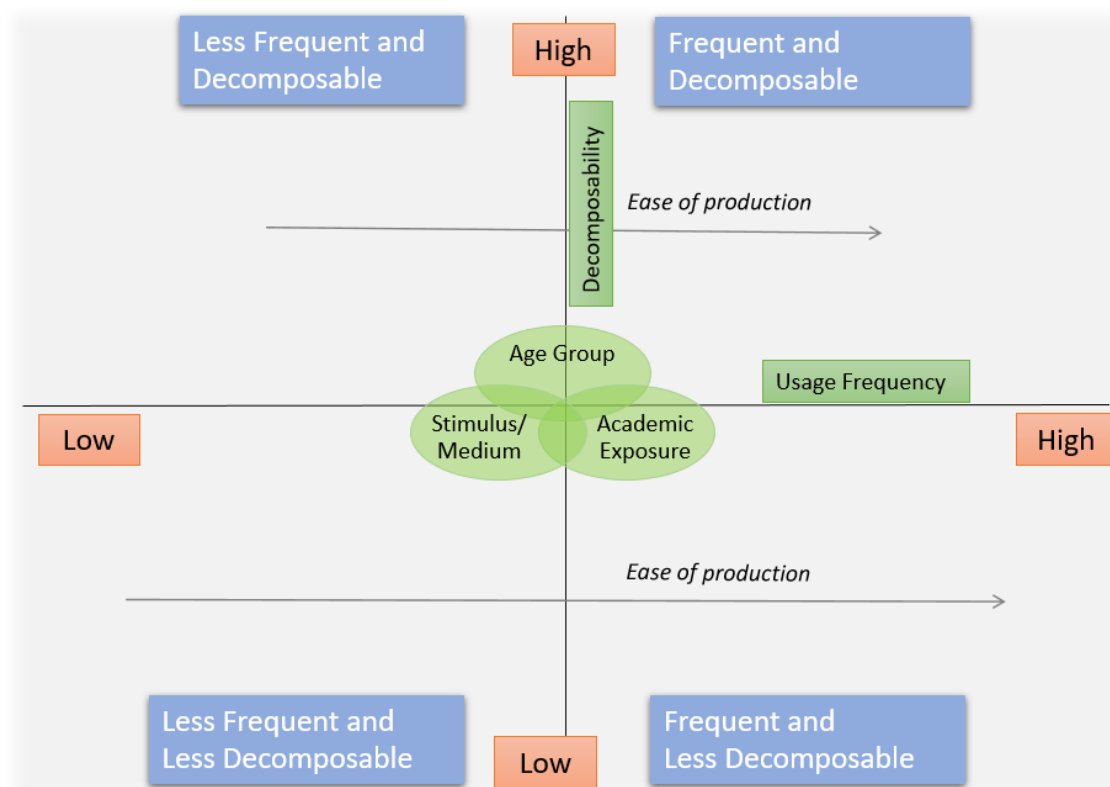


Figure 6.13: A Comprehensive Model of Idiom Production

6.7. Summary

This chapter discussed the production tasks on children and provided insights into the factors which enhance the accuracy of idioms produced by children in their language acquisition phase. Across all idiom categories and age groups of respondents, the most consistent result was that idiom production accuracy increases as the usage frequency of idiom increases, and with an increase in age group and grade (years of formal education) of the children. For enhancing idiom production in children, the picture stimulus seems to be more effective than the incomplete sentence stimulus with a consistently higher percentage of correct responses and more figurative error responses. This is an important finding with substantial practical applications in designing teaching methodologies and content for teaching idioms to children. Also, we observed that idioms' compositionality property, which plays a significant role in idiom comprehension, is not a significant factor in idiom production. We also found that the younger children (8-9 years) had the highest overall errors and the most 'out of context' and 'literal' errors, indicating their figurative competency is in a nascent stage. From the errors made overall, we could conclude that the production of literal phrases was the most frequently used backup strategy by children in cases where they could not produce the correct idioms.

In the next chapter (Chapter 7), we have presented the overall conclusion of the thesis, covering the essential aspects and practical applications of this work, and outlining the future direction of work in this area of idiom acquisition.

Chapter 7: Findings and Conclusions

7.1. Introduction

In this chapter, we have summarised the essential aspects of this work on idioms, including its applicability in idiom teaching methodologies and outlined the directions for future research. We have discussed the insights gathered on the development of idiom comprehension and production skills in children, and the claims of the studies we conducted on native adult speakers of the Hindi language. Based on the findings of our studies, we have proposed a comprehensive model of idiom comprehension and production with due emphasis placed on the idiom properties that play a major role in idiom comprehension. The evidence collected from both comprehension and production studies is consolidated and compared to propose the practical application of our ‘idiom comprehension and production model’ which can be applied in teaching idioms in the classroom. We have suggested the adoption of certain teaching techniques by the language teachers for teaching idioms to the children in different grades and age groups.

This chapter is organised as follows. In Section 7.2, we have summarised the work to identify the different idiom categories or types of idioms based on the properties of compositionality and usage frequency (and meaning familiarity). In this section, we have also highlighted the key findings from the idiom comprehension study on adult native speakers, which was a preliminary but significant part of our work. In Section 7.3, we have presented the findings of the idiom comprehension study on children. Similarly, the results and discussion related to idiom production tasks conducted on children are explained in brief in Section 7.4. In Section 7.5, we have discussed a comprehensive model of development of idiomatic competence in children, which can explain essential aspects of idiom comprehension and production skills. In Section 7.6, we have elaborated the practical applications of this model in classroom teaching. Finally, in Section 7.7, we have listed the potential areas of idiom research which could be interesting avenues to explore, but were beyond the scope of this work.

7.2. Categorisation of idioms, and the effect of idiom properties on idiom comprehension

In preparation for this work, we provided an overview and did an extensive review of existing literature on idioms in Chapters 1 and 2 explaining the definitions, properties, processing, comprehension, production, and acquisition of idioms and other figurative forms of language. We explained the existing theories and hypotheses proposed by linguists on the different aspects and properties of idioms that influence the comprehension and processing of idioms. In Section 4.2, we discussed the gap in idiom literature and some of the areas that could be accounted for in a complete comprehensive model.

Most of the research and studies on the comprehension of idioms have concentrated largely on any one of the linguistic dimensions or properties of idioms, i.e. either compositionality, frozenness, usage frequency, or meaning familiarity has been the underlying area of emphasis in each theory in idiom literature. These studies have analysed the effect of these dimensions on the comprehension process individually; hence the corresponding idiom comprehension models are also based on one of these dimensions. We believe that a one-dimensional study on idioms, and defining a comprehension model in such a manner, may not be sufficient as multiple dimensions or properties of idioms could be simultaneously influencing the idiom comprehension processes. The argument behind such a statement is that idioms are a complex linguistic unit and can simultaneously display multiple properties to varying degrees or associate with a few of these very strongly. For example, a decomposable idiom may have a certain amount of compositionality and the corresponding degree of frozenness associated with the dominating property defining the idiom type. Idioms that strongly associate with any single idiom property, e.g. compositionality maybe only considered an ideal world scenario. The studies designed in this thesis were based on these impressions.

7.2.1. Categorisation of idioms

We categorised idioms based on three idiom properties, i.e. their semantic dimensions integrating the compositionality aspect, a dimension accounting for the frequency of usage of those idioms, and another dimension accounting for the familiarity of language users with the correct figurative meanings of those idioms. Compositionality

is generally an aspect associated with all idioms; no idiom can be considered entirely compositional or otherwise. The relationship between idioms' literal meaning and figurative meanings varies across idioms. Therefore, instead of tagging idioms as 'completely decomposable' or 'completely non-decomposable' which are just the two ideal extremes and do not really exist, we referred to idioms as being less or more decomposable, with the tasks and the implicit comparison done on a 5-point zero-mean scale. A similar premise was used for classifying idioms based on usage frequency, where less or more frequent are a better representation of the prevalence of idioms in regular discourse.

To quantify and compare the magnitudes of these idiom properties, the corresponding indices were defined. The indices were then calculated by analysing the responses obtained for 100 idioms in the dataset, by 72 native speakers, on 5-point Likert scales. A thorough analysis of the responses for this empirical study revealed a strong correlation (Section 4.3.3.3) between idioms' usage frequency and meaning familiarity. The relationship between these properties supports an empirical argument that the usage frequency of an idiom is directly dependent on how familiar its meaning is to speakers of the language, and vice versa is also true, establishing that the usage frequency parameter inherently accounts for meaning familiarity aspect as well. Hence, we considered only usage frequency and compositionality as the two parameters which may have a significant influence on idiom comprehension.

We shortlisted idioms by classifications along the axes-dimensions defined by these indices, higher and lower ranges of the indices representing usage frequency and compositionality. The indices were then used to compare and analyse their effect in the comprehension process of idioms in adult native Hindi speakers. The idioms used in our study were then categorised based on these two linguistic dimensions, through the computed values of the usage frequency index and the decomposability index. These resulted in four categories: 'frequent and decomposable' idioms, 'frequent and less-decomposable' idioms, 'less-frequent and decomposable' idioms, and 'less-frequent and less-decomposable' idioms.

This experiment also helped us shortlist the six most representative idioms in each category (Section 4.4.2.4), which were then used for the empirical studies on children. The four distinct categories of idioms were investigated to study the effect of

compositionality and usage frequency in idiom comprehension process in adult native speakers. The role of the literal meaning of an idiom, i.e. the tendency of a language user to retrieve and process the literal meaning during idiom comprehension process, was also studied to understand how this factor may or may not affect the comprehension process of different categories of idioms. In a brief study, we also investigated the existence of a ‘recognition point’ in an idiom, which helped us gather insights into the predictability property of idioms.

7.2.2. Role of compositionality and usage frequency of idioms in their comprehension

We presented arguments based on the empirical data favouring a varied pattern of comprehension behaviours involved in comprehending idioms exhibiting different properties (Section 4.4.2). In the preliminary study on adults, we found that idioms exhibiting higher usage frequency were typically associated with higher meaning familiarity, and this was found to be a statistically significant result. This strong correlation indicates that ease of comprehension increases for frequently known, heard, and used idioms. Further linear regression analysis helped us to investigate the effect of usage frequency and compositionality on the comprehension of idioms in the defined idiom categories.

We found a strong negative correlation between the meaning familiarity index and the literal meaning identification index for highly frequent idioms. This result implies that, for very frequent idioms, adult native speakers of Hindi do not analyse the literal meaning during the idiom comprehension process. For a very frequently used or encountered idiom, the literal meaning may not be considered by language users during idiom comprehension. A likely explanation is that frequent idioms may have only one representation of meaning in the mental lexicon, which is the figurative meaning. Additionally, even if such frequently used idioms are decomposable, they may not undergo a compositional analysis during the process of idiom comprehension; instead, a process of direct memory recall could be involved in retrieving their meanings.

The responses in the case of ‘less-frequent and decomposable’ idioms indicated that speakers attempted to analyse the idioms’ literal meaning, leading to an observation that language users use literal meaning as a cue for such cases. For the LF-D category idioms, the idiom phrases undergo a compositional analysis during idiom comprehension,

thereby allowing the deduction of their idiomatic meanings. Hence, the literal meaning of an idiom becomes relevant only if it is less frequently used, or the idiom's meaning is relatively unknown to the language user. The analysis also suggested that a higher degree of compositionality of an idiom does not automatically lead to a conclusion that it will be more frequently used by native speakers, or the meaning of such idioms would be more widely known to native speakers. The results of this analysis also lead us to hypothesize that usage frequency and meaning familiarity are more critical factors than decomposability for idiom comprehension.

7.2.3. Unique point of identification

Another finding of this empirical study is that 'a unique point of identification' exists for most idioms, where native speakers recognise a phrase as an idiom. The results indicate that, for most idioms, speakers do not even read the complete phrase to recognise it as an idiom even though idioms were not embedded in a sentential context. We conclude from this result that 'point of idiom identification' can be a factor responsible for triggering the idiomatic meaning and all idioms carry a certain degree of predictability effect in their lexical construction. The more predictable idioms were also found to be more familiar to the native speakers. Although we have not gone into the details of comprehension mechanisms in adults, the learnings, and insights from this study on adults drive us to delve into more details and focus on integral properties of idioms in unity. The empirical studies on comprehension and production skills in the language developmental age of children, therefore, comprised of a mixed bag of distinct categories of idioms displaying different properties.

7.3. Comprehension of idioms by children having Hindi as their L1 language

To study the idiom comprehension patterns in children, we conducted an MCQ task where idioms were presented in a sentential context. This empirical study examined the comprehension strategies adopted by children to reach the figurative meaning for different categories of idioms defined over the linguistic dimensions of decomposability and usage frequency. This cross-sectional study was conducted on a total of 81 participants across the ages of 7 to 12 years, with the analysis of responses done for the age groups of 7-8 years, 9-10 years, and 11-12 years.

The results of our empirical study address the salient points brought up in multiple studies on idiom acquisition (Levorato and Cacciari, 1992, 1995, 1999; Cacciari and Levorato, 1998; Nippold and Martin, 1989; Cain et al., 2005), and shows similar trends of idiom comprehension skills and development of idiom competence. Our study concludes that idiom comprehension relies heavily on the exposure to idioms (usage frequency), meaning transparency (decomposability), supportive context, and the cognitive age and language skills of children.

Across all the 81 respondents from different age groups and grades (formal education), we obtained more than 70% correct responses. Such a high comprehension accuracy indicates that the supporting sentential environment (context) could have played an essential role in idiom comprehension; it seems to be aligned with the GEM model's findings, which emphasised the importance of context in idiom comprehension. The children's cognitive age was noticed to be a crucial factor in determining the comprehension accuracy of idioms; the older age groups performed the task with more accuracy as compared to the youngest age group (7-8 years).

Across all categories, the most consistent result was that the accuracy of idiom comprehension increases with an increase in age group and grade (years of formal education) of the children as the cognitive ability increases. Our results indicate that the accuracy of idiom comprehension in younger children was close to 51%, which was far lesser than the other two groups (9-10 years at ~74% accuracy, and 11-12 years at ~81% accuracy). The effect of age was also noticed in the comprehension pattern on the defined categories of idioms. While in general it was established that older children interpret idioms more successfully than younger children, the category of idiom under consideration emerged as another critical factor. To illustrate this point, we noted that the children from the youngest age group (7-8 years) attempting to comprehend the 'frequent and decomposable' category idioms had more success than the older children (11-12 years) attempting to comprehend the 'less-frequent and less-decomposable' category idioms.

We found that the idioms which were 'frequent and decomposable' in nature were comprehended significantly better than the 'less-frequent and less-decomposable' idiom category. An analysis of children's performance asserted that the idioms of FD category (frequent and decomposable) were comprehended with ~82% correctness, which was

higher than all the other categories. The least percentage of correct responses were recorded for LF-LD category (less-frequent and less-decomposable), which was at only 52% correct. Idioms belonging to F-LD (frequent and less-decomposable) and LF-D (less-frequent and decomposable) categories showed similar comprehension accuracy levels at 74% and 72% respectively, suggesting that the influence of each of these factors facilitates the comprehension of idioms.

Idioms that are more frequently encountered by a child in their linguistic environment through written or spoken forms of language tend to be comprehended better. Also, it is apparent that children do attempt a compositional analysis, thereby being able to comprehend idioms with higher meaning transparency in a more accurate manner. For instance, for the youngest age group (7-8 years), the frequently used idioms were comprehended better (60.33% accuracy) than the less-frequent ones (43% accuracy), and decomposable idioms (61% accuracy) were comprehended better than the non-decomposable ones (42% accuracy). Further, with the help of linear regression analysis, we established that usage frequency, decomposability, and age group of respondents are statistically significant factors that aid comprehension, and usage frequency plays a more prominent role than decomposability in facilitating the comprehension of idioms.

The analysis of the error patterns indicated that younger children (7-8 years) contributed to the highest overall error % in their responses. We noticed that ‘semantically related responses’ were the most picked responses by the children (15%). This error pattern confirms that children try to infer the meaning of the sentences, even if they could not comprehend the meaning of the idioms embedded in the sentences. The youngest age group (7-8 years) picked almost the same ratio of two error categories, ‘semantically related responses’ at 21.5% and ‘literal meaning responses’ at 20.33%.

The aforementioned findings suggest that until around the age of 7-8 years, the predominantly active strategy is to follow the literal strategy of language comprehension even for idiom comprehension, i.e. to follow the ‘piece by piece elaboration of text understanding’. The pragmatic understanding of language till around 8 years is still in a nascent stage. Children start adopting a literal suspension strategy from the age of 8 years to 9 years where the literal meaning is discarded more consistently, and 9-10 years can be considered technically as the ‘growth spurt of idiom comprehension competence’ where children show a marked improvement in idiom comprehension. This empirical

study concludes that multiple factors like exposure (usage frequency of idioms in the children's linguistic environment and familiarity with the meanings of idioms), compositionality, age group, and formal education collectively help children comprehend idioms accurately.

7.4. Production of idioms by children having Hindi as their L1 language

We conducted two production tasks to explore the idiom production patterns in children: a 'picture identification' task and a 'fill in the blanks' task. The 'picture identification' task was conducted to analyse idiom production competence of children when presented with a picture as the stimulus, while the 'fill in the blanks' task used incomplete sentence stimulus to test the ability of children to produce an apt idiom. This study was conducted on 60 children; most of these children were the ones who had participated in the comprehension study except for the replacement of Grade III respondents with Grade VII respondents and respondents of age 7 years with respondents of age 13 years. The respondents for this study were in the age group of 8 to 13 years and from Grade IV to Grade VII, and the responses were analysed for the age groups of 8-9 years, 10-11 years, and 12-13 years.

The results obtained from this empirical study suggest that idiom production skills are developed later than comprehension skills in the course of idiom acquisition. The possession of good idiom production skills indicates a higher maturity in figurative language understanding, as the idiom production process involves an assessment of context, a deeper understanding of the communication goal (e.g. the intensity of emotion), and the ability to recall and use the apt idiom.

Idiom production accuracy is highly correlated with the children's age; advanced age groups are likely to demonstrate more proficiency in producing idioms correctly. The increase in idiom production competence varies across age groups. Academic exposure to idioms also boosts the idiom production competence, as observed from our study that children of higher grades performed consistently better in producing more idioms and responding with more figurative responses even in cases where they do not succeed in recalling the right idiom. Advancement in the age of children adds to more awareness of and exposure to the figurative forms and therefore strengthens their competence to produce idioms. The oldest age group performed better than the younger age group and

produced fewer error responses with an addition of more figurative responses in both the production tasks (Section 6.5.7.6). The ‘literal error’ also decreased with the advancement of age and grade of the children. The most noticeable improvement in idiom production was visible in the age group 10-11 years, while the spike in performance in idiom comprehension was observed in the age around 9-10 years. This trailing effect determined that the production of idioms in children is succeeding in the comprehension of idioms. The idiom production skill was found to be a difficult fort to conquer, as reflected through a higher percentage of error responses compared to idiom comprehension.

The use of pictorial representation as the context in our experiment design was found to be more effective than the text-based context in the ‘fill in the blanks’ task. After adjusting for variations caused by idioms of different difficulty levels (through a benchmarking analysis with the comprehension task), we concluded that children performed with an increased accuracy (~10% higher) in the ‘picture identification’ task than the ‘fill in the blanks’ task. Hence, pictorial or image stimulus seems to enhance the accuracy of idiom production, probably by helping the children to assimilate the context, and aid the recall processes necessary for idiom production.

Our study firmly establishes that idiom production is highly reliant on the usage frequency, and therefore the meaning familiarity, of idioms. Usage frequency has a dominant effect on idiom production. Decomposability of idioms is not a significant factor affecting idiom production. The stimuli for idiom production also play a role in determining the accuracy of idiom production by children of different age groups and grades, along with the idioms properties of semantic analysability (decomposability or meaning transparency) and usage frequency (meaning familiarity). The idiom categories containing more frequently used idioms (F-D and F-LD) were produced with the least errors across all the other categories. The most difficult, across all the categories, was the ‘less-frequent and less-decomposable’ (LF-LD), as both the dimensions are unfavourable. The decomposability factor provides an advantage in idiom comprehension to the age groups, especially the older children; however, this property of idiom has a very limited influence and can at best be considered a passive contributor in idioms’ production.

For all the age groups and all the categories of idioms, a picture stimulus provided a less erroneous response. Even the children of the oldest age group used for the study (12-13 years) showed evidence of benefitting from the visual stimuli. Therefore, it is

proposed to include more pictorial-based teaching for idioms and other figurative forms across all age groups, rather than phasing them out for older children. Teaching a group of idioms which can be associated with a mental imagery (concept), and representing such idioms through picture stimulus, can lead to better idiom production skills and a good vocabulary of idioms.

7.5. Development of idiomatic competence in children

This section presents the outcome of the idiom comprehension and production studies conducted on children, discusses the importance of context, presents our view on the debate around the activation priority of literal meaning for idioms, defines the phases of development of idiom competence, and attempts to correlate the approximate ages of children when these phases or levels are realised. It can be concluded that the idiom acquisition process in children is similar to the development of regular language skills, i.e., the development of figurative language follows a process similar to language development in general. Building expertise in the nonliteral forms of language warrants deployment of the same processes and strategies that are required to understand the literal forms. The comprehension and production of idioms develop gradually with cognitive maturity.

The results of our study support Levorato's theory (1995) of idiomatic competence development in defined phases. Definite trends emerge from the idiom comprehension and production studies that we conducted, highlighting a gradual transition from the adoption of literal strategies in young children to progressively higher levels of idiomatic competence in older children. It is worth mentioning that these phases or levels are not exact watertight compartments. Rather, the transitions across idiom competence phases are gradual, with blurred boundaries leading to reasonable overlaps. Furthermore, the phases and findings are theorised to be applicable for the children population in general and may vary across specific samples or individual cases of children.

In the early stages of a child's development, until the age of 8 years, literal interpretation and literal production strategies are dominant. This phase can be termed as 'Level 1' of idiom acquisition, where a literal strategy to process the text word by word dominates the processing of idiomatic expressions.

In the next phase, children start developing awareness to understand the incongruency between ‘what is said and what is meant’ in an idiom. Our study indicates that from the age of 8 to 9 years, this realisation is more consistently observed and applied by children leading to less literal interpretation errors in this age group, which can be considered ‘Level 2’ of the idiom acquisition phase. Further evidence of literal suspension in the age of 8 to 9 years is provided through the enhanced idiomatic and figurative comprehension skills in the immediately senior age group (9-10 years), as mentioned below.

The age group of 9-10 years shows a high accuracy of idiom comprehension and a reduction in the literal errors made by children, and therefore can be considered as ‘growth spurt of idiom comprehension competence’, where the children can recognise and accept the conventional forms and meaning of idioms more consistently. However, the production competence in this phase is still under development with a high percentage of error responses. This age group can be considered to be in ‘Level 3’ of the idiom acquisition phase, characterised by a developed idiom comprehension competence and basic production competence. ‘Level 3’ can be considered the phase where children consistently realise the existence of figurative forms and creative aspects of language. The idiom production competence trails the comprehension competence, as evident from the data collected in Chapter 6 (idiom production study on children).

The age group of 10-11 years is the ‘growth spurt of idiom production competence’ and witnesses considerably lower errors in idiom production and a tendency to respond with figurative or metaphorical expressions even if the idiom recall fails. This phase of ‘Level 4’ is characterised by a growth spurt in idiom production competence and a steady linear increase in comprehension competence.

Post the age of 11 years, both idiom comprehension and production competence grow beyond an inflection point of idiom acquisition. The competence beyond 11 years grows with more exposure to idioms and with academic or formal education in a linear progressive manner. It would be safe to assume that the cognitive age of children becomes a secondary factor, and the key driver to further growth of idiomatic competence beyond this age would be the linguistic surrounding of the child. This phase can be considered to be the ‘Level 5’ of idiomatic competence. These phases are represented in Figure 7.1.

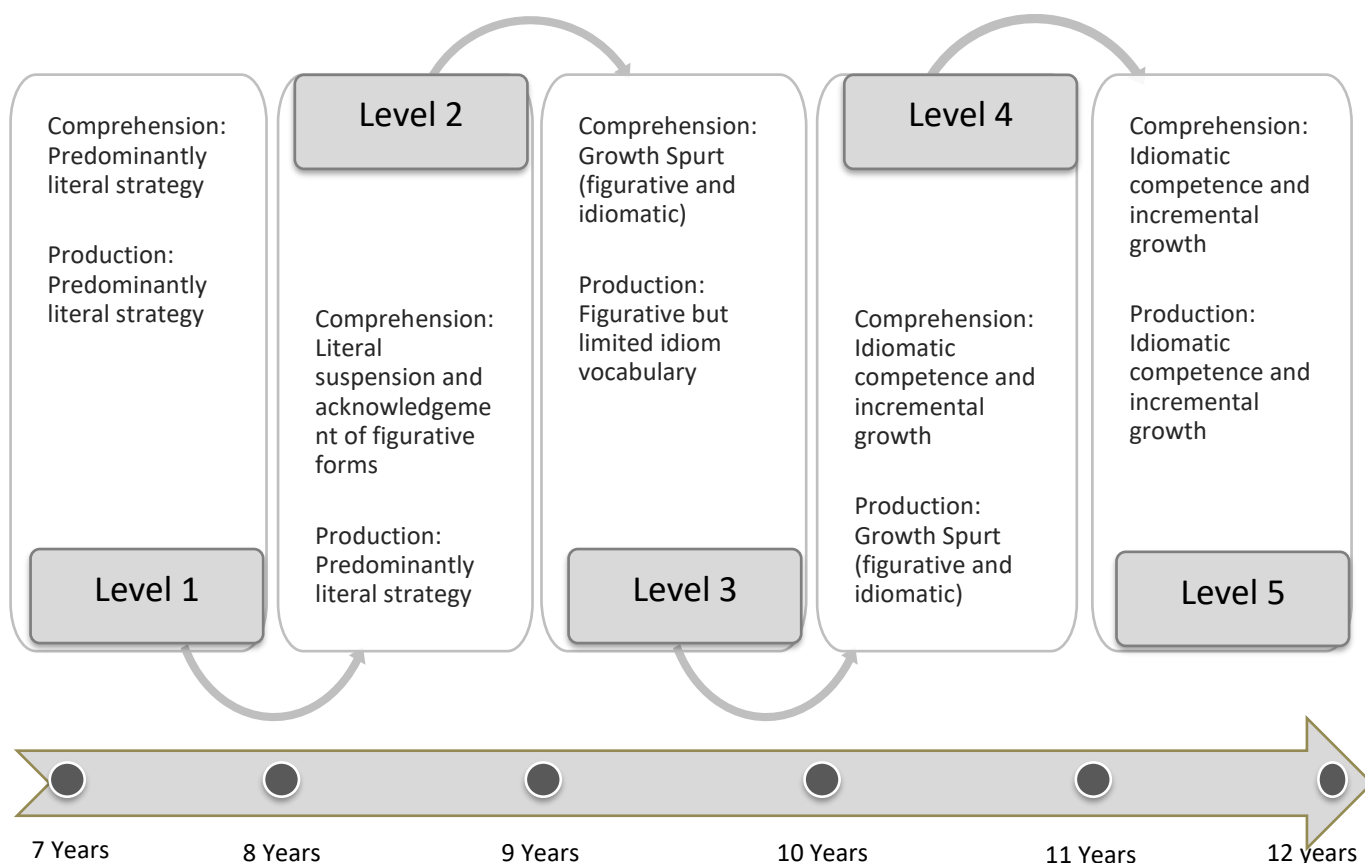


Figure 7.1: Phases of idiomatic competence and the corresponding age of children (approximate)

Our study has supported that familiarity facilitates the comprehension and production of idioms in idiom development. This proposition partially supports the GEM model, which objected to the familiarity aspect in idiom comprehension because it believed that familiarity facilitates the production but not comprehension. The GEM model strongly supported the influence of context in idiom comprehension. We have found that frequency of usage influences majorly in both the aspects of idiom acquisition. We have established in our study that, due to the varied nature of idioms, a less-decomposable category relies heavily on the usage frequency, and it is likely to be acquired in the rote manner, which is also the contention of the GEM model. Our study projects that context, frequency of usage, and decomposability play a crucial role in idiom comprehension. However, decomposability does not seem to play a significant role in idiom production.

There are numerous debates on the priority and activation of literal mode while comprehending idiomatic expressions. Some studies suggest that the literal mode gets activated first, and only because of the literal meaning being a misfit in the context, the figurative mode gets pursued as an afterthought. This assertion can be validated by looking at the studies and data collected on idiom acquisition in children. The empirical studies conducted as a part of this work suggest that younger children are inclined towards literal errors in idiom comprehension and production. This tendency to make more literal errors while comprehending idioms indicates a primary strategy to process the information of the linguistic string in a piece-by-piece manner, i.e., they try to integrate the meaning of each constituent rather than looking at the expression as a whole.

With more exposure to world knowledge and cognitive maturity, i.e., for older children, piece-by-piece analysis no longer remains the primary tool for idiom comprehension. Hence, older children start integrating the meaning of the sentences globally and extracting more information from the context to arrive at the idiomatic meaning, while also checking for the fitment of the idiom in the surrounding context (to-and-fro interaction with context). This advancement happens in phases, similar to the regular language development phases. The children develop the ability to understand the additional sense of words and expressions, as they develop their knowledge and go beyond the literal referential strategy. They start using the contextual clues and start integrating the idioms' lexical and semantic information from the sentence, and finally start realising that certain linguistic forms are conventional and such lexical forms are a ubiquitous part of human language. The addition of these idioms to children's vocabulary helps in their recall in the appropriate communication scenarios, thereby enhancing the idiom production competence. The realisation of figurative forms and the subsequent addition of idioms in one's vocabulary are the critical idiom acquisition steps.

7.6. Practical applications of this study

In this section and subsequent subsections, we have discussed the shortcomings of current idiom teaching methodologies in schools and our suggestions to improve them by the practical application of this work in designing the teaching material. Recent studies in psycholinguistics and speech production have led many scholars to believe that early exposure to and learning of figurative language and idiomatic expressions are essential for language learners. The knowledge of these phrases helps in language comprehension

and eases production, thereby allowing language learners to communicate more clearly and confidently. The exposure to figurative expressions improves comprehension skills and nurtures the creative aspect of the mind, thereby providing an impetus to build analytical and reasoning skills. From a language development perspective, it is undeniable that idioms' varied nature causes difficulty for language learners and may lead to erroneous interpretations. Enriching the vocabulary of children and second language learners by the addition of the right types of idioms is a challenging task.

In Section 7.6.1, we have discussed the shortcomings of current idiom teaching methodologies in schools. In Section 7.6.2, we have presented the ways in which the insights gathered from our study can be applied to improve the teaching material and methodologies. In Section 7.6.3, we have explained how a suitable sampling of idioms and their representation should be done for children of different grades and age groups.

7.6.1. Gaps observed in material and methodologies used in schools for teaching Hindi idioms

To understand the scope of improvement in the idiom teaching methodologies in children, we looked into the teaching materials, including the prescribed textbooks and practice exercises used to teach Hindi idioms in the CBSE curriculum from Class III to Class VII. We have presented the Hindi grammar books, prescribed for Class III to Class VII which were reviewed to identify the gaps, in Table 7.1.

Table 7.1: Hindi grammar books (prescribed for Class III to Class VII) reviewed to identify the gaps in current idiom teaching methods.

Class	Books Reviewed
III	<i>Naveen Hindi Vyakaran Tatha Rachna (Part 3)</i> <i>Hindi Vyakaran Sudha (3)</i>
IV	<i>Naveen Hindi Vyakaran Tatha Rachna (Part 4)</i> <i>Hindi Vyakaran Sudha (4)</i>
V	<i>Naveen Hindi Vyakaran Tatha Rachna (Part 5)</i> <i>Hindi Vyakaran Sudha (5)</i>
VI	<i>Vyakaran Nidhi (6)</i> <i>Naveen Madhyamik Vyyakaran Evam Rachna (6)</i>
VII	<i>Vyakaran Nidhi (7)</i> <i>Naveen Madhyamik Vyyakaran Evam Rachna (7)</i>

We observed that the current school curriculum does not give much importance to the figurative expressions and the phenomena of idiomaticity, and these expressions are taught as just another grammar topic in the curriculum. Multiple practical issues are not addressed when idioms are introduced to children, nor the materials are designed scientifically to make the learning process easy as well as enjoyable.

One of the most evident gaps observed was that the definitions of idioms presented to children in these textbooks were vague, referring to idioms as expressions that have special meanings. While this is true, it is not a sufficient definition, as all figurative forms of language follow this. The relevance of conceptual mapping, metaphoricity, culture, convention, as well as the idioms' properties, e.g. compositionality, frozenness, etc. are not explained (even in a simplistic manner). Most idioms are taught individually by just listing the idioms along with their meaning. The children are encouraged to memorise the idioms and their meanings, and there is no focus on developing language skills and cultural awareness. Currently, there is no assertion in idiom teaching that not all idioms carry a random relationship in their literal form (idioms' constituents) and the figurative meaning; rather, many idioms may have predictable meanings which can be inferred either through a metaphorical extension, or through compositional analysis, or through a cultural reference. These strategies can make the idioms more relatable for children, and hence actually contribute to their using such figurative forms more frequently.

It is a general teaching practice in classrooms to recall the meaning and construct sentences from the idioms as a part of the learning process even for small children. Such teaching methods rely heavily on rote learning of the meaning of a small set of idioms. Apart from this, the practice exercises also reiterate this narrow definition of idioms, without really contributing much to the understanding of idioms and improvement of language skills. These teaching practices may not be the best approach and may produce poor comprehenders, as such methods do not enhance children's comprehension and language skills.

The teaching practices of idioms also do not involve the comprehension aspects very effectively. Even when the first introduction of idioms happens to children in Class III, the working exercises involve remembering and repeating the idioms and their meanings, and using them in a sentence, which is in essence a production task. The first

step of recognising and comprehending the meaning of idioms is completely ignored. However, our work and multiple other studies indicate that comprehension always precedes production; hence the absence of exercises to identify idioms in a given sentence (absence of a comprehension task) is a major gap in idiom teaching, and hence this discourages the use of idioms. A review of idioms used in the Hindi grammar textbooks (Table 7.1) shows that the sets of idioms chosen for teaching are generally chosen arbitrarily without considering their form and linguistic dimensions (like semantic transparency and usage frequency) or grouping of idioms denoting similar concepts.

Moreover, prescribed textbooks and even language teachers introduce idioms in a superficial manner with a limited focus, insufficient resources, and severe time constraints. Hindi idioms are often taught as a part of the Hindi grammar syllabus towards the end of the term, and a maximum of only two to four classes are dedicated to their teaching.

Another issue in teaching methods is that they are generic across age groups and are neither entertaining nor age-appropriate to capture the interest and attention of young children. An area of improvement is the use of different kinds of stimulus to make the learning process more relevant to the age group of children being taught. For example, for the idioms taught from Class III to Class VII, on an average only one out of twenty idioms was depicted in the form of a picture, that too for representational purposes. For other idioms, only meaning and sample usage in a sentence were presented. In summary, we noticed that such a vital language component is taught a bit superficially in schools with a quixotic and unscientific approach; there is much scope of improvement in idiom teaching in schools. For making the learning process more effective and enjoyable, a different approach should be used.

7.6.2. Application of the current work in improving the material and methodologies used in schools for teaching Hindi idioms

As explained in Section 7.6.1, the idiom teaching methodologies and material require a reform. The introduction of idioms in classroom teaching should be effective and practical. There is much potential to improve the teaching methods using concept association, explaining culturally motivated idioms, citing examples of body-part idioms, etc. It is important to make children aware of the rules and patterns that can facilitate idiom comprehension. The teaching methods and material should account for different

aspects of idioms and the learning patterns of children in different grades and age groups. The insights from the idiom comprehension and production studies on children have helped us construct a practical approach towards idiom learning, as per the children's cognitive ability (in different age groups or grades). We have explained our suggestions and the rationale behind them in the following subsections.

7.6.2.1. Developing material as per children's cognitive maturity

Our study has indicated that development of figurative language in children happens in phases, and gets evolved as the children's cognitive maturity develops, i.e. as they acquire more world knowledge. As discussed in this thesis, we have observed that different age groups have reacted differently to the comprehension and production tasks.

The data shows instances of improvement in idiom comprehension and production with advancement in age, starting with an ability to avoid analysing the language literally when they come across an idiom or a figurative expression. This phase in language development is marked as the commencement of figurative competence where children start realising that language has some ambiguities in various linguistic forms and their meanings. Classroom teaching should incorporate such insights and develop materials and teaching practices according to the child's cognitive maturity.

Exercises relating to all the aspects: idiom recognition, comprehension, and production should be utilised in idiom teaching for all age groups. For younger children, the focus should be on identifying and comprehending such figurative forms, and gradually in subsequent grades, the production of idioms should be taken up. Idioms which are transparent and frequent should be introduced in younger children, while slowly increasing the complexity of idioms taught by choosing idioms that are opaque, frozen, and not very frequent, in higher age groups and grades.

Identification and comprehension of idioms in the usual scenarios of reading, listening, and conversing (i.e. during the daily language use) is one facet of the figurative language competency. Another extremely critical aspect is the ability to use idioms for communicating more effectively; to name a few use-cases: to provide emphasis, present abstract concepts, and vividly describe one's emotions. Therefore, exercises guiding the recognition, comprehension, and production should be the focus of idiom teaching in the classroom in different classes or grades.

7.6.2.2. Developing a good reading skill to increase exposure to idioms

The comprehension skills of children vary across age groups and hence to maximise idiom learning, a good reading skill should be developed first. The objective should be to increase exposure to idioms without necessarily forcing children to memorise each idiom's meaning. Our empirical study has highlighted that the contextual clues lead to a good comprehension of idioms; therefore, children should be encouraged right from the beginning to draw contextual and lexical clues. Exercises should be designed to cover both these aspects and hence promote the active participation of the language learners. Inclusion of idiom comprehension tasks in younger grades and age groups is particularly important. Embedding the idiom in a story, and then asking the children to identify the idiom and its meaning from the context provided in the story, is one of the possible ways to build up the reading skills in general, and idiom comprehension skills in particular. Idiom teaching should be supported using appropriate and deliberate inclusion of idioms in the curriculum designed for the Hindi literature textbooks (embedding idioms in the text of the chapters), apart from introducing a set of idioms in the Hindi grammar textbooks.

7.6.2.3. Use of concept-based teaching

An improvement in the current idiom teaching methodologies can be achieved through concept-based teaching. A set of idioms may be taught together, along with an explanation of the underlying concept (or emotion, in case the idiom represents emotions like 'anger', 'happiness', etc.) associated metaphorically to its meaning. In some idioms, associating and deriving meaning requires a cross-domain mapping in the conceptual system through conceptual metaphors between the concrete and abstract concept. Such a cognitive mechanism is a natural process where conceptual metaphors act as a linking thread between the two conceptual domains. Therefore, concept-association to derive the figurative meaning would improve the understanding to comprehend and produce idioms more effectively and as relevant during language use.

The linking threads, or the 'conceptual metaphors', motivate the meaning of many idioms. If meaning association is explained to children through conceptual metaphors, it can ease the understanding of idioms and enable them to use more idioms motivated by the same underlying mental images. We can understand this thought briefly through few

examples from Hindi idioms where each idiom is motivated by the same underlying conceptual metaphor ‘ANGER IS FIRE’ and ‘MIND IS CONTAINER’ (capital letters denote the concepts). The data shows that the domain of fire helps to understand the domain of anger. Anger is comprehended through, and hence can be associated with, the concept of fire as can be seen from the following idioms:

a) gəɾəm ɖimag hona

Literal meaning: ‘to be hot headed’, Figurative meaning: ‘to be short tempered’

b) ag bəbu:la hona

Literal meaning: ‘to be fire boil’, Figurative meaning: ‘to be extremely angry’

c) kʰu:n kʰəulna

Literal meaning: ‘boiling of blood’, Figurative meaning: ‘to become very angry’

d) əŋgare ugəlna

Literal meaning: ‘to vomit hot charcoal’, Figurative meaning: ‘to say harsh words in anger’

e) ākʰē lal pi:li: kərna

Literal meaning: ‘to make eyes red and yellow’, Figurative meaning: ‘to show anger’

The instructions to understand such expressions would be to derive the meaning by analysing their connections through the metaphorical links. For example, the idiom ‘ag bəbu:la hona’ conveys the meaning of being ‘extremely angry’ can be understood by realising the metaphorical association that ‘mind’ is a container and ‘anger’ is the heat generated in the container. These metaphorical senses could be explained as the emotion of anger generates the heat (anger) in the container (mind), and this heat raises the temperature with the emotion getting stronger. When a person gets extremely angry, the container fails to hold the heat inside, and it rushes out and showing a physiological change in colour of the face or eyes, or through verbal spat (emotional outburst). The domain of fire can also constitute words like ‘burn’, ‘heat’, ‘boil’, ‘spark’, ‘flame’ etc. Therefore, children can be explained that these domains may conceptually motivate such words used in the idioms.

Hence, teaching using a simplified view of these conceptual metaphors, which function as a connecting element between an abstract domain (anger) and a physical domain (fire), can be a more effective way for children to learn more idioms while understanding and associating the meaning with the concept. Once such a mapping is explained, and with due practice and exposure to multiple such concept-idiom mappings, a child's idiom comprehension skills would increase along with an increase in the chances of producing idioms, as the child possesses an enriched repository of idioms. Enriching the vocabulary of children, through the learning of multiple idioms denoting the same concept, would help in the production of idioms. Another way to enhance the production skills would be to design tasks where children are encouraged to produce multiple idioms to describe a particular concept or emotion.

The present study has also indicated that older children tend to give figurative responses even if they could not recall the appropriate idioms. This tendency of figurative completion indicates that such children have developed a fundamental conceptual strategy for interpretation and appreciate the existence and prevalence of figurative language forms. Therefore, idioms with a metaphorical or metonymic base need to be identified as such, and teachers can guide students to use metaphorical links as an interpretational strategy.

7.6.2.4. Use of pictures or videos to capture the attention and do effective understanding of the meaning

We have already mentioned that comprehension and production skills vary in children, and we have criticised the monotonous teaching practices in the classroom. To provide a better solution to both these issues, we propose pictorial-based learning, especially for young children. This suggestion is corroborated by our study, which indicated idiom production was more effective when an image was used as a stimulus, than an incomplete sentential context (fill in the blanks). Secondly, our study showed that there is a gradual development of figurative competency in children as their cognitive maturity increases. This transition is gradual: from adopting a predominantly literal strategy to being more adept at figurative interpretation. There are higher chances of literal interpretation error until the age of approximately eight years. Having a pictorial or image representation helps young children absorb the context better and boosts the mind's figurative faculties as imagination plays a central role in cognition.

Learning using visual input to introduce an object is a familiar tool for young children to learn many common words through the visual medium. Symbolic learning activities are more effective than text-based activities, considering the short attention span of young children. Activities, where animated pictures and videos are used, will keep the children engrossed and encourage more attention and participation in the class. Therefore, such activities can be used to improve both the comprehension and production aspects. In slightly advanced age groups, images depicting both literal and figurative meaning and exercises may help differentiate between the lexical ambiguities of language and encourage them to realise such differences. Such activities will help children draw inferences from the context and recognise, understand, and produce such expressions.

7.6.2.5. Explain the use of compositionality to relate the idiomatic meaning with the literal meaning

The current curriculums that revolve around memorisation of idioms enable only the recognition of such structures, that too only for the memorised idioms. Some idioms represent abstract concepts or emotions which are often not feasible to represent through pictures due to the difficulty in their unambiguous representation in, and identification from, the picture. In such cases, the aspect of decomposability can be considered to educate the children to arrive at the meaning of more decomposable idioms. Less decomposable idioms can be taught by presenting multiple sentences which provide the context. These activities can help children be more comfortable comprehending even new idioms that they encounter in spoken or written forms of language use, thereby indicating the development of figurative competency.

7.6.2.6. Selecting the right set of idioms for classroom teaching:

The decision making in choosing an accurate sample of idioms for children is a difficult task, but the approach discussed in this section may reduce this difficulty. Based on the findings of our study, we have provided recommendations in this section regarding the selection of apt idioms for children at different stages of cognitive maturity, being at different ages or having different levels of formal education. The empirical studies on idiom comprehension and production provide useful information for designing the teaching methodology, teaching materials, and practice exercises. Another important aspect is identifying which idioms should be taught at which level, i.e. if there is a

particular idiom property or different criteria that can be used to identify the right idioms to be taught at introductory and advanced phases of idiom learning.

We observed that factors like ‘compositionality (or meaning transparency)’ and ‘usage frequency’ aid in the comprehension of idioms. For the production of idioms, ‘usage frequency’ plays a more significant role. However, across all tasks, we found that ‘frequent decomposable’ category idioms were better comprehended and produced than ‘less-frequent and less-decomposable’ category idioms. Therefore, these two dimensions should be adequately examined by measuring and scanning the selected set of idioms on the degree of frequency and decomposability through tests. Many idioms are not transparent but are frequent in the linguistic environment (more frequently used, heard, or read), and such idioms can be comprehended easily because of the familiarity with the expression and its usual appearance in a particular context. On the other hand, decomposable or transparent idioms are easy to explain because their lexical form and figurative meanings are related.

Another aspect of idioms’ selection procedure should be age appropriateness, where idioms should match the children’s vocabulary. The selection procedure should also involve the initial inclusion of idioms with simple grammatical forms and meanings at the introductory levels, and the introduction of idioms denoting complex concepts in higher age groups and grades. Body-part idioms, or idioms related to simple concepts, emotions, and experiences, which a child can relate with, could be considered suitable for selection, particularly for the lower age groups and class (grade).

7.6.2.7. Possible approaches and material designs for teaching idioms to children in different grades

As explained in Section 7.6.1, there is an immense scope of improvement in teaching methodology and materials. Rote learning, recalling the meaning of idioms, or matching idioms with their meaning, is not sufficient as they focus only on recognition and memory recall of idioms and do not necessarily enhance the figurative competence of children. Idioms should be introduced as expressions, a particular combination of words, which are used to convey simple messages in a clever way to add emphasis, wit, humour, or certain emotions. These expressions have special (figurative) meanings which are different from their literal meanings, however, are not completely arbitrary, and can be linked if we use our imagination and understand some associations (e.g. ‘fire’ and

‘anger’). The idioms then should be explained using a concept-based teaching method (discussed in detail in Section 7.6.2.3) along with relevant examples and comprehension-based activities which make good use of a story or pictorial context.

Curriculum-design decisions cannot be made generically; rather, these decisions should be made post considerable deliberation on different aspects like the age group of children, their current language skills and cognitive growth phase, and the types or categories of idiom to be included. Hence, we have proposed a few teaching activities and exercises for comprehension (which includes identification and understanding) and production of idioms. The recommendations made here are meant to be a few threads to explore by the curriculum design experts, and hence are a starting point to plan and approach the much-needed changes. We have suggested the idiom teaching methodologies and materials in this section and grouped them into basic, intermediate, and advanced levels. In Table 7.2, we have mapped the right complexity levels to the corresponding class or grade and age groups of children.

7.6.2.7.1. Proposed teaching methods, activities, and practice exercises for developing the idiom comprehension competence

- 1) Basic complexity level: At the basic level of idiom comprehension, the teaching methods and practice exercises emphasise the identification of idioms and the understanding of their figurative meanings. These methods and exercises should predominantly contain ‘frequent and decomposable’ idioms, and a relatively smaller number of idioms from the remaining categories. The idioms’ meaning association exercises help children understand the idiom’s meaning using visual clues and appropriate sentential context. The meaning of the idiom(s) can be listed for reference as a footnote or at the end of each exercise listed below as a secondary consideration.

Recommended Teaching Methods:

- a. Teaching Method 1: The idioms are presented in short, interesting stories, with one idiom embedded in each story. Each story is accompanied by a picture that represents the idiom or its figurative meaning. Children are encouraged to read the text, and identify and highlight the idiom in the provided text. The visual medium helps to reinforce the learning, as the meaning of the idiom is explained

by the teacher. Finally, the children are asked to look up the idioms and understand the meanings provided in the footnote.

- b. Teaching Method 2: Children are explained that each concept or emotion could be associated with one or multiple idioms. Different idioms denoting identical concepts are listed together, along with their sample usage in a simple sentence, and images that represent the idioms or their figurative meaning. Up to five concepts and emotions could be taught at the basic level, e.g. ‘anger’, ‘happiness’, ‘sorrow’, ‘patriotism’, etc. Children can look up the meanings later, but more significance is given to the concept or emotion an idiom conveys.

Recommended Practice Exercises:

- a. Practice Exercise 1: The idioms are presented in sentences, with each sentence containing one idiom and a picture representing each idiom (which acts as a clue). Children are encouraged to read the sentences, and to highlight the phrase they feel is an idiom. After completing this exercise, the meanings of the idioms are explained by the teacher. Due emphasis is provided to drawing inferences from the sentential context and associating the idioms with the pictures presented.
 - b. Practice Exercise 2: Multiple idioms are presented in a random order, along with a list of concepts, e.g. ‘anger’, to which these idioms can be possibly matched. Children are asked to match the idioms with the concepts listed, thereby establishing that one concept can be represented through multiple idioms. The related idioms are listed together along with their meanings and the concept they represent at the end of the exercise, for children to refer to them later.
- 2) Intermediate complexity level: At the intermediate level of idiom comprehension, the teaching methods and practice exercises emphasise the identification of idioms along with their meanings, association with visual clues and concepts, and use of the sentential context and MCQ tasks to help children understand and strongly associate with the idiom’s meaning. These methods and exercises should predominantly contain a varied mix of ‘frequent and decomposable’, ‘less-frequent and decomposable’, and ‘frequent and less-decomposable’ categories of idioms. The material may contain a relatively smaller number of idioms from the ‘less-frequent and less-decomposable’ category. The meaning of the idiom(s) can be listed for

reference as a footnote or at the end of each exercise listed below as a secondary consideration.

Recommended Teaching Methods:

- a. Teaching Method 1: The children are presented with short, interesting stories containing multiple idioms in each story. The page design is such that pictures representing each idiom appear alongside the text. Children are encouraged to read the text and identify and highlight the idioms. During this reading activity, the teachers help the children understand how the meaning can be deciphered from the context presented. The teacher explains the meaning of each idiom, and the children are also asked to go through the meanings provided in the footnote.
- b. Teaching Method 2: Enhancement of Teaching Method 2 from basic complexity level with the introduction of more idioms and concepts.

Recommended Practice Exercises:

- a. Practice Exercise 1: The children are presented with short, interesting stories containing multiple idioms and the corresponding pictures in each story. The complexity and type of idioms are varied by choosing idioms from different categories. Children are asked to identify and highlight the phrases in the text they feel are idioms and replace the identified idioms with the corresponding idiomatic meanings using the contextual information for guidance. Once the exercise is completed, children are asked to compare the meanings they have deciphered with the meanings of the idioms provided for reference at the end.
- b. Practice Exercise 2: Enhancement of Practice Exercise 2 from basic complexity level with the introduction of more idioms and concepts
- c. Practice Exercise 3: Idioms of the mentioned categories are presented in a suitable context (which can be a short paragraph). Each paragraph contains one idiom to be comprehended and is followed by four choices out of which there is one choice representing the idiom's correct meaning. The three incorrect choices could be designed as: the literal meaning of the idiom, a literal phrase which satisfies the context but is not the right meaning of the idiom, and a completely random phrase which does not fit the context provided. Children are asked to select the choice which represents the correct meaning of the idiom. Once the exercise is

completed, children are asked to compare the meanings they have selected with the meanings of the idioms provided for reference at the end.

- 3) Advanced complexity level: At the advanced level of comprehension activities, we design the activities around a varied and larger mix of idioms, but most importantly containing more idioms from the ‘less-frequent and less-decomposable’ category. Emphasis is on identifying multiple idioms along with their meanings without the aid of any visual clues. Sentential context and association with concept or emotion become the vital tools considering that children have higher exposure to idioms and cognitive maturity at this level.

Recommended Teaching Methods:

- a. Teaching Method 1: Enhancement of Teaching Method 1 from intermediate complexity level with the removal of visual aids (pictures).
- b. Teaching Method 2: Enhancement of Teaching Method 2 from basic complexity level with the introduction of more idioms and idioms containing embodied experience and denote abstract concepts like hate, fear, patriotism etc.
- c. Teaching Method 3: A brief introduction to the properties of compositionality (transparency) and metaphoricity, which can assist in comprehension as children can attempt to infer the meaning of the idioms from their constituents. Other aspects like the origins of some idioms and cultural references can also be explained to the students to develop an understanding of figurative language. Mapping of idioms to their meaning through metaphors, metonymy etc. can also be explained.

Recommended Practice Exercises:

- a. Practice Exercise 1: Long stories, essays, and articles with a mix of idioms in the text (focus being on the ‘less-frequent and less-decomposable’ idioms), where the idioms are embedded in a fitting context. Children are encouraged to read the text, identify, and highlight the idioms, associate them with the context presented, and replace the idioms with the corresponding idiomatic meanings.
- b. Practice Exercise 2: Enhancement of Practice Exercise 2 from basic complexity level with the introduction of more idioms.

- c. Practice Exercise 3: Enhancement of Practice Exercise 3 from intermediate complexity level with the introduction of more idioms and the corresponding MCQ choices.
- d. Practice Exercise 4: Independent sentences, with each sentence containing an idiom from all categories, with a higher number of less decomposable idioms. Children are asked to rephrase the sentence without using the idiom (while retaining the meaning).
- e. Practice Exercise 5: A speech or audio/video clip containing a mix of idioms is played, where the idioms are embedded in a fitting context. Children are encouraged to listen to the audio/video clip and note down the idioms. After the audio clip is played completely, children are encouraged to write down the meanings of the idioms identified.

7.6.2.7.2. Proposed teaching methods, activities, and practice exercises for developing the idiom production competence:

- 1) Basic complexity level: At the basic level of idiom production, the teaching methods and practice exercises should put emphasis on idiom production, when prompted through a context and supporting visual clue. The idioms used will be similar to those used in comprehension-related activities and material at the basic level.

Recommended Practice Exercises:

- a. Practice Exercise 1: Short stories are presented to children, with an aptly placed blank space in each story where an idiom should be filled. Children are encouraged to read the text to understand the context provided. A picture representing the idiom, or its figurative meaning and the first word of the appropriate idiom are provided as clues. With guidance from context and image and hints from the teacher, children are asked to fill the blank with an appropriate idiom.
- b. Practice Exercise 2: Images of body parts like ‘eyes’, ‘ears’, ‘nose’, etc. are provided. Children are asked to produce idioms related to the corresponding body parts.
- c. Practice Exercise 3: Children are presented a few idioms and are required to use them appropriately in sentences.

- 2) Intermediate complexity level: Higher complexity than basic level because of the addition of more idioms, concepts, with a limited use of context. The idioms used will be similar to those used in comprehension-related activities and material at the intermediate level.

Recommended Practice Exercises:

- a. Practice Exercise 1: Enhancement of Practice Exercise 1 from basic complexity level with the usage of short sentences instead of stories to provide context.
 - b. Practice Exercise 2: Enhancement of Practice Exercise 2 from basic complexity level with the introduction of more images and idioms.
 - c. Practice Exercise 3: Enhancement of Practice Exercise 3 from basic complexity level with the introduction of more idioms.
 - d. Practice Exercise 4: Children are presented a sentence containing an idiom. Children are explained that each concept or emotion (e.g. anger, happiness, sorrow, etc.) could be associated with one or multiple idioms. Children are asked to replace the idiom with another idiom.
 - e. Practice Exercise 5: Children are divided into groups. While one group is asked to enact an emotion or concept, the other group needs to produce an idiom that represents the emotion or concept conveyed.
- 3) Advanced complexity level: Higher complexity than intermediate level because of the addition of more idioms denoting complex concepts (e.g. ‘bribery’, ‘taboos’, etc.) , with a limited use of context. The idioms used will be similar to those used in comprehension-related activities and material at the advanced level.

Recommended Practice Exercises:

- a. Practice Exercise 1: Enhancement of Practice Exercise 1 from intermediate complexity level without providing any clue words or images.
- b. Practice Exercise 2: Children are provided pictures representing a few idioms or their meaning, and asked to identify the corresponding idioms. Children are encouraged to build stories out of these idioms.
- c. Practice Exercise 3: Enhancement of Practice Exercise 3 from intermediate complexity level with the introduction of more idioms.

- d. Practice Exercise 4: Children are asked to think of a few idioms with a valid literal meaning. For these idioms, children are then asked to create stories or dialogues in which the literal use of the idioms creates a misunderstanding.
- e. Practice Exercise 5: A few emotions and concepts are listed along with the corresponding images to represent them, e.g. ‘anger’, ‘happiness’, ‘jealousy’, ‘patriotism’, ‘bribery’, etc. Children are asked to produce appropriate idioms which convey these emotions.

7.6.2.7.3. Mapping the teaching materials and teaching exercises to class (grade) and age groups of children

After identifying the teaching materials and practice exercises at each complexity level, a natural next step from our study was to assign these to the right age group and class of students. We have mapped the class (grade) and age groups of children with the recommended complexity levels for idiom learning in Table 7.2. For younger children in a lower class (grade), we suggest basic to intermediate idiom comprehension levels and basic idiom production levels. The gradual transition to higher complexity levels for both comprehension and production is suggested for children of higher age groups and grades (classes). Table 7.2 explains our recommendation as a broad guideline. This can be further refined and elaborated during the curriculum design of these academic courses.

Table 7.2: Idiom teaching methodologies proposed for Class III to Class VII (and the corresponding age groups)

Class	Age group (indicative of the general population)	Complexity level of teaching material for idiom comprehension	Complexity level of teaching material for idiom production
Class III	7 years to 9 years	Basic	Basic
Class IV	8 years to 10 years	Intermediate	Basic
Class V	9 years to 11 years	Intermediate	Intermediate
Class VI	10 years to 12 years	Advanced	Intermediate
Class VII +	11 years to 13 years +	Advanced	Advanced

7.7. Future directions

Idioms are one of the most intricate components of human language. Compared to the non-figurative forms of language, a different skill set is required to comprehend and produce idioms correctly. Moreover, idiom comprehension and production may also become more challenging as per the cognitive and linguistic demands of the situation and communication objective. Figurative development also depends on the language skills of children, which enable the extraction of information from the surrounding context and facilitate the semantic analysis of idioms. The cognitive ability to draw inference from context and the degree of familiarity of certain idioms in their linguistic environment could show huge variations across children of different socio-economic, cultural, and educational backgrounds. Figurative development may happen in phases that could be considered stages of growth with fuzzy boundaries and transitions instead of strictly defined watertight compartments. Therefore, further investigation is required to study the development of figurative competency.

The present work aimed at studying the comprehension and production patterns of idioms in children during their idiom acquisition phase in the age group of 7-13 years. Enhancements to the idiom comprehension and production model can be made by investigating the processing of idioms in younger children. The present work did not aim to cover the processing aids and impediments, and therefore further research is needed to explore the idioms' representational status. Studies based on response time experiments can be an extension of the present work to help understand the processing of idioms of different categories, having different dominant linguistic dimensions. A limitation of the present work is that we have not considered the structural properties of idioms. The insights gathered from this study could be applied further to investigate the flexibility and fixedness aspects of idioms.

Although the present work is concerned primarily with idiomatic competency in a developmental concept system, an account consistent with the claims of the proposed model in a developed concept system is implicit. This assumption can be validated by designing studies on adult speakers who are second language learners. The second language learners would be an interesting group to explore because they may have sufficient cognitive maturity and understanding of concepts and figurative language in

their primary language but still may struggle to use idioms of the second language they are learning.

Comparative empirical studies on children with and without learning disabilities can be explored to understand the concept system in both types of children. These comparative studies should comprise different tasks to test the comprehension and production of idioms in different categories. Finally, sign language use is a potential resource for investigating the development of figurative language. An empirical investigation of polysemous and metaphorical usage in sign language processing would be of significance in this context.

Another scope of development on this work would be to test the existence of mental images of idioms in children. Such an elaborate study can determine if idioms' figurative meanings are motivated by various conceptual metaphors claimed to exist independently as a part of our conceptual system. The objective of such a study could be to refine the teaching methods through conceptual metaphor and image-schema based approaches.

The implication of the present work is to incorporate the insights into the academic curriculum by considering semantic properties and usage frequency (increased exposure to idioms) in teaching and not just relying on rote learning. The study encourages the use of various practical teaching approaches like information-rich visual aids, stories etc., for productive learning. However, these insights need to be applied and elaborated during the curriculum design of the academic courses and material for teaching idioms to children.

Bibliography

- Abkarian, G. G., Jones, A., & West, G. (1992). Young Children's Idioms Comprehension: Trying to Get the Picture. *Journal of Speech and Hearing Research*, 35, 580-587.
- Abel, B. (2003). English Idioms in the First Language and Second Language Lexicon: A Dual Representation Approach. *Second Language Research*, 19(4), 329-358.
- Abrahamson, E. P., & Burke-Williams, D. (2004). Comprehension of Idioms by Children with Learning Disabilities: Metaphoric Transparency and Syntactic Frozenness. *Journal of Psycholinguistic Research*, 33(3), 203-215.
- Ackerman, B. P. (1982). On Comprehending Idioms: Do Children Get the Picture?. *Journal of Experimental Child Psychology*, 33, 439-454.
- Ambridge, B., & Rowland, C. F. (2013). Experimental Methods in Studying Child Language Acquisition. *Wiley Interdiscip Rev Cogn Sci*, 4(2), 149-168.
- Andrews, S., Miller, B., & Rayner, K. (2004). Eye Movements and Morphological Segmentation of Compound Words: There is a Mouse in Mousetrap. *European Journal of Cognitive Psychology*, 16(1), 285-311.
- Ariel, M. (2002). The Demise of a Unique Concept of Literal Meaning. *Journal of Pragmatics*, 34, 361-402.
- Ashby, M. (2006). Prosody and Idioms in English. *Journal of Pragmatics*, 38, 1580-1597.
- Baldwin, T., Bannard, C., Tanaka, T., & Widdows, D. (2003). An Empirical Model of Multiword Expression Decomposability. In *proceedings of the ACL-2003 Workshop on Multiword Expressions: Analysis, Acquisition and Treatment*. Sapporo, Japan, 89-96.
- Barnhart, W. R., Rivera, S., & Robinson, C. W. (2018). Effects of Linguistic Labels on Visual Attention in Children and Young Adults. *Front Psychol*, 9, 358. <https://doi.org/10.3389/fpsyg.2018.00358>
- Basu, K., & Singh, D. V. (2011). *Naveen Hindi Vyavharik Vyakran Ttha Rachna (part 3)*. New Delhi: Goyal Brothers Publication.

- Basu, K., & Singh, D. V. (2020). *Naveen Hindi Vyavharik Vyakran Tatha Rachna (part 4)*. New Delhi: Goyal Brothers Publication.
- Basu, K., & Singh, D. V. (2020). *Naveen Hindi Vyavharik Vyakran Tatha Rachna (part 5)*. New Delhi: Goyal Brothers Publication.
- Beeman, M., & Chiarello, C. (1988). *Right Hemisphere Language Comprehension*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Bernicot, J., Laval, V., & Chaminaud, S. (2007). Nonliteral Language Forms in Children: In What Order Are They Acquired in Pragmatics and Metapragmatics?. *Journal of Pragmatics*, 39, 2115-2132.
- Bobrow, S., & Bell, S. (1973). On Catching on to Idiomatic Expressions. *Memory and Cognition*, 1, 343-346.
- Boers, F., Demecheleer, M., & Eyckmans, J. (2004). Cross-Cultural Variation as a Variable in Comprehending and Remembering Figurative Idioms. *European Journal of English Studies*, 8(3), 375-388.
- Boers, F., & Demecheleer, M. (2001). Measuring the Impact of Cross-Cultural Differences on Learners' Comprehension of Imageable Idioms. *ELT Journal*, 55(3), 255-262.
- Boers, F., Eyckmans, J., & Stengers, H. (2007). Presenting Figurative Idioms with a Touch of Etymology: More Than Mere Mnemonics?. *Language Teaching Research*, 11(1), 43-62.
- Bogaards, P., & Laufer, B. (eds.). (2004). *Vocabulary in a Second Language Selection, Acquisition, and Testing*. John Amsterdam/Philadelphia: Benjamins Publishing Company.
- Bortfeld, H. (2003). Comprehending Idioms Cross Linguistically. *Experimental Psychology*, 50(x), 1-14.
- Bortfeld, H., & Brennan, S. E. (2009). Use and Acquisition of Idiomatic Expressions in Referring by Native and Non-Native Speakers. *Discourse Processes*, 23(2), 119-147.

- Brisard, F., Frisson, S., & Sandra, D. (2001). Processing Unfamiliar Metaphors in a Self-Paced Reading Task. *Metaphor and Symbol*, 16(1&2), 87-108.
- Camac, M. K., & Glucksberg, S. (1984). Metaphors Do Not Use Associations between Concepts, They Are Used to Create Them. *Journal of Psycholinguistic Research*, 13, 443-455.
- Cacciari, C. (1993). The Place of Idioms in a Literal and Metaphorical World. In Cacciari, C. & Tabossi, P. (eds.) *Idioms: Processing, Structure, and Interpretation*. Hillsdale, NJ: Lawrence Erlbaum Associates, 27-55.
- Cacciari, C., & Tabossi, P. (1988). The Comprehension of Idioms. *Journal of Memory and Language*, 27(6), 668-683.
- Cacciari, C., & Levorato, M. C. (1989). How Children Understand Idioms in Discourse. *Journal of Child Language*, 16(2), 387- 405.
- Cacciari, C., & Glucksberg, S. (1990). Understanding Idiomatic Expression: The Contribution of Word Meanings. In Simpson, G. B. (ed.) *Understanding word and sentence*. Amsterdam, Netherlands: Elsevier, 217-240.
- Cacciari, C., & Tabossi, P. (eds.). (1993). *Idioms: Processing, Structure, and Interpretation*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cacciari, C., & Glucksberg, S. (1995). Understanding Idioms: Do Visual Images Reflect Figurative Meanings?. *European Journal of Cognitive Psychology*, 7(3), 283-305.
- Cacciari, C., & Levorato, M. (1998). The Effect of Semantic Analyzability of Idioms in Metalinguistic Tasks. *Metaphor and Symbol*, 13(3), 159-177.
- Cacciari, C., Reati, F., Colombo, M., Padovani, R., Rizzo, S., & Papagno, C. (2006). The Comprehension of Ambiguous Idioms in Aphasic Patients. *Neuropsychologia*, 44, 1305-1314.
- Cain, K., & Oakhill, J. V. (1996). The Nature of the Relation between Comprehension Skill and the Ability to Tell a Story. *British Journal of Developmental Psychology*, 14, 187-201.

- Cain, K., & Oakhill, J. V. (1999). Inference Making Ability and Its Relation to Comprehension Failure in Young Children. *Reading and Writing*, 11, 489-503.
- Cain, K., Oakhill, J. V., Barnes, M. A., & Bryant, P. E. (2001). Comprehension Skill, Inference-Making Ability, and Their Relation to Knowledge. *Memory and Cognition*, 29(6), 850-859.
- Cain, K., Oakhill, J. V., & Elbro, C. (2003). The Ability to Learn New Word Meanings from Context by School-Age Children With and Without Language Comprehension Difficulties. *Journal of Child Language*, 30, 681-694.
- Cain, K., Oakhill, J., & Lemmon, K. (2005). The Relationship between Children's Reading Comprehension Level and Their Comprehension of Idioms. *Journal of Experimental Child Psychology*, 90, 65-87.
- Cain, K., Towse, A. S., & Knight, R. S. (2009). The Development of Idiom Comprehension: An Investigation of Semantic and Contextual Processing Skills. *Journal of Experimental Child Psychology*, 102, 280-298.
- Casteel, M. A., & Simpson, G. B. (1991). Textual Coherence and the Development of Inferential Generation Skills. *Journal of Research in Reading*, 14, 116-129.
- Caillies, S., & Butcher, K. (2007). Processing of Idiomatic Expressions: Evidence for a New Hybrid View. *Metaphor and Symbol*, 22(1), 79-108.
- Çelik-Yazici, I. (2004). Idiom Processing in L2: Through Rose-Colored Glasses. *The Reading Matrix*, 4(2), 105-116.
- Chandra, H. (2010). *Naveen Madhyamik Vyakran Evam Rachna* (6). New Delhi: S. Chand Publication.
- Chandra, H. (2010). *Naveen Madhyamik Vyakran Evam Rachna* (7). New Delhi: S. Chand Publication.
- Cies'licka, A. B. (2006). Literal Salience in On-Line Processing of Idiomatic Expressions by Second Language Learners. *Second Language Research*, 22(2), 115-144.

- Cieslicka, A. B., & Heredia, R. R. (2011). Hemispheric Asymmetries in Processing L1 and L2 Idioms: Effects of Salience and Context. *Brain & Language*, 116, 136-150.
- Cornoldi, C., & Oakhill, J. (eds.). (1996). *Reading Comprehension Difficulties. Processes and Intervention*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Cooper, T. C. (1999). Processing of Idioms by L2 Learners of English. *Tesol Quarterly*, 33(2), 233-262.
- Copestake, A., Lambeau, F., Villavicencio, A., Bond, F., Baldwin, T., Sag, I., and Flickinger, D. (2002). Multiword Expressions: Linguistic Precision and Reusability. In *proceeding of the 3rd International Conference on Language Resources and Evaluation*. Las Palmas, Canary Islands, 1941-1947.
- Croft, W. (1998). Mental Representations. *Cognitive Linguistics*, 9(2), 151-174.
- Dasen, P. (1994). Culture and Cognitive Development from a Piagetian Perspective. In Lonner, W. J. & Malpass, R. S. (eds.) *Psychology and Culture*. Boston, MA Allyn and Bacon, 145-149.
- Dąbrowska, A. (2018). *A Syntactic Study of Idioms: Psychological States in English and Their Constraints*. Lady Stephenson Library, UK: Cambridge Scholars.
- Ditman, T., Holcomb, P. J., & Kuperberg, G. R. (2007). An Investigation of Concurrent ERP and Self-Paced Reading Methodologies. *Psychophysiology*, 44(6), 927-935.
- Doroodi, S., & Hashemian, M. (2011). The Relationship between Reading Comprehension and Figurative Competence in L2 Learners. *Theory and Practice in Language Studies*, 1(6), 711-717.
- Doiz, A., & Elizari, C. (2013). Metaphoric Competence and the Acquisition of Figurative Vocabulary in Foreign Language Learning. *ELIA*, 13, 47-82.
- Drew, P., & Holt, E. (1998). Figures of Speech: Figurative Expressions and the Management of Topic Transition in Conversation. *Language in Society*, 27(4), 495-522.

- Estill, R. B., & Kemper, S. (1982). Interpreting Idioms. *Journal of Psycholinguistic Research*, 11, 559-568.
- Espinal, M. T., & Mateu, M. (2010). On Classes of Idioms and Their Interpretation. *Journal of Pragmatic*, 42(5), 1397-1411.
- Evans, E., & Green, M. (2006). *Cognitive Linguistics: An Introduction*. Edinburgh: EUP.
- Fauconnier, G. (1997). *Mappings in Thought and Language*. Cambridge: CU.
- Fauconnier, G., & Turner, M. (eds.). (2002). *The Way We Think*. New York: Basic Books.
- Fernyhough, C. (2006). Metaphors of Mind. *The Psychologist*, 19(6), 356-358.
- Fernando, C. (1996). *Idioms and Idiomaticity*. Oxford: Oxford University Press.
- Flores d' Arcais, G. (1993). The Comprehension and Semantic Interpretation of Idioms. In Cacciari, C. & Tabossi, P. (eds.) *Idioms: Processing Structure, and Interpretation*. Hillsdale, NJ: Lawrence Erlbaum Associates, 79-98.
- Fogliata, A., Rizzo, S., Reati, F., Miniussi C., Oliveri, M., & Papagno, C. (2007). The Time Course of Idiom Processing. *Neuropsychologia*, 45, 3215-3222.
- Fraser, B. (1970). Idioms within a Transformational Grammar. *Foundations of Language*, 6, 122- 142.
- Francis, W. S. (2000). Clarifying the Cognitive Experimental Approach to Bilingual Research. *Bilingualism: Language and Cognition*, 3, 13-15.
- Gernsbacher, M. A. (1990). *Language Comprehension as Structure Building*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Gernsbacher, M. A., Keysar, B., Robertson, R. R., & Werner, N. K. (2001). The Role of Suppression and Enhancement in Understanding Metaphors. *Journal of Memory and Language*, 45(3), 433-450.
- Geenhoven, V. V. (ed.). (2006). *Semantics in Acquisition*. Netherlands: Springer.
- Gibbs, R. W. (1980). Spilling The Beans on Understanding and Memory for Idioms in Conversation. *Memory and Cognition*, 8, 149-156.

- Gibbs, R. W. (1985). On the Process of Understanding the Idioms. *Journal of Psycholinguistic Research*, 14(5), 465- 472.
- Gibbs, R. W. (1986). Skating on Thin Ice: Literal Meaning and Understanding Idioms in Conversation. *Discourse Processes*, 9, 17-30.
- Gibbs, R. W. (1987). Linguistic Factors in Children's Understanding of Idioms. *Journal of Child Language*, 14, 569-586.
- Gibbs, R. W. (1989). Understanding and Literal Meaning. *Cognitive Science*, 13, 243-251.
- Gibbs, R. W. (1990). Psycholinguistic Studies on the Conceptual Basis of Idiomacity. *Cognitive Linguistics*, 1, 417-451.
- Gibbs, R. W. (1991). Semantic Analyzability in Children's Understanding of Idioms. *Journal of Speech and Hearing Research*, 34, 613-620.
- Gibbs, R. W. (1992). What Do Idioms Really Mean?. *Journal of Memory and Language*, 31, 485-506.
- Gibbs, R. W. (1993). Why Idioms Are Not Dead Metaphors. In Cacciari, C. & Tabossi, P. (eds.) *Idioms: Processing, Structure, and Interpretation*. Hillsdale, NJ: Lawrence Erlbaum Associates, 57-75.
- Gibbs, R. W. (ed.). (1994). *The Poetics of Mind. Figurative Thought, Language and Understanding*. Cambridge: Cambridge University Press.
- Gibbs, R. W., & Gonzales, G. P. (1985). Syntactic Frozenness in Processing and Remembering Idioms. *Cognition*, 20, 243-259.
- Gibbs, R. W., Nayak, N. P., Bolton, J. L., & Keppel, M. (1988). Speakers' Assumptions About the Lexical Flexibility of Idioms. *Memory & Cognition*, 17(1), 58-68.
- Gibbs, R. W., & Nayak, N. P. (1989). Psycholinguistic Studies on the Syntactic Behavior of Idioms. *Cognitive Psychology*, 21, 100-138.

- Gibbs, R. W., Nayak, N. P., & Cutting, C. (1989). How to Kick the Bucket and Not Decompose: Analyzability and Idiom Processing. *Journal of Memory and Language*, 28, 576-593.
- Gibbs, R. W., Nayak, N. P., Bolton, J. L., & Keppel, M. E. (1989). Speakers' Assumptions About the Lexical Flexibility of Idioms. *Memory and Cognition*, 17(1), 58-68.
- Gibbs, R. W., & O'Brien, J. (1990). Idioms and Mental Imagery: The Metaphorical Motivation for Idiomatic Meaning. *Cognition*, 36, 35-68.
- Gibbs, R. W., Bogdonovich, J., Sykes, J. & Barr, D. (1997). Metaphor in Idiom Comprehension. *Journal of Memory and Language*, 37, 141-154.
- Giora, R. (1997). Understanding Figurative and Literal Language: The Graded Salience Hypothesis. *Cognitive Linguistics*, 8, 183-206.
- Giora, R., & Fein, O. (1999). On Understanding Familiar and Less-Familiar Figurative Language. *Journal of Pragmatics*, 31, 1601-1618.
- Glucksberg, S. (1993). Idiom Meaning and Allusional Content. In Cacciari, C. & Tabossi, P. (eds.) *Idioms: Processing, Structure, and Interpretation*. Hillsdale, NJ: Lawrence Erlbaum Associates, 3-25.
- Glucksberg, S. (ed.). (2001). *Understanding Figurative Language: From Metaphors to Idioms*. Oxford: Oxford University Press.
- Glucksberg, S., Gildea, P., & Bookin, H. (1982). On Understanding Nonliteral Speech; Can People Ignore Metaphors?. *Journal of Verbal Learning and Verbal Behavior*, 21, 85-98.
- Glucksberg, S., Newsome, M. R., & Goldvarg, Y. (2001). Inhibition of the Literal: Filtering Metaphor-Irrelevant Information During Metaphor Comprehension. *Metaphor and Symbol*, 16, 277-293.
- Glass, A. L. (1983). The Comprehension of Idioms. *Journal of Psycholinguistic Research*, 12(4), 429-442.

- Grant, L. E., & Bauer, L. (2004). Criteria For Re-Defining Idioms: Are We Barking Up the Wrong Tree. *Applied Linguistics*, 25(1), 38-61.
- Grant, L. E. (2007). In a Manner of Speaking: Assessing Frequent Spoken Figurative Idioms to Assist ESL/EFL Teachers. *System*, 35, 169-181.
- Halliday, M. K. (1973). *Explorations in the Functions of Language*. London: Edward Arnold.
- Halliday, M. K. (1978). *Language as Social Semiotic: The Social Interpretation of Language and Meaning*. London: Edward Arnold.
- Halliday, M. K. (1994). *An Introduction to Functional Grammar*. London: Edward Arnold.
- Hamblin, J. L., & Gibbs, R. W. (1999). Why You Can't Kick the Bucket as You Slowly Die: Verbs in Idiom Comprehension. *Journal of Psycholinguistic Research*, 28(1), 25-39.
- Harper, D. (2002). Talking About Pictures: A Case for Photo Elicitation. *Visual Studies*, 17(1), 13-25.
- Hanson, M. H. (2004). Dialogue With History: Roles of Irony in Thinking About New Kinds of War. *Metaphor and Symbol*, 19(3), 191-212.
- Hillert, D. G., & Swinney, D. A. (1999). The Processing of Fixed Expressions During Sentence Comprehension. *Conceptual Structure, Discourse, and Language*, 4, 1-16.
- Hillert, D. G. (2009). Spared Access to Idiomatic and Literal Meanings: A Single-Case Approach. *Brain and Language*, 89, 207-215.
- Hockett, C. F. (1958). *A Course in Modern Linguistics*. New York: The Macmillan Co.
- Holsinger, E., & Kaiser, E. (2010). Effects of Context on Processing Non-Compositional Expressions. *LSA Annual Meeting Extended Abstracts*.

- Holsinger, E. M. (2011). *Cutting The Mustard: An Experimental Investigation of Idiomatic Expressions in the Lexicon* (Unpublished Ph.D. Linguistics thesis). University of Southern California.
- Hymes, D. (1974). *Foundations of Sociolinguistics: An Ethnographic Approach*. Philadelphia University of Pennsylvania Press.
- Iakimova, G., et.al. (2010). The Influence of Idiomatic Salience During the Comprehension of Ambiguous Idioms by Patients with Schizophrenia. *Psychiatry Research*, 177, 46-54.
- Irujo, S. (1986). Don't Put Your Leg in Your Mouth: Transfer in the Acquisition of Idioms in a Second Language. *Tesol Quarterly*, 20 (2), 287-304.
- Jackendoff, R. (1997). *The Architecture of the Language Faculty*. MIT Press.
- Johnson, G. A. (1985). *The Development of Idiom Comprehension in Normally Developing and Language-Deficient Children* (Unpublished M.A. thesis). University of Montana.
- Katz, J. (1973). Compositionality, Idiomaticity, and Lexical Substitution. In Anderson, S. & Kiparsky, P. (eds.) *A Festschrift for Morris Halle*. New York: Rinehart & Winston, 357-366.
- Katz, J., & Postal, P. (1963). Semantic Interpretation of Idioms and Sentences Containing Them. *Quarterly Progress Report*, 70, 275-282.
- Kacinik, N. A., & Chiarello, C. (2007). Understanding Metaphors: Is the Right Hemisphere Uniquely Involved?. *Brain and Language*, 100, 188-207.
- Kempler, D., VanLancker, D., Marchman, V., & Bates, E. (1999). Idiom Comprehension in Children and Adults with Unilateral Brain Damage. *Developmental Neuropsychology*, 15(3), 327-349.
- Kerbel, D., & Grunwell, P. (1998a). A Study of Idiom Comprehension in Children with Semantic-Pragmatic Difficulties. Part I: Between Groups Results and Discussion. *International Journal of Language and Communication Disorders*, 35(1), 1-2.

- Kerbel, D., & Grunwell, P. (1998b). A Study of Idiom Comprehension in Children with Semantic-Pragmatic Difficulties. Part II: Task Effects on the Assessment of Idioms Comprehension in Children. *International Journal of Language and Communication Disorders*, 35(1), 1-2.
- Keysar, B., & Bly, B. M. (1999). Swimming Against the Current: Do Idioms Reflect Conceptual Structure?. *Journal of Pragmatics*, 31, 1559-1578.
- Kövecses, Z. (ed.). (1990). *Emotion Concepts*. New York: Springer-Verlag.
- Kövecses, Z. (1991). Happiness: A Definitional Effort. *Metaphor and Symbolic Activity*, 6(1), 29- 46.
- Kövecses, Z. (ed.). (2000). *Metaphor and Emotion: Language, Culture, and Body in Human Feeling*. Cambridge: Cambridge University Press.
- Kovecses, Z. (ed.). (2005). *Metaphor and Culture: Universality and Variation*. Cambridge: Cambridge University Press.
- Kövecses, Z. (ed.). (2010). *Metaphor: A Practical Introduction*. Oxford: Oxford University Press.
- Kövecses, Z., & Szabo, P. (1996). Idioms: A View from Cognitive Semantics. *Applied Linguistics*, 17(3), 326-355.
- Labov, W. (1968). The Reflections of Social Processes in Linguistic Structures. In Fishman, J. A. (ed.) *Readings in the sociology of language*. The Hague: Mouton, 240-251.
- Lakoff, G. (ed.). (1987). *Women, Fire and Dangerous Things: What Categories Reveal About the Mind*. Chicago: University of Chicago Press.
- Lakoff, G. (1990). The Invariance Hypothesis: Is Abstract Reason Based on Image Schemas?. *Cognitive Linguistics*, 1(1), 39-74.
- Lakoff, G., & Johnson, M. (eds.). (1980). *Metaphors We Live By*. Chicago: University of Chicago Press.

- Lakoff, G., & Kövecses, Z. (1987). The Cognitive Model of Anger Inherent in American English. In Holland, D. & Quinn, N. (eds.) *Cultural Models in Language and Thought*. Cambridge: Cambridge University Press, 195-221.
- Lakoff, G., & Johnson, M. (eds.). (1999). *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*. New York: Basic Books.
- Laval, V. (2003). Idiom Comprehension and Metapragmatic Knowledge in French Children. *Journal of Pragmatics*, 35, 723-739.
- Langlotz, A. (2006). *Idiomatic Creativity: A Cognitive-Linguistic Model of Idiom-Representation and Idiom-Variation in English*. Amsterdam/Philadelphia John Benjamins Publishing Company.
- Levorato, M. C., & Cacciari, C. (1992). Children's Comprehension and Production of Idioms: The Role of Context and Familiarity. *Journal of Child Language*, 19, 415-433.
- Levorato, M. C. (1993). The Acquisition of Idioms and the Development of Figurative Competence. In Cacciari, C. & Tabossi, P. (eds.) *Idioms: Processing, Structure, and Interpretation*. Hillsdale, NJ: Lawrence Erlbaum Associates, 101-128.
- Levorato, M. C., & Cacciari, C. (1995). The Effects of Different Tasks on the Comprehension and Production of Idioms in Children. *Journal of Experimental Child Psychology*, 60, 261-283.
- Levorato, M. C., & Cacciari, C. (1999). Idiom Comprehension in Children: Are the Effects of Semantic Analysability and Context Separable?. *European Journal of Cognitive Psychology*, 11, 51-66.
- Levorato, M. C., & Cacciari, C. (2002). The Creation of New Figurative Expressions: Psycholinguistic Evidence on Children, Adolescents and Adults. *Journal of Child Language*, 29, 127-150.
- Levorato, M. C., Nesi, B., & Cacciari, C. (2004). Reading Comprehension and Understanding Idiomatic Expressions: A Developmental Study. *Brain and Language*, 91, 303-314.

- Levorato, M. C., Roch, M., & Nesi, B. (2007). A Longitudinal Study of Idiom and Text Comprehension. *Journal of Child Language*, 34(3), 473-494.
- Li, R. (2006). A Cognitive Perspective in Metaphor and Psycholinguistic Constraints on Its Transfer. *US-China Foreign Language*, 4(5), 40-45.
- Libben, M. R., & Titone, D. A. (2008). The Multidetermined Nature of Idiom Processing. *Memory & Cognition*, 36(6), 1103-1121.
- Lim, E. A. C., Ang, S. H., Lee, Y. H., & Leong, S. W. (2009). Processing Idioms in Advertising Discourse: Effects of Familiarity, Literality, and Compositionality on Consumer Ad Response. *Journal of Pragmatics*, 41, 1778–1793.
- Littlemore, J., Chen, P. R., Koester, A., & Barnden, J. (2011). Difficulties in Metaphor Comprehension Faced by International Students Whose First Language is Not English. *Applied Linguistics*, 32(4), 408-429.
- Liontas, J. I. (2002). Exploring Second Language Learners' Notions of Idiomaticity. *System*, 30, 289-313.
- Liontas, J. I. (2002). Transactional Idiom Analysis: Theory and Practice. *Journal of Language and Linguistics*, 1(1), 1-23.
- Liu, D. (ed.). (2008). *Idioms: Description, Comprehension, Acquisition, and Pedagogy*. New York: Routledge.
- Lodge, D., & Leach, E. (1975). Children's Acquisition of Idioms in the English Language. *Journal of Speech and Hearing Research*, 18, 521-529.
- Long, D. L., Oppy, B. J., & Seely, M. R. (1997). Individual Differences in Readers' Sentence and Text-Level Representations. *Journal of Memory and Language*, 36, 129-145.
- Makkai, A. (ed.). (1972). *Idiom Structure in English*. The Hague: Mouton.
- Malkiel, Y. (1993). *Etymology*. Cambridge, UK: Cambridge University Press.

- Maltese, A., Scifoa, L., Fratantonio, A., & Pepia, A. (2012). Linguistic Prosody and Comprehension of Idioms and Proverbs in Subjects of School Age. *Procedia - Social and Behavioral Sciences*, 69, 2027-2035.
- Mandler, J. M. (2004). Thought Before Language. *TRENDS in Cognitive Sciences*, 8(11), 508-513.
- Maslow, A. H. (1943). A Theory of Human Motivation. *Psychological Review*, 50(4), 370-396.
- Matlock, T. (1998). What is Missing in Research on Idioms?. *The American Journal of Psychology*, 111(4), 643-648.
- Mills, S. (1997). *Discourse*. New York: Routledge.
- Moon, R. (1998). *Fixed Expressions and Idioms in English*. Oxford: Clarendon Press.
- Mueller, R. A. G., & Gibbs, R. W. (1987). Processing Idioms with Multiple Meanings. *Journal of Psycholinguistic Research*, 16(1), 63-81.
- Nayak, N. P., & Gibbs, R. W. (1990). Conceptual Knowledge in the Interpretation of Idioms. *Journal of Experimental Psychology: General*, 119, 315-30.
- Newmeyer, F. J. (1974). The Regularity of Idiom Behavior. *Lingua*, 34, 327-342.
- Nesi, B., Levorato, M. C., Roch, M., & Cacciari, C. (2006). To Break the Embarrassment: Text Comprehension Skills and Figurative Competence in Skilled and Less Skilled Text Comprehenders. *European Psychologist*, 11(2), 128-136.
- Nippold, M. A. (1998). *Later Language Development: The School-Age and Adolescent Years* (2nd edn.). Austin, TX: Pro-Ed.
- Nippold, M. A. (2000). Language Development During the Adolescent Years: Aspects of Pragmatics, Syntax, and Semantics. *Topics in Language Disorders*, 20(2), 15-28.
- Nippold, M. A. (2006). Language Development in School-Age Children, Adolescents, and Adults. In *Encyclopaedia of Language & Linguistics*. Elsevier, 368-373.

- Nippold, M. A., & Martin, S. (1989). Idiom Interpretation in Isolation Versus Context: A Developmental Study with Adolescents. *Journal of Speech and Hearing Research*, 32, 59-66.
- Nippold, M. A., & Rudzinski, M. (1993). Familiarity and Transparency in Idiom Explanation: A Developmental Study of Children and Adolescents. *Journal of Speech and Hearing Research*, 36, 728-737.
- Nippold, M. A., & Taylor, C. L. (1995). Idiom Understanding in Youth: Further Examination of Familiarity and Transparency. *Journal of Speech and Hearing Research*, 38, 426-433.
- Nippold, M. A., Taylor, C. L., & Baker, J. M. (1996). Idiom Understanding in Australian Youth: A Cross Cultural Comparison. *Journal of Speech and Hearing Research*, 39, 442-447.
- Nippold, M. A., & Haq, F. S. (1996). Proverb Comprehension in Youth: The Role of Concreteness and Familiarity. *Journal of Speech and Hearing Research*, 39, 166-176.
- Nippold, M. A., Hegel, S. L., Sohlberg, M. M., & Schwarz, I. E. (1999). Defining Abstract Entities: Development in Preadolescents, Adolescents, and Young Adults. *Journal of Speech, Language, and Hearing Research*, 41, 473-481.
- Nippold, M. A., Allen, M. M., & Kirsch, D. I. (2000). How Adolescents Comprehend Unfamiliar Proverbs: The Role of Top-Down and Bottom-Up Processes. *Journal of Speech, Language, and Hearing Research*, 43, 621-630.
- Nippold, M. A., Moran, C., Schwarz, I. E. (2001). Idiom Understanding in Preadolescents: Synergy in Action. *American Journal of Speech-Language Pathology*, 10, 169-180.
- Nippold, M. A., & Taylor, C. L. (2002). Judgement of Idiom Familiarity and Transparency: A Comparison of Children and Adolescents. *Journal of Speech Language and Hearing Research*, 45(2), 384-391.

- Nippold, M. A., & Duthie, J. K. (2003). Mental Imagery and Idiom Comprehension: A Comparison of School-Age Children and Adults. *Journal of Speech, Language, and Hearing Research*, 46, 788-799.
- Nippold, M. A., Duthie, J. K., & Larsen, J. (2005a). Literacy as a Leisure Activity: Free-Time Preferences of Older Children and Young Adolescents. *Language, Speech, and Hearing Services in Schools*, 36, 93-102.
- Nunberg, G., Sag, I. A., & Wasow, T. (1994). Idioms. *Language*, 70, 491-538.
- Ortony, A., Turner, T. J., & Larson-Shapiro, N. (1985). Cultural and Instructional Influences on Figurative Language Comprehension by Inner City Children. *Research in the Teaching of English*, 19(1), 25-36.
- Ortony, A., Schallert, D. L., Reynolds, R. E., & Antos, S. J. (1978). Interpreting Metaphors and Idioms: Some Effects of Context on Comprehension. *Journal of Verbal Learning and Verbal Behavior*, 17, 465-477.
- Online Etymology Dictionary (n.d.). Online Etymology Dictionary: Origin, History, and Meaning of English Words. In *etymonline.com*. Retrieved on December 16, 2019, from <https://www.etymonline.com/>.
- Pavlenko, A. (2000b). What is a Concept?. *Bilingualism: Language and Cognition*, 3, 31-36.
- Papagno, C., & Genoni, A. (2004). The Role of Syntactic Competence in Idiom Comprehension: A Study on Aphasic Patients. *Journal of Neurolinguistics*, 17, 371-382.
- Pexman, P. M., & Zvaigzne, M. T. (2004). Does Irony Go Better with Friends?. *Metaphor and Symbol*, 19(2), 143-163.
- Pearlmutter, N. J., Garnsey, S. M., & Bock, K. (1999). Agreement Processes in Sentence Comprehension. *Journal of Memory and Language*, 41, 427-456.
- Piaget, J. (1936). *Origins of Intelligence in the Child*. London: Routledge & Kegan Paul.
- Piaget, J. (ed.). (1951). *Play, Dreams and Imitation in Childhood*. Abingdon: Routledge.

- Piaget, J. (ed.). (1955). *The Language and Thought of the Child*. New York: Harcourt, Brace & Company, Inc.
- Piaget, J. (1957). *Construction of Reality in the Child*. London: Routledge & Kegan Paul.
- Piaget, J. (1972). Intellectual Evolution from Adolescence to Adulthood. *Human Development*, 15, 1-12.
- Piaget, J. (1973). *Main Trends in Psychology*. London: George Allen & Unwin.
- Piaget, J., & Cook, M. T. (1952). *The Origins of Intelligence in Children*. New York: International University Press.
- Pinto, M. A., Melogno, S., & Iliceto, P. (2011). Assessing Metaphor Comprehension as a Metasemantic Ability in Students From 9-To-14 Years-Old. *Lingvarvm Arena*, 2, 57 -77.
- Popiel, S. J., & McRae, K. (1988). The Figurative and Literal Senses of Idioms, or All Idioms Are Not Used Equally. *Journal of Psycholinguistic Research*, 17, 475-487.
- Qualls, C. D., & Harris, J. (1999). Effects of Familiarity on Idiom Comprehension in African American and European American Fifth Graders. *Language, Speech and Hearing Services in Schools*, 30, 141-151.
- Qualls, C. D., O'Brien, R. M., Blood, G. W., & Hammer, C. S. (2003). Contextual Variation, Familiarity, Academic Literacy and Rural Adolescents' Idiom Knowledge. *Language, Speech, and Hearing Services in Schools*, 34, 69-79.
- Qualls, C. D., Treaster, B., Blood, G. W., & Hammer, C. S. (2003). Lexicalization of Idioms in Urban Fifth Graders: A Reaction Time Study. *Journal of Communication Disorders*, 36, 245-261.
- Qualls, C. D., Lantz, J. M., Pietrzyk, R. M., Blood, G. W., & Hammer, C. S. (2004). Comprehension of Idioms in Adolescents with Language-Based Learning Disabilities Compared to Their Typically Developing Peers. *Journal of Communication Disorders*, 37, 295-311.

- Richards, J. C. (1976). The Role of Vocabulary Teaching. *TESOL Quarterly*, 10(1), 77-89.
- Roberts, R. M., & Kreuz, R. J. (1994). Why Do People Use Figurative Language?. *Psychological Science*, 5(3), 159-163.
- Sag, I. A., Baldwin, T., Bond, F., Copestake, A., Flickinger, D. (2001). Multiword Expressions: A Pain in the Neck for NLP. *In Lecture Notes in Computer Science*.
- Safran, J. (2015). Advancing Listening Comprehension through Movies. *Procedia - Social and Behavioral Sciences*, 191, 169-173.
- Samur, D., Lai, V. T., Hagoort, P., & Willems, R. M. (2015). Emotional Context Modulates Embodied Metaphor Comprehension. *Neuropsychologia*, 78, 108-114.
- Schweigert, W. A. (1986). The Comprehension of Familiar and Less Familiar Idioms. *Journal of Psycholinguistic Research*, 15 (1), 33-45.
- Schweigert, W. A., & Moates, D. R. (1988). Familiar Idiom Comprehension. *Journal of Psycholinguistics Research*, 17, 281-296.
- Schmidt, G. L., DeBuse, C. J., & Seger, C. A. (2007). Right Hemisphere Metaphor Processing? Characterizing the Lateralization of Semantic Processes. *Brain and Language*, 100, 127-141.
- Scheppers, F. (2003). P(ragmatic)-trees. Coherence, Intentionality and Cognitive Content in Discourse and Non-Verbal Action. *Journal of Pragmatics*, 35, 665–694.
- Searle, J. (1979). *Expressions and Meaning: Studies in the Theory of Speech Acts*. Cambridge: Cambridge University Press.
- Searle, J. (1983). *Intentionality: An Essay in the Philosophy of Mind*. Cambridge: Cambridge University Press.
- Sharma, K., & Jyoti, V. (2016). *Vyakran Nidhi (6)*. New Delhi: New Saraswati House.
- Sharma, K., & Jyoti, V. (2016). *Vyakran Nidhi (7)*. New Delhi: New Saraswati House.

- Shelley, C. (2006). Hypocrisy As Irony: Toward a Cognitive Model of Hypocrisy. *Metaphor and Symbol*, 21(3), 169-190.
- Shiksha. (2018). *Hindi Vyakran Sudha (4)*. New Delhi: Goyal Brothers Publication.
- Shiksha. (2018). *Hindi Vyakran Sudha (5)*. New Delhi: Goyal Brothers Publication.
- Shiksha. (2020). *Hindi Vyakran Sudha (3)*. New Delhi: Goyal Brothers Publication.
- Sinclair, J. M. (1987). Collocation: A Progress Report. In Steele, R. & Thomas, T. (eds.) *Language Topics: Essays and Meaning: Studies in the Theory of Speech Acts*. Cambridge: Cambridge University Press.
- Simpson, G. B. (1989). Meaning Dominance and Semantic Context in the Processing of Lexical Ambiguity. *Journal of Verbal Learning and Verbal Behavior*, 20, 120-136.
- Siegler, R. S., DeLoache, J. S., & Eisenberg, N. (2003). *How Children Develop*. New York: Worth.
- Smith, L. P. (1923). *English Idioms*. Oxford: Clarendon Press.
- Smith, L. P. (1925). *Words and Idioms. Studies in the English Language*. Boston, New York: Houghton Mifflin Company.
- Spector, C. C. (1996). Children's Comprehension of Idioms in the Context of Humor. *Language, Speech, and Hearing Services in Schools*, 27, 307-313.
- Sourn-Bissaoui, S. L., Caillies, S., Bernard, S., Deleau, M., & Brulé, L. (2012). Children's Understanding of Ambiguous Idioms and Conversational Perspective-Taking. *Journal of Experimental Child Psychology*, 112, 437- 451.
- Sprenger, S. A., Levelt, W. J. M., & Kempen, G. (2006). Lexical Access During the Production of Idiomatic Phrases. *Journal of Memory and Language*, 54, 161-184.
- Swinney, D. A. (1979). Lexical Access during Sentence Comprehension (Re)Consideration of Context Effects. *Journal of Verbal Learning and Verbal Behavior*, 18, 645-659.

- Swinney, D. A., & Cutler, A. (1979). The Access and Processing of Idiomatic Expressions. *Journal of Verbal Learning and Verbal Behavior*, 18, 523-534.
- Szczepaniak, R., & Lew, R. (2011). The Role of Imagery in Dictionaries of Idioms. *Applied Linguistics*, 32(3), 323-347.
- Tabossi, P., & Zardon, F. (1993). The Activation of Idiomatic Meaning in Spoken Language Comprehension. In Cacciari, C. & Tabossi, P. (eds.) *Idioms: Processing, Structure, and Interpretation*. Hillsdale, NJ: Lawrence Erlbaum Associates, 357-76.
- Tabossi, P., Wolf, K., & Koterle, S. (2009). Idiom Syntax: Idiosyncratic or Principled?. *Journal of Memory and Language*, 61, 77-96.
- Tabossi, P., Fanari, R., & Wolf, K. (2009). Why Are Idioms Recognized Fast?. *Memory & Cognition*, 37(4), 529-540.
- Tamargo, R. E. G., Kroff, J. R. V., & Dussias, P. E. (2016). Examining the Relationship between Comprehension and Production Processes in Code-Switched Language. *Journal of Memory and Language*, 89, 138-161.
- Thibodeau, P., & Durgin, F. H. (2008). Productive Figurative Communication: Conventional Metaphors Facilitate the Comprehension of Related Novel Metaphors. *Journal of Memory and Language*, 58, 521–540.
- Titone, D. A., & Connine, C. M. (1994). Descriptive Norms For 171 Idiomatic Expressions: Familiarity, Compositionality, Predictability, and Literality. *Metaphor and Symbolic Activity*, 9(4), 247-270.
- Titone, D. A., & Connine, C. M. (1994). Comprehension of Idiomatic Expressions: Effects of Predictability and Literality. *Journal of Experimental Psychology: Learning, memory, and Cognition*, 20(5), 1126-1138.
- Titone, D. A., & Connine, C. M. (1999). On the Compositional and Noncompositional Nature of Idiomatic Expressions. *Journal of Pragmatics*, 31, 1655-1674.

- Titone, D. A., & Libben, M. (2014). Time-Dependent Effects of Decomposability, Familiarity and Literal Plausibility on Idiom Meaning Activation: A Cross-Modal Priming Investigation. *The Mental Lexicon*, 9(3), 473-496.
- Tiwari, B. (1991). *Hindi Muhawra Kosh (Dictionary of Hindi Idioms)*. New Delhi: Hindi Book Centre.
- University of Sydney. (2016, May 5). Pattern Learning Key to Children's Language Development. *ScienceDaily*. Retrieved January 31, 2021 from www.sciencedaily.com/releases/2016/05/160505222938.htm.
- Van Den Broek, P. (1994). Comprehension and Memory of Narrative Texts. In Gernsbacher, M. A. (ed.) *Handbook of psycholinguistics*. San Diego, CA Academic Press, 539-588.
- Vaid, J. (2000). New Approaches to Conceptual Representations in Bilingual Memory: The Case for Studying Humor Interpretation. *Bilingualism: Language and Cognition*, 3, 28-30.
- Vega-Moreno, R. E. (2001). Representing and Processing Idioms. *UCL Working Papers in Linguistics*, 13, 73-109.
- Velleman, E., & Geest, T. (2014). Online Test Tool to Determine the CEFR Reading Comprehension Level of Text. *Procedia Computer Science*, 27, 350-358.
- Vigliocco, G., Vinson, D. P., Damian, M. F., & Levelt, W. (2002). Semantic Distance Effects on Object and Action Naming. *Cognition*, 85, B61-B69.
- Vosniadou, S., & Ortony, A. (1983). The Emergence of the Literal-Metaphorical-Anomalous Distinction in Young Children. *Child Development*, 54(1), 154-161.
- Vulchanova, M., Vulchanov, V., & Stankova, M. (2011). Idiom Comprehension in the First Language: A Developmental Study. *Vigo International Journal of Applied Linguistics*, 8, 207- 237.
- Weinreich, U. (1969). Problems in the Analysis of the Analysis of Idioms. In Puhvel, J. (ed.) *Substance and the structure of language*. Berkley, CA University of California Press, 23-81.

- Weinreich, U. (1972). *Explorations in Semantic Theory*. The Hague/Paris: Mouton.
- Winner, E., Engel, M., & Gardner, H. (1980). Misunderstanding Metaphor: What's the Problem? *Journal of Experimental Child Psychology*, 30, 22-32.
- Yasuda, S. (2010). Learning Phrasal Verbs through Conceptual Metaphors: A Case of Japanese EFL Learners. *TESOL Quarterly*, 44(2), 250-273.
- Yang, Y., Read, S. J., & Miller, L. C. (2006). A Taxonomy of Situations from Chinese Idioms. *Journal of Research in Personality*, 40, 750-778.
- Yu, N. (1995). Metaphorical Expressions of Anger and Happiness in English and Chinese. *Metaphor and Symbolic Activity*, 10(2), 59-92.
- Yu, N. (ed.). (1998). *The Contemporary Theory of Metaphor: A Perspective from Chinese*. Amsterdam: John Benjamins.
- Yu, N. (2000). Figurative Uses of finger and Palm in Chinese and English. *Metaphor and Symbol*, 15(3), 159-175.
- Yu, N. (2001). What Does Our Face Mean to Us?. *Pragmatics & Cognition*, 9(1), 1-36.
- Yu, N. (2002). Body and Emotions: Body Parts in Chinese Expression of Emotions. *Pragmatics & Cognition*, 10(1), 341-367.
- Zelstein, T. (ed.). (1998). *Conversation: How Talk Can Change Your Life*. London: Harvill Press.
- Zhang, H., Yang, Y., Gu, J., & Ji, F. (2013). ERP Correlates of Compositionality in Chinese Idiom Comprehension. *Journal of Neurolinguistics*, 26, 89-112.
- Zoltan, K., & Peter, S. (1996). Idioms: A View from Cognitive Semantics. *Applied Linguistics*, 17(3), 326- 355.
- Zwaan, R. A. (2008). Time in Language, Situation Models, and Mental Simulations. *Language learning*, 58, 13-26.

Appendices

In this section, we have included all the survey forms and test booklets used in all the four empirical studies. Following are the snapshots of the PDF file exported from the SurveyMonkey tool.

Appendix 1: Questionnaire used for ‘meaning familiarity’, ‘usage frequency’, and ‘decomposability’ tasks on adults

Appendix 1 – Instructions, and questions to gather information on respondents’ language exposure and proficiency



Survey to identify idiom characteristics for my PhD research

First of all, many thanks for agreeing to help in my PhD research!!

Before responding to the questionnaire, we would like you to provide a brief introduction about yourself and your exposure towards the Hindi language. This information is important for the analysis we plan to do, based on your response. All your information and responses will be confidential and will be used solely for the purpose of research.

Please note the following regarding this questionnaire:

1. There are no right or wrong answers here. This is just an exercise to determine which idioms are more commonly used and understood in general.
2. This is a self-monitored assignment and we appreciate your sincere feedback.
3. Please take your time to go through instructions on the next page and also when responding to questions in the questionnaire.
4. Completing the survey may take approximately 45 minutes of your focused attention. There is absolutely NO time restriction though. Please take your time, think through, and answer.



Survey to identify idiom characteristics for my PhD research

* 1. Please provide us your input for the following:

Name (optional)

Age

Gender

Occupation

Native place

Years spent in a primarily Hindi speaking state

* 2. Are you a native speaker of Hindi?

☐ Yes

☐ No

* 3. Is Hindi the language you use(d) at home while having conversation with your

	Yes	No
Grandparents?	☐	☐
Parents?	☐	☐
Siblings?	☐	☐
Cousins?	☐	☐
Relatives?	☐	☐
Neighbours?	☐	☐

* 4. On a scale of 1 to 5 (5 being the highest), please rate your proficiency in Hindi language

	1	2	3	4	5
Language proficiency:	☐	☐	☐	☐	☐

* 5. Can you read, write, speak and understand Hindi?

Please tick-mark the most relevant option below.

- ☐ Don't understand the language; and can't read or write the script.
- ☐ Can understand the language; but can't read or write the script.
- ☐ Can understand and read; but can't write the script.
- ☐ Can understand, read and write the script; but don't use the language on a daily basis.
- ☐ Am proficient at understanding, reading, writing and speaking the language; and do so on a frequent basis.

* 6. How many years of formal education did you have in Hindi?

* 7. Did you study Hindi as one of the subjects at school/college level? Please specify the level.

* 8. Do you know any other language other than Hindi?

- ☐ Yes
- ☐ No

9. Please mention the language(s) you know.

1	
2	
3	
4	

Appendix 1 - First set of 50 idioms with instructions for ‘meaning familiarity’, ‘usage frequency’, and ‘decomposability’ tasks



Survey to identify idiom characteristics for my PhD research

Regarding the test in subsequent pages

Idioms or idiomatic phrases are very common in any language. Idiom, in very simple terms, is an expression, or phrase that has a figurative meaning.

Example of an idiom: angutha dikhaana (अंगूठा दिखाना)

Literal meaning: to show thumb.

Figurative/Idiomatic meaning: to deny help when it was most required.

There are certain idioms that we are exposed to frequently, as well as their meanings are well known to us. But there are also some idioms of which we have not heard. We are trying to identify both kinds of idioms in this survey. In this survey, we are going to analyze the usage frequency and familiarity of idioms using the responses given by you as per your understanding and your language use. Don't respond thinking what any other Hindi speaker may respond.

For every idiom, we want you to make two judgments:

1. Decide how frequently YOU have seen, heard or used the phrase - Usage Frequency
2. Decide how well YOU know the idiomatic meaning of the phrase - Familiarity (knowing the meaning of idiom)

Note:

1. The 2 judgements may or may not have different results. You may be very familiar with an idiom (i.e. you know the meaning very well) but may not use it very frequently. Or, you may judge an idiom as both familiar and frequent. You can judge on both aspects independently, using your best judgement.
2. Most importantly, don't respond thinking what any other Hindi speaker may respond. Provide your response, i.e. how frequently YOU use the idiom and how well YOU understand the idiom.

Just to reiterate, these tests are not meant to assess you. These are meant to come to some conclusions regarding the idioms in this survey.



Survey to identify idiom characteristics for my PhD research

Set 1 of 5

Please refer to description below to update rating scale for Usage frequency and Familiarity.

For Usage Frequency:

(Rating scale) - (Rating guide)

Rating 1 - Never heard, never read, and have never used it

Rating 2 - Heard or read rarely, and have never used it

Rating 3 - Heard or read sometimes, and also used it, rarely though

Rating 4 - Read, heard, and used moderately often (at least once in a month)

Rating 5 - Read, heard, and used frequently (at least once in a week)

How well you know the meaning:

(Rating scale) - (Rating guide)

Rating 1 - I have no clue what this phrase means

Rating 2 - Probably this as an idiom, but don't know the meaning

Rating 3 - Recognized this as an idiom, can guess the meaning

Rating 4 - I know the meaning of this idiom, but not very confident if it's correct

Rating 5 - I am 100% sure that I know the correct meaning of this idiom

* 1. अकल का दुश्मन होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 2. अपना उल्लू सीधा करना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 3. अंधे के हाथ बटेर लगना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 4. आँखों का तारा होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 5. सिट्टी पिट्टी गुम होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 6. मुंह में घी शक्कर होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 7. आटे दाल का भाव मालूम होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 8. भैंस के आगे बीन बजाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 9. हथेली पर सरसों उगाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 10. कठपुतली की तरह नचाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐



Survey to identify idiom characteristics for my PhD research

Set 2 of 5

Please refer to description below to update rating scale for Usage frequency and Familiarity.

For Usage Frequency:

(Rating scale) - (Rating guide)

Rating 1 - Never heard, never read, and have never used it

Rating 2 - Heard or read rarely, and have never used it

Rating 3 - Heard or read sometimes, and also used it, rarely though

Rating 4 - Read, heard, and used moderately often (at least once in a month)

Rating 5 - Read, heard, and used frequently (at least once in a week)

How well you know the meaning:

(Rating scale) - (Rating guide)

Rating 1 - I have no clue what this phrase means

Rating 2 - Probably this as an idiom, but don't know the meaning

Rating 3 - Recognized this as an idiom, can guess the meaning

Rating 4 - I know the meaning of this idiom, but not very confident if it's correct

Rating 5 - I am 100% sure that I know the correct meaning of this idiom

* 1. कलेजा मुंह तक आना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 2. अथ से इति तक

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 3. हवाई किला बनाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 4. अंतिम घड़ियाँ गिनना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 5. अँधेरे घर का दीपक

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 6. पेट में चूहे कूदना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 7. दांतों तले उंगुली दबाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 8. कैची सी ज़बान चलना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 9. तिल का ताड़ बनाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 10. तारीफ़ के पुल बाँधना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐



Survey to identify idiom characteristics for my PhD research

Set 3 of 5

Please refer to description below to update rating scale for Usage frequency and Familiarity.

For Usage Frequency:

(Rating scale) - (Rating guide)

Rating 1 - Never heard, never read, and have never used it

Rating 2 - Heard or read rarely, and have never used it

Rating 3 - Heard or read sometimes, and also used it, rarely though

Rating 4 - Read, heard, and used moderately often (at least once in a month)

Rating 5 - Read, heard, and used frequently (at least once in a week)

How well you know the meaning:

(Rating scale) - (Rating guide)

Rating 1 - I have no clue what this phrase means

Rating 2 - Probably this as an idiom, but don't know the meaning

Rating 3 - Recognized this as an idiom, can guess the meaning

Rating 4 - I know the meaning of this idiom, but not very confident if it's correct

Rating 5 - I am 100% sure that I know the correct meaning of this idiom

* 1. जान हथेली पर रखना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 2. अंगुली पकड़कर पहुँचा पकड़ना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 3. आसमान सिर पर उठाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 4. धरती पर पाँव ना पड़ना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 5. सिर आँखों पर बैठाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 6. अक्ल के घोड़े दौड़ाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 7. अपना सा मुँह लेकर रह जाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 8. छाती पर मूँग दलना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 9. चुल्लू भर पानी में डूब मरना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 10. रास्ते पर आना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐



Survey to identify idiom characteristics for my PhD research

Set 4 of 5

Please refer to description below to update rating scale for Usage frequency and Familiarity.

For Usage Frequency:

(Rating scale) - (Rating guide)

Rating 1 - Never heard, never read, and have never used it

Rating 2 - Heard or read rarely, and have never used it

Rating 3 - Heard or read sometimes, and also used it, rarely though

Rating 4 - Read, heard, and used moderately often (at least once in a month)

Rating 5 - Read, heard, and used frequently (at least once in a week)

How well you know the meaning:

(Rating scale) - (Rating guide)

Rating 1 - I have no clue what this phrase means

Rating 2 - Probably this as an idiom, but don't know the meaning

Rating 3 - Recognized this as an idiom, can guess the meaning

Rating 4 - I know the meaning of this idiom, but not very confident if it's correct

Rating 5 - I am 100% sure that I know the correct meaning of this idiom

* 1. अंजर पंजर ढीला होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 2. अपने मुंह मियाँ मिठू बनना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 3. आसमान के तारे तोड़ना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 4. आँखों का कांटा होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 5. आँखों में खून उतरना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 6. हवा से बातें करना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 7. चारों खाने चित करना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 8. घर की मुर्गी दाल बराबर

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 9. घोड़े बेचकर सोना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 10. खून पसीना एक करना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐



Survey to identify idiom characteristics for my PhD research

Set 5 of 5

Please refer to description below to update rating scale for Usage frequency and Familiarity.

For Usage Frequency:

(Rating scale) - (Rating guide)

Rating 1 - Never heard, never read, and have never used it

Rating 2 - Heard or read rarely, and have never used it

Rating 3 - Heard or read sometimes, and also used it, rarely though

Rating 4 - Read, heard, and used moderately often (at least once in a month)

Rating 5 - Read, heard, and used frequently (at least once in a week)

How well you know the meaning:

(Rating scale) - (Rating guide)

Rating 1 - I have no clue what this phrase means

Rating 2 - Probably this as an idiom, but don't know the meaning

Rating 3 - Recognized this as an idiom, can guess the meaning

Rating 4 - I know the meaning of this idiom, but not very confident if it's correct

Rating 5 - I am 100% sure that I know the correct meaning of this idiom

* 1. गड़े मुर्दे उखाड़ना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 2. गुदड़ी का लाल होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 3. कुत्ते की दुम होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 4. अंगुली पर नाच नचाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 5. खटाई में पड़ जाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 6. खूंटें से बाँध देना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 7. गर्दन कट जाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 8. घर में आग लगाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 9. घोल कर पिला देना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 10. आँखों में पानी भर आना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐



Survey to identify idiom characteristics for my PhD research

Just the last test! Transparency test..

You have to now make a judgement whether the words used in the idioms contribute to the figurative meaning.

There are idioms that are transparent in nature and the words used in the idiomatic expression/idioms will directly or indirectly help in understanding the idiomatic meaning of the idioms. For example in the idiom **angaar barasnaa** (अंगार बरसना). "अंगार" is closely related/refer to heat. This combination leads to figurative meaning "Very hot sunny day"

There are idioms that are not transparent, and the individual words used in idioms will not make any contribution in figurative understanding of idioms. For example: "**gaal bajaana**" (गाल बजाना). Here neither of the word is related/refer to its figurative meaning "to argue". Therefore it is purely idiomatic in nature.

Mark:

- a) Yes, If the idiomatic meaning can be guessed from the words used in the idiomatic phrase.
- b) No, If the idiomatic meaning can NOT be guessed from the words used in the idiomatic phrase.

* 1. Are the idioms in the left are transparent or not?

	Yes (Idiomatic meaning can be guessed from the words of the phrase)	No (Idiomatic meaning can NOT be guessed from the words of the phrase)
1. अक्ल का दुश्मन होना	☐	☐
2. अपना उल्लू सीधा करना	☐	☐
3. अंधे के हाथ बटेर लगना	☐	☐
4. आँखों का तारा होना	☐	☐
5. सिट्टी पिट्टी गुम होना	☐	☐
6. मुंह में घी शक्कर होना	☐	☐
7. आटे दाल का भाव मालूम होना	☐	☐
8. भैंस के आगे बीन बजाना	☐	☐
9. हथेली पर सरसों उगाना	☐	☐
10. कठपुतली की तरह नचाना	☐	☐
11. कलेजा मुंह तक आना	☐	☐
12. अथ से इति तक	☐	☐
13. हवाई किला बनाना	☐	☐
14. अंतिम धिड़ियाँ गिनना	☐	☐

	Yes (Idiomatic meaning can be guessed from the words of the phrase)	No (Idiomatic meaning can NOT be guessed from the words of the phrase)
15. अँधेरे घर का दीपक	☐	☐
16. पेट में चूहे कूदना	☐	☐
17. दांतों तले उंगुली दबाना	☐	☐
18. कैँची सी ज़बान चलना	☐	☐
19. तारीफ़ के पुल बाँधना	☐	☐
20. तिल का ताड़ बनाना	☐	☐
21. जान हथेली पर रखना	☐	☐
22. अंगुली पकड़कर पहुँचा पकड़ना	☐	☐
23. आसमान सिर पर उठाना	☐	☐
24. धरती पर पाँव ना पड़ना	☐	☐
25. अक्ल के घोड़े दौड़ाना	☐	☐
26. अपना सा मुंह लेकर रह जाना	☐	☐
27. छाती पर मूँग दलना	☐	☐
28. चुल्लू भर पानी में झूब मरना	☐	☐
29. रास्ते पर आना	☐	☐
30. सिर आँखों पर बैठाना	☐	☐
31. अंजर पंजर ढीला होना	☐	☐
32. अपने मुंह मियाँ मिट्टू बनना	☐	☐
33. आसमान के तारे तोड़ना	☐	☐
34. आँखों का कांटा होना	☐	☐
35. आँखों में खून उतरना	☐	☐
36. हवा से बातें करना	☐	☐
37. चारों खाने चित करना	☐	☐
38. घर की मुर्गी दाल बराबर	☐	☐
39. घोड़े बेचकर सोना	☐	☐
40. खून पसीना एक करना	☐	☐
41. गड़े मुर्दे उखाड़ना	☐	☐
42. गुदड़ी का लाल होना	☐	☐
43. कुत्ते की दुम होना	☐	☐

	Yes (Idiomatic meaning can be guessed from the words of the phrase)	No (Idiomatic meaning can NOT be guessed from the words of the phrase)
44. अंगुली पर नाच नचाना	☐	☐
45. खटाई में पड़ जाना	☐	☐
46. खूंटें से बाँध देना	☐	☐
47. गर्दन कट जाना	☐	☐
48. घर में आग लगाना	☐	☐
49. घोल कर पिला देना	☐	☐
50. आँखों में पानी भर आना	☐	☐

Thanks a lot for completing the survey.

Please click on the Submit button.

I really appreciate your taking time out to help with my research!

Appendix 1- Second set of 50 idioms with instructions for ‘meaning familiarity’, ‘usage frequency’, and ‘decomposability’ tasks



Survey to identify idiom characteristics for my PhD research

Regarding the test in subsequent pages

Idioms or idiomatic phrases are very common in any language. Idiom, in very simple terms, is an expression, or phrase that has a figurative meaning.

Example of an idiom: angutha dikhaana (अंगूठा दिखाना)

Literal meaning: to show thumb.

Figurative/Idiomatic meaning: to deny help when it was most required.

There are certain idioms that we are exposed to frequently, as well as their meanings are well known to us. But there are also some idioms of which we have not heard. We are trying to identify both kinds of idioms in this survey. In this survey, we are going to analyze the usage frequency and familiarity of idioms using the responses given by you as per your understanding and your language use. Don't respond thinking what any other Hindi speaker may respond.

For every idiom, we want you to make two judgments:

1. Decide how frequently YOU have seen, heard or used the phrase - Usage Frequency
2. Decide how well YOU know the idiomatic meaning of the phrase - Familiarity (knowing the meaning of idiom)

Note:

1. The 2 judgements may or may not have different results. You may be very familiar with an idiom (i.e. you know the meaning very well) but may not use it very frequently. Or, you may judge an idiom as both familiar and frequent. You can judge on both aspects independently, using your best judgement.
2. Most importantly, don't respond thinking what any other Hindi speaker may respond. Provide your response, i.e. how frequently YOU use the idiom and how well YOU understand the idiom.

Just to reiterate, these tests are not meant to assess you. These are meant to come to some conclusions regarding the idioms in this survey.



Survey to identify idiom characteristics for my PhD research

Set 1 of 5

Please refer to description below to update rating scale for Usage frequency and Familiarity.

For Usage Frequency:

(Rating scale) - (Rating guide)

Rating 1 - Never heard, never read, and have never used it

Rating 2 - Heard or read rarely, and have never used it

Rating 3 - Heard or read sometimes, and also used it, rarely though

Rating 4 - Read, heard, and used moderately often (at least once in a month)

Rating 5 - Read, heard, and used frequently (at least once in a week)

How well you know the meaning:

(Rating scale) - (Rating guide)

Rating 1 - I have no clue what this phrase means

Rating 2 - Probably this as an idiom, but don't know the meaning

Rating 3 - Recognized this as an idiom, can guess the meaning

Rating 4 - I know the meaning of this idiom, but not very confident if it's correct

Rating 5 - I am 100% sure that I know the correct meaning of this idiom

* 1. अंधेरे में तीर चलाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 2. तोते उड़ जाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 3. ऊंट के मुंह में जीरा

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 4. तारे दिखाई दे जाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 5. अक्ल घास चरने जाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 6. अंग अंग टूटना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 7. अपने पाँव पर कुल्हाड़ी मारना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 8. अंधों में काना राजा

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 9. अंग अंग फूले ना समाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 10. अंगूठी का नगीना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐



Survey to identify idiom characteristics for my PhD research

Set 2 of 5

Please refer to description below to update rating scale for Usage frequency and Familiarity.

For Usage Frequency:

(Rating scale) - (Rating guide)

Rating 1 - Never heard, never read, and have never used it

Rating 2 - Heard or read rarely, and have never used it

Rating 3 - Heard or read sometimes, and also used it, rarely though

Rating 4 - Read, heard, and used moderately often (at least once in a month)

Rating 5 - Read, heard, and used frequently (at least once in a week)

How well you know the meaning:

(Rating scale) - (Rating guide)

Rating 1 - I have no clue what this phrase means

Rating 2 - Probably this as an idiom, but don't know the meaning

Rating 3 - Recognized this as an idiom, can guess the meaning

Rating 4 - I know the meaning of this idiom, but not very confident if it's correct

Rating 5 - I am 100% sure that I know the correct meaning of this idiom

* 1. आस्तीन का सांप होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 2. आंच ना आने देना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 3. आँखें फेर लेना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 4. आँख भौं चढ़ाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 5. आग बबूला होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 6. आँखें चार होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 7. टका सा जवाब देना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 8. एड़ी चोटी का ज़ोर लगाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 9. हाथ गरम करना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 10. नाव पार लगाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐



Survey to identify idiom characteristics for my PhD research

Set 3 of 5

Please refer to description below to update rating scale for Usage frequency and Familiarity.

For Usage Frequency:

(Rating scale) - (Rating guide)

Rating 1 - Never heard, never read, and have never used it

Rating 2 - Heard or read rarely, and have never used it

Rating 3 - Heard or read sometimes, and also used it, rarely though

Rating 4 - Read, heard, and used moderately often (at least once in a month)

Rating 5 - Read, heard, and used frequently (at least once in a week)

How well you know the meaning:

(Rating scale) - (Rating guide)

Rating 1 - I have no clue what this phrase means

Rating 2 - Probably this as an idiom, but don't know the meaning

Rating 3 - Recognized this as an idiom, can guess the meaning

Rating 4 - I know the meaning of this idiom, but not very confident if it's correct

Rating 5 - I am 100% sure that I know the correct meaning of this idiom

* 1. नाक पर गुस्सा होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 2. नाक पर मक्खी ना बैठने देना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 3. दुम दबा कर चल देना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 4. दूध का धुला होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 5. दिन अंगुलियों पर गिनना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 6. मिट्टी में मिला देना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 7. मुंह में दही जमाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 8. हाथ पीला होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 9. अधर में लटकाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 10. टेढ़ी उंगली से घी निकालना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐



Survey to identify idiom characteristics for my PhD research

Set 4 of 5

Please refer to description below to update rating scale for Usage frequency and Familiarity.

For Usage Frequency:

(Rating scale) - (Rating guide)

Rating 1 - Never heard, never read, and have never used it

Rating 2 - Heard or read rarely, and have never used it

Rating 3 - Heard or read sometimes, and also used it, rarely though

Rating 4 - Read, heard, and used moderately often (at least once in a month)

Rating 5 - Read, heard, and used frequently (at least once in a week)

How well you know the meaning:

(Rating scale) - (Rating guide)

Rating 1 - I have no clue what this phrase means

Rating 2 - Probably this as an idiom, but don't know the meaning

Rating 3 - Recognized this as an idiom, can guess the meaning

Rating 4 - I know the meaning of this idiom, but not very confident if it's correct

Rating 5 - I am 100% sure that I know the correct meaning of this idiom

* 1. डंके की चोट पर कहना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 2. छप्पर फाड़कर देना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 3. चैन की बंसी बजाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 4. चादर के बाहर पाँव पसारना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 5. गले का हार होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 6. खून का प्यासा होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 7. कब्र में पाँव लटकाये होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 8. कमर टूट जाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 9. कंधे से कंधा मिलाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 10. कलेजे पर पत्थर रखना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐



Survey to identify idiom characteristics for my PhD research

Set 5 of 5

Please refer to description below to update rating scale for Usage frequency and Familiarity.

For Usage Frequency:

(Rating scale) - (Rating guide)

Rating 1 - Never heard, never read, and have never used it

Rating 2 - Heard or read rarely, and have never used it

Rating 3 - Heard or read sometimes, and also used it, rarely though

Rating 4 - Read, heard, and used moderately often (at least once in a month)

Rating 5 - Read, heard, and used frequently (at least once in a week)

How well you know the meaning:

(Rating scale) - (Rating guide)

Rating 1 - I have no clue what this phrase means

Rating 2 - Probably this as an idiom, but don't know the meaning

Rating 3 - Recognized this as an idiom, can guess the meaning

Rating 4 - I know the meaning of this idiom, but not very confident if it's correct

Rating 5 - I am 100% sure that I know the correct meaning of this idiom

* 1. कानों में तेल डालकर बैठना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 2. ईंट से ईंट बजाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 3. कफन से सिर बांधना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 4. कान खड़े होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 5. एक अनार सौ बीमार

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 6. कोल्हू का बैल

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 7. किताब का कीड़ा होना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 8. कटे पर नमक छिड़कना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 9. घुटने टेक देना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐

* 10. खरी खोटी सुनाना

	1	2	3	4	5
Usage frequency	☐	☐	☐	☐	☐
Familiarity	☐	☐	☐	☐	☐



Survey to identify idiom characteristics for my PhD research

Just the last test! Transparency test..

You have to now make a judgement whether the words used in the idioms contribute to the figurative meaning.

There are idioms that are transparent in nature and the words used in the idiomatic expression/idioms will directly or indirectly help in understanding the idiomatic meaning of the idioms. For example in the idiom **angaar barasnaa** (अंगार बरसना). "अंगार" is closely related/refer to heat. This combination leads to figurative meaning "Very hot sunny day"

There are idioms that are not transparent, and the individual words used in idioms will not make any contribution in figurative understanding of idioms. For example: "**gaal bajaana**" (गाल बजाना). Here neither of the word is related/refer to its figurative meaning "to argue". Therefore it is purely idiomatic in nature.

Mark:

- a) Yes, If the idiomatic meaning can be guessed from the words used in the idiomatic phrase.
- b) No, If the idiomatic meaning can NOT be guessed from the words used in the idiomatic phrase.

* 1. Are the idioms in the left are transparent or not?

	Yes (Idiomatic meaning can be guessed from the words of the phrase)	No (Idiomatic meaning can NOT be guessed from the words of the phrase)
1. अंधेरे में तीर चलाना	☐	☐
2. तोते उड़ जाना	☐	☐
3. ऊंट के मुंह में जीरा	☐	☐
4. तारे दिखाई दे जाना	☐	☐
5. अकल घास चरने जाना	☐	☐
6. अंग अंग टूटना	☐	☐
7. अपने पाँव पर कुल्हाड़ी मारना	☐	☐
8. अंधों में काना राजा	☐	☐
9. अंग अंग फूले ना समाना	☐	☐
10. अंगूठी का नगीना	☐	☐
11. आस्तीन का सांप होना	☐	☐
12. आंच ना आने देना	☐	☐
13. आँखें फेर लेना	☐	☐
14. आँख भौं चढ़ाना	☐	☐
15. आग बबूला होना	☐	☐

	Yes (Idiomatic meaning can be guessed from the words of the phrase)	No (Idiomatic meaning can NOT be guessed from the words of the phrase)
16. आँखें चार होना	☐	☐
17. टका सा जवाब देना	☐	☐
18. एड़ी चोटी का जोर लगाना	☐	☐
19. हाथ गरम करना	☐	☐
20. नाव पार लगाना	☐	☐
21. नाक पर गुस्सा होना	☐	☐
22. नाक पर मक्खी ना बैठने देना	☐	☐
23. दुम दबा कर चल देना	☐	☐
24. दूध का धुला होना	☐	☐
25. दिन अंगुलियों पर गिनना	☐	☐
26. मिट्टी में मिला देना	☐	☐
27. मुंह में दही जमाना	☐	☐
28. हाथ पीला होना	☐	☐
29. अधर में लटकाना	☐	☐
30. टेढ़ी उंगली से घी निकालना	☐	☐
31. डंके की चोट पर कहना	☐	☐
32. छप्पर फाड़कर देना	☐	☐
33. चैन की बंसी बजाना	☐	☐
34. चादर के बाहर पांव पसारना	☐	☐
35. गले का हार होना	☐	☐
36. खून का प्यासा होना	☐	☐
37. कब्र में पाँव लटकाये होना	☐	☐
38. कमर टूट जाना	☐	☐
39. कंधे से कंधा मिलाना	☐	☐
40. कलेजे पर पत्थर रखना	☐	☐
41. कानों में तेल डालकर बैठना	☐	☐
42. ईंट से ईंट बजाना	☐	☐
43. कफन से सिर बांधना	☐	☐
44. कान खड़े होना	☐	☐

	Yes (Idiomatic meaning can be guessed from the words of the phrase)	No (Idiomatic meaning can NOT be guessed from the words of the phrase)
45. एक अनार सौ बीमार	☐	☐
46. कोल्हू का बैल	☐	☐
47. किताब का कीड़ा होना	☐	☐
48. कटे पर नमक छिड़कना	☐	☐
49. घुटने टेक देना	☐	☐
50. खरी खोटी सुनाना	☐	☐

Thanks a lot for completing the survey.

Please click on the Submit button.

I really appreciate your taking time out to help with my research!

Appendix 2: Questionnaire used for ‘decomposability’, ‘the role of literal meaning’, and ‘point of idiom identification’ tasks on adults

Appendix 2 – Instructions, and questions to gather information on respondents’ language exposure and proficiency



Survey to identify characteristics of Hindi idioms

Many thanks for agreeing to help in my PhD research!!

Please note that:

1. There are no right or wrong answers in this questionnaire.
2. This is a self-monitored assignment and we appreciate your sincere feedback.
3. Please take your time to go through instructions on the next page and also when responding to questions in the questionnaire.
4. Completing the survey may take approximately 30 minutes of your focused attention. There is absolutely NO time restriction though. Please take your time, think through, and answer.
5. Your personal information, and your responses, will be confidential and will be used solely for the purpose of research.
6. The instructions for all tasks in the questionnaire are also given in Hindi, for a better understanding.
7. To go to the next page or to re read and come to previous page please click on the previous/next button at the end of the page.

कृपया ध्यान दें :

१. इस प्रश्नावली में कोई सही या गलत जवाब नहीं है.
२. हम आपसे से यह उम्मीद करते हैं की आप इस प्रश्नावली को पूरे ध्यान से भरेंगे.
३. इस प्रश्नावली में कुल तीन कार्य हैं जिसे ध्यानपूर्वक पूरा करने में लगभग ३० मिनट लगेंगे. परन्तु इन कार्यों को समाप्त करने का कोई समय प्रतिबन्ध नहीं है. इसलिए आप अपना पूरा समय लेकर ध्यानपूर्वक प्रत्येक कार्य को समाप्त करें.
४. प्रत्येक कार्य का निर्देश हिंदी एवं अंग्रेजी दोनों में समझाया गया है. हम आपसे यह निवेदन करते हैं की कृपया हर कार्य को करने से पहले उसको अच्छी तरह समझ लें एवं तभी उत्तर दें.
- ५ .आपके व्यक्तिगत जानकारी को गोपनीय रखा जाएगा एवं केवल शोध के उद्देश्य से ही उपयोग किया जाएगा.
६. अगले पन्ने पर जाने के लिए या फिर प्रश्नों को दुबारा पढ़ने के लिए पन्ने के अंत में अंकित प्रीवियस/नेक्स्ट पर क्लिक करें.

* 1. First, please tell us some basic information about you. Don't worry, it will be kept confidential, and used only for the purpose of research, that too in aggregated data sets.

कार्य शुरू करने से पहले कृपया हमें कुछ मूलभूत जानकारी उपलब्ध कराएं. घबराएं नहीं यह कार्य का एक हिस्सा है और हमारे शोध में इस जानकारी की आवश्यकता होगी. आपके द्वारा दी गयी जानकारी केवल शोध में प्रयोग की जाएगी.

Name (optional)
नाम (अनिवार्य नहीं है)

Age - उम्र

Gender - लिंग

Occupation - व्यवसाय

Native place - जन्म स्थान

Years spent in a primarily Hindi speaking state
हिन्दी भाषी प्रांत में बिताया समय

* 2. Are you a native speaker of Hindi?

क्या हिंदी आपकी मातृभाषा है?

☐ Yes - हाँ

☐ No - नहीं

* 3. Is Hindi the language you use(d) at home while having conversation with your
क्या इनसे बात करते समय आप हिंदी का प्रयोग करते हैं/थे ?

	Yes - हाँ	No - नहीं
Grandparents? दादा-दादी/नाना-नानी?	☐	☐
Parents? माता-पिता?	☐	☐
Siblings? भाई-बहन?	☐	☐
Cousins? चचेरे-ममेरे भाई बहिन	☐	☐
Relatives? रिश्तेदार	☐	☐
Neighbours? पड़ोसी	☐	☐

* 4. On a scale of 1 to 5 (5 being the highest), please rate your proficiency in Hindi language
एक से पांच के मापदंड पे हिंदी भाषा में आपकी निपुणता अंकित करें - ५ सबसे अधिक निपुणता दर्शाता है

	1 - Least proficient (बहुत कम निपुण)	2	3	4	5 - Most proficient (अत्यधिक निपुण)
Language proficiency हिंदी भाषा में निपुणता	☐	☐	☐	☐	☐

* 5. Can you read, write, speak and understand Hindi? Please tick-mark the most relevant option below.
क्या आप हिंदी पढ़, लिख, बोल और समझ सकते हैं? कृपया सही उत्तर पे चिन्ह लगाएं.

- ☐ Don't understand Hindi; and can't read or write the script.
मुझे हिंदी समझ नहीं आती और मैं हिंदी पढ़-लिख नहीं सकता
- ☐ Can understand Hindi; but can't read or write the script.
मुझे हिंदी समझ आती है परन्तु मैं हिंदी पढ़-लिख नहीं सकता
- ☐ Can understand and read Hindi; but can't write the script.
मुझे हिंदी समझ आती है और मैं हिंदी पढ़ सकता हूँ, परन्तु मैं हिंदी लिख नहीं सकता
- ☐ Can understand, read and write in Hindi; but don't use the language on a frequent basis.
मुझे हिंदी समझ आती है और मैं हिंदी पढ़-लिख सकता हूँ, परन्तु मैं हिंदी का अधिक उपयोग नहीं करता
- ☐ Am proficient at understanding, reading, writing and speaking Hindi; and do so on a frequent basis.
मुझे हिंदी समझ आती है और मैं हिंदी आसानी से पढ़-लिख-बोल सकता हूँ, और मैं हिंदी का बहुत उपयोग भी करता हूँ

* 6. How many years of formal education did you have in Hindi?
आपने कितने साल हिंदी की शिक्षा ग्रहण की है?

* 7. Did you study Hindi as one of the subjects at school/college level? Please specify the level.
क्या आपने हिंदी स्कूल या कॉलेज में पढ़ी है? अगर हाँ तो किस वर्ग तक?

* 8. Do you know any other language other than Hindi?

क्या आपको हिंदी के अलावा कोई अन्य भाषा भी आती है?

☐ Yes - हाँ

☐ No - नहीं

9. Please mention the language(s) you know.

आपको जो अन्य भाषाएँ आती हैं, उन्हें यहां लिखें

1

2

3

4

Appendix 2 – Instructions, and questions used for the ‘decomposability test’



Survey to identify characteristics of Hindi idioms

Decomposability Test.. Let's start!!

Decomposability Test

In this task, we would like you to judge whether the idioms are decomposable or non-decomposable. For this we would like you to judge

- If there is any contribution of the words in the idioms to the phrase's figurative meaning (decomposable idioms).
- If there is no contribution of the words in the idioms to the phrase's figurative meaning (non-decomposable idioms).

Please go through the definition below to make your judgment.

Decomposable Idioms:

For such idioms, the individual words/ constituents used in the idiomatic expression will directly or indirectly help in understanding the overall idiomatic meaning of the idioms.

Example 1: angaar barasnaa (अंगार बरसना)

Literal meaning: Raining of hot coal

Idiomatic meaning: Very hot sunny day

This idiom has two words that are literally related to the idiomatic meaning. The word, “अंगार” is closely related/refers to the concept of heat whereas 'barasnaa' is the evidence of an action.

This combination leads to figurative meaning "Very hot sunny day".

Example 2: angaaron par pair rakhnaa (अंगारों पर पैर रखना)

Literal meaning: To keep feet on hot coal

Idiomatic meaning: To perform difficult work

This idiom has two words that are literally related to the idiomatic meaning. The word "अंगार" is closely related to the concept of fire/heat, while the word "पैर रखना" refers to the evidence of your action. This combination leads to figurative meaning to perform difficult work. Therefore, here there is a meaning transparency.

Non-decomposable Idioms:

Some idioms are non-decomposable in nature. For them, there is no relation between the words of the idiomatic expression and the meaning this idiom has. Therefore, the individual words/constituents do not make any contribution to the overall idiomatic meaning.

Example 1: gaal bajaana (गाल बजाना).

Literal meaning: To play cheeks

Idiomatic meaning: To argue.

Here, neither of the words is directly or indirectly related/refers to its idiomatic meaning "to argue". Therefore, it is a non-decomposable idiom.

Example 2: anguthe par maarna (अंगूठे पर मारना).

Literal meaning: To hit on thumb

Idiomatic meaning: To not worry about

Here, neither of the words is directly or indirectly related/refers to its idiomatic meaning "to not worry about". Therefore, there is no meaning transparency here, and so it is a non-decomposable idiom.

डीकम्पोसेबिलिटी टेस्ट

अक्सर मुहावरों को ऐसी श्रेणी में रखा जाता है जहाँ मुहावरों में उपयुक्त शब्दों का मेल मुहावरे के अर्थ से भिन्न होता है।

इन शब्दों की श्रृंखला का मुहावरे के वास्तविक अर्थ से कोई मेल नहीं होता।

जैसे: टांग खींचना

यहाँ अगर हम देखें तो मुहावरे का शाब्दिक अर्थ होगा: "किसी का पैर खींचना".

मगर इस मुहावरे का अर्थ होता है: "मूर्ख बनाना" .

अतः अगर हम मुहावरों में प्रयुक्त शब्दों का विच्छेद या शाब्दिक विश्लेषण करेंगे तो हमें इस मुहावरे का शाब्दिक अर्थ मिलेगा, जो इस मुहावरे का वास्तविक अर्थ नहीं है. क्या सारे मुहावरे ऐसे ही होते हैं?

इस कार्य में आपको मुहावरों को दो श्रेणी (डीकम्पोसेबल मुहावरे/ नॉन डीकम्पोसेबल मुहावरे) में आंकना है.

आपको यह निर्णय लेना है कि

अ) क्या मुहावरे में प्रयुक्त शब्दों का मुहावरे का अर्थ निर्धारित करने में कोई योगदान है (डीकम्पोसेबल मुहावरे)

आ) क्या मुहावरे में प्रयुक्त शब्दों का मुहावरे का अर्थ निर्धारित करने में कोई योगदान नहीं है (नॉन डीकम्पोसेबल मुहावरे)

श्रेणी निर्धारित करने से पहले कृपया निचे लिखे परिभाषा को पढ़ लें और निर्णय लें.

डीकम्पोसेबल मुहावरे: ऐसे मुहावरे जिसके शब्द प्रत्यक्ष या अप्रत्यक्ष रूप में मुहावरे का अर्थ समझने में मदद करें.

हम ऐसे मुहावरों में प्रयुक्त शब्दों के अर्थ को जोड़कर मुहावरे का अर्थ समझ सकते हैं.

उदाहरण 1: अंगार बरसना

शाब्दिक अर्थ : अंगारों की बारिश, मुहावरे का अर्थ: बहुत गरम दिन/ अत्यधिक गर्मी

इस मुहावरे के दोनों शब्द प्रत्यक्ष या अप्रत्यक्ष रूप से मुहावरे के अर्थ से सम्बंधित है एवं मुहावरे का अर्थ समझने में मदद करता है.

यहाँ "अंगार" शब्द गरम या गर्मी से सम्बंधित है. इस मुहावरे का अर्थ है "बहुत गरम दिन" .

यहाँ अंगार एवं गर्मी का अप्रत्यक्ष रूप से सम्बन्ध है एवं बरसना एक क्रिया को दर्शाता है.

यहाँ मुहावरे के शाब्दिक एवं वास्तविक अर्थ में कुछ समानता है.

इस मुहावरे में प्रयुक्त शब्दों के अर्थ को जोड़कर हम मुहावरे का अर्थ समझ सकते हैं.

अतः यह एक डीकम्पोसेबल मुहावरा है.

उदाहरण 2: अंगारों पर पैर रखना

शाब्दिक अर्थ : अंगारों पर पैर रखना, मुहावरे का अर्थ: मुश्किल काम करने की कोशिश

इस मुहावरे के दो शब्द प्रत्यक्ष या अप्रत्यक्ष रूप से मुहावरे के अर्थ से सम्बंधित हैं एवं मुहावरे का अर्थ समझने में मदद करते हैं।

“अंगार” शब्द से गरम या गर्मी परिकल्पना की जा सकती है, एवं पैर रखना आपके एक कार्य को दर्शाता है।

अतः यह एक डीकम्पोसेबल मुहावरा है।

नॉन डीकम्पोसेबल मुहावरे:

1. जहाँ मुहावरे के शब्दों के अर्थ एवं उस मुहावरे के अर्थ में कोई सम्बन्ध ना हो।
2. जहाँ मुहावरे के शब्दों का विच्छेद करने पर मुहावरे का वास्तविक अर्थ भंग होता हो।

उदाहरण 1: गाल बजाना

शाब्दिक अर्थ : गाल बजाना, मुहावरे का अर्थ: झगड़ा करना

यहाँ गाल एवं बजाना दोनों का सम्बन्ध मुहावरे के अर्थ से मेल नहीं खाता। अतः यह एक नॉन डीकम्पोसेबल मुहावरा है।

उदाहरण 2: अंगूठे पर मारना

शाब्दिक अर्थ : अंगूठे पर मारना, मुहावरे का अर्थ: चिंता नहीं करना

यहाँ मुहावरे के शाब्दिक अर्थ एवं मुहावरे के अर्थ में कोई सम्बन्ध नहीं है। अतः यह एक नॉन डीकम्पोसेबल मुहावरा है।

Provide your response for the following statement as per the rating chart mentioned below:

Statement: I can deduce the idiomatic meaning of this phrase because the individual words contribute to the overall meaning

Rating - Rating Guide

- 1 - I strongly disagree with above statement
- 2 - I disagree with above statement
- 3 - I am not sure; I am confused
- 4 - I agree with above statement
- 5 - I strongly agree with above statement

निम्न दिए कथन को रेटिंग चार्ट के अनुसार मूल्यांकन करें:

कथन : मैं इस मुहावरे का अर्थ समझ पा रहा हूँ क्योंकि मुहावरे में प्रयुक्त शब्दों का मुहावरे के अर्थ में योगदान है।

रेटिंग - रेटिंग गाइड

- 1 - मैं ऊपर लिखे वाक्य से पूर्णतः असहमत हूँ
- 2 - मैं ऊपर लिखे वाक्य से असहमत हूँ
- 3 - संशय है अतः कह नहीं सकता
- 4 - मैं ऊपर लिखे वाक्य से सहमत हूँ
- 5 - मैं ऊपर लिखे वाक्य से पूर्णतः सहमत हूँ

* 1. I can deduce the idiomatic meaning of this phrase because the individual words contribute to the overall meaning / मैं इस मुहावरे का अर्थ समझ पा रहा हूँ क्योंकि मुहावरे में प्रयुक्त शब्दों का मुहावरे के अर्थ में योगदान है

	1 – Strongly Disagree / पूर्णतः असहमत	2 – Disagree / असहमत	3 – Not sure / संशय है	4 – Agree / सहमत	5 – Strongly Agree / पूर्णतः सहमत
अपने पांव पर कुल्हाड़ी मारना	☐	☐	☐	☐	☐
कैंची सी ज़बान चलना	☐	☐	☐	☐	☐
तारीफ़ के पुल बांधना	☐	☐	☐	☐	☐
खरी खोटी सुनाना	☐	☐	☐	☐	☐
घर की मुर्गी दाल बराबर	☐	☐	☐	☐	☐
घोड़े बेचकर सोना	☐	☐	☐	☐	☐
अंधों में काना राजा	☐	☐	☐	☐	☐
नाक पर गुस्सा होना	☐	☐	☐	☐	☐
आटे दाल का भाव मालूम होना	☐	☐	☐	☐	☐
घुटने टेक देना	☐	☐	☐	☐	☐
खून पसीना एक करना	☐	☐	☐	☐	☐
अक्ल का दुश्मन होना	☐	☐	☐	☐	☐

* 2. I can deduce the idiomatic meaning of this phrase because the individual words contribute to the overall meaning / मैं इस मुहावरे का अर्थ समझ पा रहा हूँ क्योंकि मुहावरे में प्रयुक्त शब्दों का मुहावरे के अर्थ में योगदान है

	1 – Strongly Disagree / पूर्णतः असहमत	2 – Disagree / असहमत	3 – Not sure / संशय है	4 – Agree / सहमत	5 – Strongly Agree / पूर्णतः सहमत
कब्र में पाँव लटकाये होना	☐	☐	☐	☐	☐
हथेली पर सरसों उगाना	☐	☐	☐	☐	☐
हाथ गरम करना	☐	☐	☐	☐	☐
तोते उड़ जाना	☐	☐	☐	☐	☐
छाती पर मूँगा दलना	☐	☐	☐	☐	☐
खटाई में पड़ जाना	☐	☐	☐	☐	☐
मुंह में दही जमाना	☐	☐	☐	☐	☐
गुदड़ी का लाल होना	☐	☐	☐	☐	☐
गले का हार होना	☐	☐	☐	☐	☐
ईट से ईट बजाना	☐	☐	☐	☐	☐
आस्तीन का सांप होना	☐	☐	☐	☐	☐
अथ से इति तक	☐	☐	☐	☐	☐

* 3. I can deduce the idiomatic meaning of this phrase because the individual words contribute to the overall meaning / मैं इस मुहावरे का अर्थ समझ पा रहा हूँ क्योंकि मुहावरे में प्रयुक्त शब्दों का मुहावरे के अर्थ में योगदान है

	1 – Strongly Disagree / पूर्णतः असहमत	2 – Disagree / असहमत	3 – Not sure / संशय है	4 – Agree / सहमत	5 – Strongly Agree / पूर्णतः सहमत
कंधे से कंधा मिलाना	☐	☐	☐	☐	☐
अंतिम घड़ियाँ गिनना	☐	☐	☐	☐	☐
कटे पर नमक छिड़कना	☐	☐	☐	☐	☐
छप्पर फाड़कर देना	☐	☐	☐	☐	☐
आँखों का तारा होना	☐	☐	☐	☐	☐
चुलू भर पानी में डूब मरना	☐	☐	☐	☐	☐
आँखों में पानी भर आना	☐	☐	☐	☐	☐
अँधेरे में तीर चलाना	☐	☐	☐	☐	☐
भैंस के आगे बीन बजाना	☐	☐	☐	☐	☐
टेढ़ी जंगली से घी निकालना	☐	☐	☐	☐	☐
अपने मुँह मियाँ मिटदू बनना	☐	☐	☐	☐	☐
दांतों तले जंगुली दबाना	☐	☐	☐	☐	☐

* 4. I can deduce the idiomatic meaning of this phrase because the individual words contribute to the overall meaning / मैं इस मुहावरे का अर्थ समझ पा रहा हूँ क्योंकि मुहावरे में प्रयुक्त शब्दों का मुहावरे के अर्थ में योगदान है

	1 – Strongly Disagree / पूर्णतः असहमत	2 – Disagree / असहमत	3 – Not sure / संशय है	4 – Agree / सहमत	5 – Strongly Agree / पूर्णतः सहमत
दूध का धुला होना	☐	☐	☐	☐	☐
अकल घास चरने जाना	☐	☐	☐	☐	☐
आसमान सर पर उठाना	☐	☐	☐	☐	☐
हाथ पीला होना	☐	☐	☐	☐	☐
एड़ी चोटी का जोर लगाना	☐	☐	☐	☐	☐
एक अनार सौ बीमार	☐	☐	☐	☐	☐
कमर टूट जाना	☐	☐	☐	☐	☐
गड़े मुर्दे उखाड़ना	☐	☐	☐	☐	☐
चादर के बाहर पाँव पसारना	☐	☐	☐	☐	☐
अपना उल्लू सीधा करना	☐	☐	☐	☐	☐
अधर में लटकाना	☐	☐	☐	☐	☐
कलेजे पर पत्थर रखना	☐	☐	☐	☐	☐

* 5. I can deduce the idiomatic meaning of this phrase because the individual words contribute to the overall meaning / मैं इस मुहावरे का अर्थ समझ पा रहा हूँ क्योंकि मुहावरे में प्रयुक्त शब्दों का मुहावरे के अर्थ में योगदान है

	1 – Strongly Disagree / पूर्णतः असहमत	2 – Disagree / असहमत	3 – Not sure / संशय है	4 – Agree / सहमत	5 – Strongly Agree / पूर्णतः सहमत
सिट्टी पिट्टी गुम होना	☐	☐	☐	☐	☐
किताब का कीड़ा होना	☐	☐	☐	☐	☐
मिट्टी में मिला देना	☐	☐	☐	☐	☐
तिल का ताड़ बनाना	☐	☐	☐	☐	☐
डंके की चोट पर कहना	☐	☐	☐	☐	☐
कोल्हू का बैल होना	☐	☐	☐	☐	☐
जान हथेली पर रखना	☐	☐	☐	☐	☐
खून का प्यासा होना	☐	☐	☐	☐	☐
अंगुली पर नाच नचाना	☐	☐	☐	☐	☐
कान खड़े होना	☐	☐	☐	☐	☐
पेट में चूहे कूदना	☐	☐	☐	☐	☐
आग बबूला होना	☐	☐	☐	☐	☐

Appendix 2 – Instructions, and questions used for the ‘role of literal meaning’ task



Survey to identify characteristics of Hindi idioms

Role of Literal Meaning Task.. Let's start!!

Use of literal meaning

In this task, you have to mark if you think you have retrieved the literal meaning of the idiom as well while interpreting the idiomatic meaning of idioms. Or, did you not retrieve the literal meaning of the idioms at all ?

Note: This task is NOT to measure if the idiom has a literal meaning. The focus is on you, if you actually try to retrieve the literal meaning during idiom interpretation.

Example: taang khinchnaa (टांग खींचना)

In this task, we would like to know that while interpreting the meaning of idioms like the above, did you retrieve the literal meaning also, which is "to pull the legs of somebody" or you retrieved only its idiomatic meaning which is "to tease someone".

Rating Judgement:

Provide your response for the following statement as per the rating guide mentioned below.

Statement: While interpreting the idiomatic meaning of this phrase, I have also retrieved the literal meaning of the phrase.

Rating - Rating Guide

- 1 - I strongly disagree with above statement
- 2 - I disagree with above statement
- 3 - I am not sure; I am confused
- 4 - I agree with above statement
- 5 - I strongly agree with above statement

शाब्दिक अर्थ का प्रयोग

किसी भी मुहावरे के दो तरह के अर्थ निकाले जा सकते हैं.

पहला, मुहावरे का विशेष अर्थ. उदाहरण के लिए "दांतों तले जँगली दबाना" का विशेष अर्थ "आश्चर्यचकित होना" होता है.

दूसरा, मुहावरे का शाब्दिक अर्थ, जिसमें शब्दशः मतलब निकाला गया हो. उदाहरण के लिए "दांतों तले जँगली दबाना" का शाब्दिक अर्थ "दांतों के बीच जंगली को दबाना या चबाना" होता है.

नीचे दिए गए मुहावरों में आपको यह चिन्हित करना है कि मुहावरा पढ़ते एवं समझते समय क्या आपको मुहावरे के विशेष अर्थ के साथ साथ मुहावरे का शाब्दिक अर्थ भी मिला? या फिर आपने मुहावरा पढ़ते समय मुहावरे का शाब्दिक अर्थ प्राप्त नहीं किया?

कृपया ध्यान दें:

इस कार्य का उद्देश्य यह बिल्कुल नहीं है कि मुहावरे का शाब्दिक अर्थ होता है या नहीं. यहां पूरा कार्य आपके मुहावरा समझने की क्रिया पे केंद्रित है. आपको यह अंकित करना है कि क्या मुहावरा समझते समय आपको मुहावरे का शाब्दिक अर्थ प्राप्त हुआ, या केवल मुहावरे का विशेष अर्थ ही प्राप्त हुआ?

कृपया निम्नलिखित कथन को पढ़कर अपना विचार रेट करें :

कथन : मुहावरा पढ़ते और समझते समय मुझे मुहावरे का शाब्दिक अर्थ भी प्राप्त होता है.

रेटिंग - रेटिंग गाइड

- 1 - मैं ऊपर लिखे वाक्य से पूर्णतः असहमत हूँ
- 2 - मैं ऊपर लिखे वाक्य से असहमत हूँ
- 3 - संशय है अतः कह नहीं सकता
- 4 - मैं ऊपर लिखे वाक्य से सहमत हूँ
- 5 - मैं ऊपर लिखे वाक्य से पूर्णतः सहमत हूँ

* 1. While interpreting the idiomatic meaning of this phrase, I have also retrieved the literal meaning of the phrase / मुहावरा पढ़ते और समझते समय मुझे मुहावरे का शाब्दिक अर्थ भी ज्ञात हुआ

	1 – Strongly Disagree / पूर्णतः असहमत	2 – Disagree / असहमत	3 – Not sure / संशय है	4 – Agree / सहमत	5 – Strongly Agree / पूर्णतः सहमत
कंधे से कंधा मिलाना	☐	☐	☐	☐	☐
अंतिम घड़ियाँ गिनना	☐	☐	☐	☐	☐
कटे पर नमक छिड़कना	☐	☐	☐	☐	☐
छप्पर फाड़कर देना	☐	☐	☐	☐	☐
आँखों का तारा होना	☐	☐	☐	☐	☐
चुलू भर पानी में डूब मरना	☐	☐	☐	☐	☐
आँखों में पानी भर आना	☐	☐	☐	☐	☐
अँधेरे में तीर चलाना	☐	☐	☐	☐	☐
भैंस के आगे बीन बजाना	☐	☐	☐	☐	☐
टेढ़ी उंगली से घी निकालना	☐	☐	☐	☐	☐
अपने मुँह मियाँ मिट्टू बनना	☐	☐	☐	☐	☐
दांतों तले उंगुली दबाना	☐	☐	☐	☐	☐

* 2. While interpreting the idiomatic meaning of this phrase, I have also retrieved the literal meaning of the phrase / मुहावरा पढ़ते और समझते समय मुझे मुहावरे का शाब्दिक अर्थ भी ज्ञात हुआ

	1 – Strongly Disagree / पूर्णतः असहमत	2 – Disagree / असहमत	3 – Not sure / संशय है	4 – Agree / सहमत	5 – Strongly Agree / पूर्णतः सहमत
कब्र में पाँव लटकाये होना	☐	☐	☐	☐	☐
हथेली पर सरसों उगाना	☐	☐	☐	☐	☐
हाथ गरम करना	☐	☐	☐	☐	☐
तोते उड़ जाना	☐	☐	☐	☐	☐
छाती पर मूँग दलना	☐	☐	☐	☐	☐
खटाई में पड़ जाना	☐	☐	☐	☐	☐
मुंह में दही जमाना	☐	☐	☐	☐	☐
गुदड़ी का लाल होना	☐	☐	☐	☐	☐
गले का हार होना	☐	☐	☐	☐	☐
ईंट से ईंट बजाना	☐	☐	☐	☐	☐
आस्तीन का सांप होना	☐	☐	☐	☐	☐
अथ से इति तक	☐	☐	☐	☐	☐

* 3. While interpreting the idiomatic meaning of this phrase, I have also retrieved the literal meaning of the phrase / मुहावरा पढ़ते और समझते समय मुझे मुहावरे का शाब्दिक अर्थ भी ज्ञात हुआ

	1 – Strongly Disagree / पूर्णतः असहमत	2 – Disagree / असहमत	3 – Not sure / संशय है	4 – Agree / सहमत	5 – Strongly Agree / पूर्णतः सहमत
सिंघी पिंघी गुम होना	☐	☐	☐	☐	☐
किताब का कीड़ा होना	☐	☐	☐	☐	☐
भिंघी में मिला देना	☐	☐	☐	☐	☐
तिल का ताड़ बनाना	☐	☐	☐	☐	☐
डंके की चोट पर कहना	☐	☐	☐	☐	☐
कोल्हू का बैल होना	☐	☐	☐	☐	☐
जान हथेली पर रखना	☐	☐	☐	☐	☐
खून का प्यासा होना	☐	☐	☐	☐	☐
अंगुली पर नाच नचाना	☐	☐	☐	☐	☐
कान खड़े होना	☐	☐	☐	☐	☐
पेट में चूहे कूदना	☐	☐	☐	☐	☐
आग बबूला होना	☐	☐	☐	☐	☐

* 4. While interpreting the idiomatic meaning of this phrase, I have also retrieved the literal meaning of the phrase / मुहावरा पढ़ते और समझते समय मुझे मुहावरे का शाब्दिक अर्थ भी ज्ञात हुआ

	1 – Strongly Disagree / पूर्णतः असहमत	2 – Disagree / असहमत	3 – Not sure / संशय है	4 – Agree / सहमत	5 – Strongly Agree / पूर्णतः सहमत
दूध का धुला होना	☐	☐	☐	☐	☐
अक्ल घास चरने जाना	☐	☐	☐	☐	☐
आसमान सर पर उठाना	☐	☐	☐	☐	☐
हाथ पीला होना	☐	☐	☐	☐	☐
एड़ी चोटी का ज़ोर लगाना	☐	☐	☐	☐	☐
एक अनार सौ बीमार	☐	☐	☐	☐	☐
कमर टूट जाना	☐	☐	☐	☐	☐
गड़े मुर्दे उखाड़ना	☐	☐	☐	☐	☐
चादर के बाहर पाँव पसारना	☐	☐	☐	☐	☐
अपना उल्लू सीधा करना	☐	☐	☐	☐	☐
अधर में लटकाना	☐	☐	☐	☐	☐
कलेजे पर पत्थर रखना	☐	☐	☐	☐	☐

* 5. While interpreting the idiomatic meaning of this phrase, I have also retrieved the literal meaning of the phrase / मुहावरा पढ़ते और समझते समय मुझे मुहावरे का शाब्दिक अर्थ भी ज्ञात हुआ

	1 – Strongly Disagree / पूर्णतः असहमत	2 – Disagree / असहमत	3 – Not sure / संशय है	4 – Agree / सहमत	5 – Strongly Agree / पूर्णतः सहमत
अपने पांव पर कुल्हाड़ी मारना	☐	☐	☐	☐	☐
कैंची सी ज़बान चलना	☐	☐	☐	☐	☐
तारीफ़ के पुल बांधना	☐	☐	☐	☐	☐
खरी छोटी सुनाना	☐	☐	☐	☐	☐
घर की मुर्गी दाल बराबर	☐	☐	☐	☐	☐
घोड़े बेचकर सोना	☐	☐	☐	☐	☐
अंधों में काना राजा	☐	☐	☐	☐	☐
नाक पर गुस्सा होना	☐	☐	☐	☐	☐
आटे दाल का भाव मालूम होना	☐	☐	☐	☐	☐
घुटने टेक देना	☐	☐	☐	☐	☐
खून पसीना एक करना	☐	☐	☐	☐	☐
अक्ल का दुश्मन होना	☐	☐	☐	☐	☐

Appendix 2 – Instructions, and questions used for the ‘point of idiom identification’ task



Survey to identify characteristics of Hindi idioms

Point of Idiom Identification Task.. Let's start!!

The Point of Idiom Identification:

Do you think there is any particular trigger point, or point of idiom identification, or keyword in an idiom, which makes a major impact in understanding the idiomatic meaning of the phrase? In the idioms given below, try to identify the keyword, at which the idioms become actually identified, i.e. at that point, do you identify that this expression should be interpreted as an idiom. It is possible that you identify this as an idiom at the beginning, middle, or end of the phrase. Therefore, any point can be the point of identification or keyword.

Example: "aankhon mein dhool jhonknaa" (आँखों में धूल झोंकना)

In this case, there are probably 3 possible points of idiom identification

1. When we read "aankhon mein dhool jhonknaa" (आँखों में धूल झोंकना), probably the idiom has got its idiomatic meaning by the time we have read "aankhon mein dhool" (आँखों में धूल). Therefore, 'dhool' धूल is the point of idiom identification, and anything post it just adds confirmation and completes the phrase.
2. You can identify this as an idiom when you come to the last word of the phrase "aankhon mein dhool jhonknaa" (आँखों में धूल झोंकना). In this case, 'jhonkanaa' will be the point of idiom identification.
3. Another possibility is in the beginning itself. Therefore, either 'aankhon' or 'aankhon mein' can be the point of idiom identification in "aankhon mein dhool jhonknaa" (आँखों में धूल झोंकना).

कार्य 2: मुहावरे का संकेतनात्मक बिंदु

नीचे दिए गए मुहावरों में आपको यह चिन्हित करना है कि मुहावरे में प्रयुक्त किस शब्द पर आपको यह संकेत मिला कि यह एक मुहावरा है। वह शब्द मुहावरे का पहला शब्द भी हो सकता है, बीच का शब्द भी हो सकता है या अंतिम शब्द भी हो सकता है।

उदाहरण: आँखों में धूल झोंकना

इस मुहावरे में शायद तीन संकेतनात्मक बिंदु हो सकते हैं

१. 'आँखों में धूल झोंकना' को पढ़ते समय आपको शायद यह अभ्यास हो कि जब आप "धूल" शब्द तक पहुँचते हैं तो आप का मस्तिष्क यह समझने लगता है कि यह एक मुहावरा है। अतः "धूल" इस मुहावरे का संकेतनात्मक बिंदु हो सकता है।
 २. यह भी हो सकता है कि जब आप 'झोंकना' तक पहुँचें तब आप को यह अभ्यास हो कि यह एक मुहावरा है। अतः यहाँ 'आँखों में धूल झोंकना' में "झोंकना" संकेतनात्मक बिंदु हो सकता है।
 ३. यह भी हो सकता है कि आप इस मुहावरे को शुरू में ही समझ जाएँ। आपको केवल "आँखों/आँखों में" पढ़ने पर ही यह ज्ञात हो जाए कि यह एक मुहावरा है। अतः यहाँ 'आँखों/आँखों में धूल झोंकना' इस मुहावरे का संकेतनात्मक बिंदु हो सकता है।
- कहने का तात्पर्य यह है कि कोई भी शब्द आपके अनुसार इस मुहावरे का संकेतनात्मक बिंदु हो सकता है।

Note:

If you do not find a point of identification for any idiom mentioned below, you can mark the last word of the idiom. In such cases, it is assumed that even if you don't think there is a clear point of identification, you will definitely recognize that these phrases are idioms by the time you finish reading the entire phrase.

कृपया ध्यान दें:

अगर आपको निम्नलिखित मुहावरों में से किसी मुहावरे का संकेतनात्मक बिंदु नहीं मिलता है, तो आप उस मुहावरे के अंतिम शब्द को उस मुहावरे का संकेतात्मक बिंदु मान सकते हैं। क्योंकि, यह मान लिया जाएगा कि मुहावरे के अंत तक पढ़ने के उपरान्त आप यह जान चुके हैं कि यह कोई सामान्य शब्द श्रृंखला नहीं है, बल्कि एक मुहावरा है।

* 1. अपने पांव पर कुल्हाड़ी मारना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ अपने ☐ पांव ☐ पर ☐ कुल्हाड़ी ☐ मारना

* 2. कैची सी ज़बान चलना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ कैची ☐ सी ☐ ज़बान ☐ चलना

* 3. तारीफ़ के पुल बांधना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ तारीफ़ ☐ के ☐ पुल ☐ बांधना

* 4. खरी खोटी सुनाना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ खरी ☐ खोटी ☐ सुनाना

* 5. घर की मुर्गी दाल बराबर

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ घर ☐ की ☐ मुर्गी ☐ दाल ☐ बराबर

* 6. घोड़े बेचकर सोना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ घोड़े ☐ बेचकर ☐ सोना

* 7. अंधों में काना राजा

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ अंधों ☐ में ☐ काना ☐ राजा

* 8. नाक पर गुस्सा होना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ नाक ☐ पर ☐ गुस्सा ☐ होना

* 9. आटे दाल का भाव मालूम होना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ आटे ☐ दाल ☐ का ☐ भाव ☐ मालूम ☐ होना

* 10. घुटने टेक देना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ घुटने ☐ टेक ☐ देना

* 11. खून पसीना एक करना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ खून ☐ पसीना ☐ एक ☐ करना

* 12. अक्ल का दुश्मन होना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ अक्ल ☐ का ☐ दुश्मन ☐ होना

* 13. कंधे से कंधा मिलाना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ कंधे ☐ से ☐ कंधा ☐ मिलाना

* 14. अंतिम घड़ियाँ गिनना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ अंतिम ☐ घड़ियाँ ☐ गिनना

* 15. कटे पर नमक छिड़कना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ कटे ☐ पर ☐ नमक ☐ छिड़कना

* 16. छप्पर फाड़कर देना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ छप्पर ☐ फाड़कर ☐ देना

* 17. आँखों का तारा होना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ आँखों ☐ का ☐ तारा ☐ होना

- * 18. चुल्लू भर पानी में डूब मरना
Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है
☐ चुल्लू ☐ भर ☐ पानी ☐ में ☐ डूब ☐ मरना
- * 19. आँखों में पानी भर आना
Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है
☐ आँखों ☐ में ☐ पानी ☐ भर ☐ आना
- * 20. अँधेरे में तीर चलाना
Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है
☐ अँधेरे ☐ में ☐ तीर ☐ चलाना
- * 21. भैंस के आगे बीन बजाना
Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है
☐ भैंस ☐ के ☐ आगे ☐ बीन ☐ बजाना
- * 22. टेढ़ी उंगली से घी निकालना
Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है
☐ टेढ़ी ☐ उंगली ☐ से ☐ घी ☐ निकालना
- * 23. अपने मुंह मियाँ मिटतू बनना
Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है
☐ अपने ☐ मुंह ☐ मियाँ ☐ मिटतू ☐ बनना
- * 24. दांतों तले उंगुली दबाना
Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है
☐ दांतों ☐ तले ☐ उंगुली ☐ दबाना
- * 25. सिट्ठी पिट्ठी गुम होना
Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है
☐ सिट्ठी ☐ पिट्ठी ☐ गुम ☐ होना
- * 26. किताब का कीड़ा होना
Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है
☐ किताब ☐ का ☐ कीड़ा ☐ होना
- * 27. मिट्टी में मिला देना
Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है
☐ मिट्टी ☐ में ☐ मिला ☐ देना

* 28. तिल का ताड़ बनाना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ तिल ☐ का ☐ ताड़ ☐ बनाना

* 29. डंके की चोट पर कहना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ डंके ☐ की ☐ चोट ☐ पर ☐ कहना

* 30. कोल्हू का बैल होना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ कोल्हू ☐ का ☐ बैल ☐ होना

* 31. जान हथेली पर रखना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ जान ☐ हथेली ☐ पर ☐ रखना

* 32. खून का प्यासा होना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ खून ☐ का ☐ प्यासा ☐ होना

* 33. अंगुली पर नाच नचाना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ अंगुली ☐ पर ☐ नाच ☐ नचाना

* 34. कान खड़े होना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ कान ☐ खड़े ☐ होना

* 35. पेट में चूहे कूदना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ पेट ☐ में ☐ चूहे ☐ कूदना

* 36. आग बबूला होना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ आग ☐ बबूला ☐ होना

* 37. दूध का धुला होना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ दूध ☐ का ☐ धुला ☐ होना

* 38. अक्ल घास चरने जाना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ अक्ल ☐ घास ☐ चरने ☐ जाना

* 39. आसमान सर पर उठाना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ आसमान ☐ सर ☐ पर ☐ उठाना

* 40. हाथ पीला होना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ हाथ ☐ पीला ☐ होना

* 41. एड़ी चोटी का ज़ोर लगाना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ एड़ी ☐ चोटी ☐ का ☐ ज़ोर ☐ लगाना

* 42. एक अनार सौ बीमार

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ एक ☐ अनार ☐ सौ ☐ बीमार

* 43. कमर टूट जाना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ कमर ☐ टूट ☐ जाना

* 44. गड़े मुर्दे उखाड़ना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ गड़े ☐ मुर्दे ☐ उखाड़ना

* 45. चादर के बाहर पाँव पसारना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ चादर ☐ के ☐ बाहर ☐ पाँव ☐ पसारना

* 46. अपना उल्लू सीधा करना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ अपना ☐ उल्लू ☐ सीधा ☐ करना

* 47. अधर में लटकाना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ अधर ☐ में ☐ लटकाना

* 48. कलेजे पर पत्थर रखना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ कलेजे ☐ पर ☐ पत्थर ☐ रखना

* 49. कब्र में पाँव लटकाये होना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ कब्र ☐ में ☐ पाँव ☐ लटकाये ☐ होना

* 50. हथेली पर सरसों उगाना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ हथेली ☐ पर ☐ सरसों ☐ उगाना

* 51. हाथ गरम करना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ हाथ ☐ गरम ☐ करना

* 52. तोते उड़ जाना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ तोते ☐ उड़ ☐ जाना

* 53. छाती पर मूंग दलना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ छाती ☐ पर ☐ मूंग ☐ दलना

* 54. खटाई में पड़ जाना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ खटाई ☐ में ☐ पड़ ☐ जाना

* 55. मुंह में दही जमाना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ मुंह ☐ में ☐ दही ☐ जमाना

* 56. गुदड़ी का लाल होना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ गुदड़ी ☐ का ☐ लाल ☐ होना

* 57. गले का हार होना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ गले ☐ का ☐ हार ☐ होना

* 58. ईट से ईट बजाना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ ईट ☐ से ☐ ईट ☐ बजाना

* 59. आस्तीन का सांप होना

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ आस्तीन ☐ का ☐ सांप ☐ होना

* 60. अथ से इति तक

Point of idiom identification is / मुहावरे का संकेतनात्मक बिंदु है

☐ अथ ☐ से ☐ इति ☐ तक

Thank You!!! :) धन्यवाद!!! :)

**Thanks a lot for completing the survey. Please click the Submit button.
I really appreciate your effort to help with my research!**

प्रश्नावली पूरी करने के लिए धन्यवाद. कृपया सब्मिट बटन पे क्लिक करें.
मैं आपकी इस सहायता के लिए सदैव आभारी रहूंगी!

Appendix 3: Test Booklet used for comprehension task on children



मुहावरों का खेल

नमस्कार!!

हम अभी एक बहुत ही मजेदार कार्य करने जा रहे हैं.
पर सबसे पहले हम आपके बारे में कुछ जानकारी चाहेंगे

* 1. First, please tell us some basic information about you.

कार्य शुरू करने से पहले कृपया हमें कुछ जानकारी दें.

Name - नाम

Age - उम्र

Gender - लिंग

Class - कक्षा

Native place - जन्म स्थान

Place where you have stayed for the longest duration?
आपने अधिकतम समय कहाँ बिताया है?

* 2. क्या आपको हिंदी समझने में कठिनाई है ?

☐ Yes - हाँ

☐ No - नहीं

* 3. आप स्कूल में कितने सालों से हिंदी पढ़ रहे हैं?

* 4. क्या इनसे बात करते समय आप हिंदी का प्रयोग करते हैं?

	Yes - हाँ	No - नहीं
Grandparents? दादा-दादी/नाना-नानी?	☐	☐
Parents? माता-पिता?	☐	☐
Siblings? भाई-बहन?	☐	☐
Cousins? चचेरे-ममेरे भाई-बहन	☐	☐
Relatives? रिश्तेदार	☐	☐
Neighbours? पड़ोसी	☐	☐

* 5. क्या आपको हिंदी के अलावा कोई अन्य भाषा भी आती है?

- ☐ Yes - हाँ
- ☐ No - नहीं

6. Please mention the language(s) you know.

आपको जो अन्य भाषाएँ आती हैं, उन्हें यहां लिखें

1	
2	
3	



मुहावरों का खेल

वाक्यों के सही अर्थ पर निशान लगाएं

आपको हिन्दी के मुहावरों का उपयोग करते हुए कुछ वाक्य दिये जाएँगे. आपको उन मुहावरों के सही अर्थ पर निशान लगाना है. हर वाक्य के अंत में चार विकल्प होंगे. आपको सिर्फ उसी विकल्प पर चिन्ह लगाना है जो आपको वाक्यों में प्रयुक्त मुहावरे का सही अर्थ लगता है. वाक्य पढ़ने में या कार्य समझने में अगर कठिनाई हो तो आप निरीक्षक से सहायता ले सकते हैं.

1. पीटर शाम में बाज़ार गया तो उसने वहां एक नयी चॉकलेट देखी. लेकिन पीटर की मम्मी ने पीटर को चॉकलेट खरीदने से साफ मना कर दिया. इस पर दुखी होकर पीटर ने रो-रो कर आसमान सर पर उठा लिया.

- ☐ पीटर ने बाज़ार जाकर आसमान को उठाकर अपने सर पर रख लिया.
- ☐ पीटर बाज़ार गया, और चॉकलेट देखकर दुखी हो गया.
- ☐ पीटर की मम्मी ने उसे मारा, जिसकी वजह से पीटर रोने लगा.
- ☐ पीटर ने चॉकलेट पाने के लिए बहुत शोर मचाया.

2. धूर्त और कपटी लोग दूसरों का फायदा उठाते हैं. वह लोगों से अपना काम निकलवाने के लिए पहले उनसे मित्रता करते हैं. फिर मित्रता के बहाने वह उनसे अपना काम निकलवाते हैं और उनकी छाती पर मूंग दलते हैं.

- ☐ कपटी लोग अच्छे लोगों के सीने पर मूंग की दाल रगड़ते हैं.
- ☐ धूर्त किस्म के लोग अन्य लोगों को बहुत परेशान करते हैं.
- ☐ धूर्त लोग अपना काम निकलवाना जानते हैं.
- ☐ धूर्त लोगों का फायदा नहीं होता क्योंकि वह मूंग गिरा देते हैं.

3. रमेश और सुरेश सगे भाई होकर भी अपने परिवार के ज़मीन जायदाद के बटवारे को लेकर बहुत गुस्से में हैं. वह बात-बात पर आपस में बहस करने लगते हैं. दोनों एक दूसरे के खून के प्यासे हो गए हैं.

- ☐ रमेश और सुरेश एक दूसरे का खून पीना चाहते हैं.
- ☐ रमेश और सुरेश को लड़ते-लड़ते प्यास लग गयी.
- ☐ रमेश और सुरेश एक दूसरे के दुश्मन बन गए हैं.
- ☐ रमेश और सुरेश गुस्सैल किस्म के लोग हैं.

4. आजकल शहर में व्यवसायी डरे हुए से रहते हैं. इसकी वजह है कि आजकल चोर दिन दहाड़े दुकानों में चोरी कर लेते हैं. पुलिस से भी उन्हें भय नहीं होता क्योंकि वे पुलिस इंपेक्टरों का हाथ गरम करते हैं.

- ☐ चोर पुलिस के हाथों को गर्मी पहुँचाते हैं.
- ☐ पुलिस चोरों से डरती है.
- ☐ चोरों को पुलिस का भय नहीं होता क्योंकि पुलिस के हाथों में कोयला होता है.
- ☐ चोरों को पुलिस का भय नहीं होता क्योंकि पुलिस चोरों से रिश्वत लेती है.

5. जेनेरल नॉलेज की परीक्षा के बाद मनीष के भाई ने उससे परीक्षा के बारे में पूछा. मनीष ने कहा उसे किसी भी प्रश्न का उत्तर नहीं आता था. इसलिए उसने पास होने के लिए अँधेरे में तीर चलाया है.

- ☐ मनीष ने जवाबों पर तुक्का लगाया है.
- ☐ मनीष ने परीक्षा हाल में बैठकर तीर चलाया है.
- ☐ मनीष परीक्षा हाल से निशाना सीखकर आया है.
- ☐ मनीष ने परीक्षा में सब सही जवाब दिया है.

6. किसी बात पर सोहन और लालू पहलवान की लड़ाई हो गयी. बात हाथापाई तक पहुँच गयी. रमेश को जब यह पता चला तो उसने कहा कि पहलवान से लड़ाई करके सोहन ने अपने पांव पर कुल्हाड़ी मार ली है.

- ☐ सोहन के पाँव पर कुल्हाड़ी गिर गयी है.
- ☐ सोहन ने अपनी हानि स्वयं ही कर ली है.
- ☐ सोहन ने लड़ाई के बाद अपने पांव पर कुल्हाड़ी मार ली है.
- ☐ रमेश ने सोहन की प्रशंसा की क्योंकि वह लालू पहलवान से लड़ा है.

7. मयंक एक आज्ञाकारी बालक है और बड़ों का आदर करता है. वह सबसे विनम्रता से बात करता है, और सदा ही दूसरों की सहायता करने के लिए तैयार रहता है. इसलिए सभी मयंक की तारीफ के पुल बांधते हैं.

- ☐ लोग मयंक की अत्यंक प्रशंसा करते हैं.
- ☐ लोग मयंक को तारीफ के पुल से बांध देते हैं.
- ☐ मयंक एक आज्ञाकारी बालक है और वह विनम्र भी है.
- ☐ तारीफ के पुल पर सिर्फ आज्ञाकारी लोग ही जा सकते हैं.

8. वसीम घर में अपने चारों भाई-बहनों में सबसे छोटा है. उसके घर में जो भी मेहमान या रिश्तेदार आते हैं, वे उसके लिए खिलौने और चॉकलेट ज़रूर लाते हैं. ऐसा लगता है कि वसीम सबकी आँखों का तारा है.

- ☐ लोग वसीम को बहुत प्यार करते हैं और वह सबका दुलारा है.
- ☐ वसीम छोटा है इसलिए खिलौनों से खेलता है.
- ☐ लोग रात में आँखों से वसीम नाम के तारे को देखते हैं.
- ☐ वसीम लोगों से बहुत प्यार करता है.

9. राज मैदान में जेमिनी सर्कस लगा है। वहां मौत का कुआं, रस्सी पर चलना, और अन्य कई रोमांचक करतब दिखाए जा रहे हैं। दर्शकों का भरपूर मनोरंजन करने के लिए सारे कलाकारों ने अपनी जान हथेली पर रखी है।

- ☐ कलाकार अपनी हथेली पर करतब दिखा रहे हैं।
- ☐ कलाकार बहुत मजेदार करतब दिखा रहे हैं।
- ☐ कलाकार अपनी जान जोखिम में डालकर खतरनाक करतब दिखा रहे हैं।
- ☐ दर्शकों का भरपूर मनोरंजन हो रहा है।

10. शालिनी जब स्कूल से घर पहुंची तो उसने देखा कि उसका पालतू कुत्ता टॉमी ज़मीन पर लेटा हुआ है और लम्बी साँसें ले रहा है। पूछने पर उसकी मम्मी ने बताया कि टॉमी अपनी अंतिम घड़ियां गिन रहा है।

- ☐ टॉमी बहुत बीमार है, इसलिए लेटा हुआ है।
- ☐ टॉमी ज़मीन पर लेटकर घड़ी देख रहा है।
- ☐ टॉमी बहुत बीमार है, किसी भी पल उसकी मृत्यु हो सकती है।
- ☐ टॉमी शालिनी के आने का इंतज़ार कर रहा है।

11. रमेश आज शाम में बहुत ज़्यादा उदास दिख रहा था। बहुत पूछने पर उसने बताया कि आज सुबह वह ट्रैफिक जाम के कारण देर से ऑफिस पहुंचा, इसकी वजह से उसके बॉस ने उसे सबके सामने खरी खोटी सुनाई।

- ☐ रमेश के बॉस ने उसे सबके सामने बहुत डांटा क्योंकि वह ऑफिस देर से पहुंचा।
- ☐ रमेश बहुत उदास है क्योंकि वह ऑफिस देर से पहुंचा।
- ☐ रमेश के बॉस ने उसे सबके सामने खड़ा कर दिया।
- ☐ रमेश अब ऑफिस देर से नहीं जाएगा।

12. राज के भाई को रेलवे की परीक्षा के लिए कलकत्ता जाना था, इसलिए उसने राज को ट्रेन टिकट के लिए स्टेशन भेजा। राज भीड़ देखकर बिना टिकट लिए वापस आ गया और उन पैसों से दोस्तों को समोसे खिला दिए। ऐसा लगता है उसकी अक्ल घास चरने गयी है।

- ☐ राज छोटा सा काम भी नहीं कर पाता है।
- ☐ राज बहुत बेवकूफ है, वह कोई भी काम दिमाग लगा कर नहीं करता है।
- ☐ राज स्टेशन जाकर, घास पर बैठकर, घास चबाने लगा।
- ☐ राज को स्टेशन जाकर टिकट बुक करना नहीं आता है।

13. रिया की मौसी उससे घर का सारा काम करवाती है। रिया सुबह से शाम तक लगातार काम करती है और उसे बिल्कुल भी आराम नहीं मिल पाता है। ऐसा लगता है कि रिया कोल्हू का बैल है।

- ☐ रिया आलसी है इसलिए उसकी मौसी उससे काम करवाती है।
- ☐ रिया निरंतर काम में लगी रहती है, वह बहुत मेहनत करती है।
- ☐ रिया बैल की जगह कोल्हू में बंधी हुई है।
- ☐ रिया एक बैल का नाम है।

14. रवि और श्याम साथ में लंच कर रहे थे. पानी पीते समय रवि का हाथ गलती से श्याम के टिफिन पर लग गया और टिफिन ज़मीन पर गिर गया. खाना ज़मीन पर गिरने से श्याम आग बबूला हो गया.

- ☐ श्याम की शर्ट पर आग लग गयी.
- ☐ खाना ज़मीन पर गिरने से श्याम बहुत गुस्सा हो गया.
- ☐ श्याम बहुत दुखी हो गया.
- ☐ श्याम आग को लेकर बबूला बन गया.

15. राज ने सोनिया की कॉपी से नकल करने की कोशिश की तो सोनिया ने साफ मना कर दिया. राज ने बाद में बताया कि सोनिया ने खुद भी गरिमा से नकल की थी. वह दूध की धुली नहीं है.

- ☐ सोनिया बहुत सीधी सादी नहीं है, वह बहुत चालाक है.
- ☐ सोनिया दूध से नहीं नहाती है.
- ☐ राज को सोनिया पर गुस्सा आया और उसने सोनिया पर दूध डाल दिया.
- ☐ राज नकल नहीं कर पाया क्योंकि सोनिया बहुत ईमानदार है.

16. लगातार मन लगाकर मेहनत करने वाले लोग कभी भी जीवन में निराश नहीं होते. वे गरीबी को अपने राह में अड़चन बनने नहीं देते. उदाहरण के लिए लाल बहादुर शास्त्री जो भारत के प्रधानमंत्री बनें. वे गुदड़ी के लाल थे.

- ☐ प्रतिभावान लोग अपनी मेहनत से विपरीत परिस्थितियों में भी सफल होते हैं.
- ☐ लाल बहादुर शास्त्री गुदड़ी में पैदा हुए थे.
- ☐ प्रधानमंत्री बनने के लिए गुदड़ी का लाल होना जरूरी है.
- ☐ गुदड़ी में बहुत लाल पैदा होते हैं. उनमें से एक लाल हमारे प्रधानमंत्री थे.

17. आज रिचा की दसवीं की परीक्षा का आखिरी दिन है. उसने परीक्षा की तैयारी के लिए बहुत महीनों से लगातार मेहनत की थी. उसने पहले से ही मन बना लिया है कि आज परीक्षा के बाद घोड़े बेचकर सोयेगी.

- ☐ रिचा दसवीं की परीक्षा के खत्म होने के बाद ही सोयेगी.
- ☐ रिचा घोड़ों के साथ जाकर सो जायेगी.
- ☐ रिचा के पास जो घोड़े हैं, उन्हें वह बेचकर आएगी और फिर सोयेगी.
- ☐ रिचा लगातार मेहनत करके बहुत थक गयी है, इसलिए वह परीक्षा के बाद चैन की नींद सोयेगी.

18. भारत को आज़ादी दिलाने में नेताजी सुभाष चंद्र बोस का बहुत बड़ा योगदान था. नेताजी ने अंग्रेज़ों से आजीवन संघर्ष किया. विपरीत परिस्थितियों में भी वह अपने पथ पर अथ से इति तक अडिग रहे.

- ☐ नेताजी सुभाष चंद्र बोस ने शुरू से अंत तक भारत की आजादी के लिए बहुत प्रयास किये.
- ☐ भारत की आजादी में नेताजी सुभाष चंद्र बोस का सिर्फ़ शुरुआत में योगदान था.
- ☐ नेताजी सुभाष चंद्र बोस बहुत ही दृढ़ निश्चय के व्यक्ति थे.
- ☐ नेताजी सुभाष चंद्र बोस को भारत की आजादी में बहुत संघर्ष करना पड़ा.

19. प्रेमजी की छोटी बेटी आशा की पढ़ाई पूरी हो गयी है. अच्छे नंबरों से पास होने के बाद आजकल वह नौकरी भी करने लगी है. प्रेमजी चाहते हैं की अब देर किये बिना आशा के हाथ पीले हो जाएँ.

- ☐ प्रेमजी को पीला रंग अच्छा लगता है, इसलिए अपनी बेटी के हाथ पर लगाना चाहते हैं.
- ☐ प्रेमजी अपनी छोटी बेटी आशा की शादी कराना चाहते हैं.
- ☐ प्रेमजी की छोटी बेटी आशा बहुत मेहनती है.
- ☐ प्रेमजी चाहते हैं कि छोटी बेटी आशा के हाथ पर पीला रंग लग जाए.

20. स्वाति सुबह से काम में लगातार व्यस्त थी. उसके घर में कई मेहमान आये हुए हैं, जिसके कारण स्वाति का काम बढ़ गया. दोपहर में स्वाति ने मुझसे धीरे से कहा कि उसके पेट में चूहे कूद रहे हैं.

- ☐ स्वाति काम करके ज़मीन पर लेटी तो उसके पेट के ऊपर से चूहे कूद कर गए.
- ☐ स्वाति ने बहुत मेहनत की, और फिर उसे बहुत तेज़ भूख लग गयी.
- ☐ स्वाति का काम बढ़ जाने के कारण वह दोपहर तक काम करती रही.
- ☐ स्वाति ने बहुत सारे मेहमान को देखकर वहां से चूहे की तरह भाग जाना ठीक समझा.

21. मुकेश किसी कारणवश पिछले साल अपनी नानी से नहीं मिल पाया था. इस बार जब वह गर्मियों की छुट्टी में ननिहाल गया और अपनी नानी से मिला, तो मुकेश को देखकर उसकी नानी के आँखों में पानी भर आया.

- ☐ बहुत दिन बाद मुकेश की नानी मुकेश से मिलीं, तो वह खुशी से भावुक हो गयीं.
- ☐ मुकेश की नानी की आँख कमजोर हो गयी है, और उनमे पानी आ जाता है.
- ☐ मुकेश को देखकर उसकी नानी पानी भरने चली गयीं.
- ☐ मुकेश बहुत दिन बाद अपनी नानी से मिलने गया.

22. पिछले महीने स्कूल की तरफ से सभी बच्चों को पिकनिक ले जाने की बात हुई और योजना भी बनी थी. लेकिन लगातार बारिश होने की वजह से घूमने जाना संभव नहीं हुआ. इसलिए पूरी योजना खटाई में पड़ गयी.

- ☐ बारिश की वजह से बच्चों को पिकनिक ले जाने की योजना सफल नहीं हुई.
- ☐ बारिश की वजह से स्कूल बस नाले में गिर गयी.
- ☐ बारिश की वजह से पिकनिक में गए बच्चों को स्कूल वालों ने खटाई खाने को दी.
- ☐ स्कूल की तरफ से सभी बच्चे पिकनिक को गए.

23. राम बचपन में हमेशा गणित में फेल होता था. उसके माता पिता सदा ही उसके भविष्य को लेकर परेशान रहते थे. लेकिन उसने मेहनत की और आज आई.आई.टी. की परीक्षा पास करके उसने हथेली पर सरसों उगा दिया.

- ☐ राम हाथ पर सरसों के दाने लेकर घूम रहा था.
- ☐ राम ने आई.आई.टी. की परीक्षा पास करके अविश्वसनीय कार्य किया.
- ☐ राम बचपन में हमेशा गणित में फेल होता था क्योंकि वह सरसों उगाता था.
- ☐ राम आई.आई.टी. की परीक्षा पास कर गया क्योंकि वह सरसों उगाता था.

24. राजू केवल मेट्रिक पास है. उसने घर का खर्चा चलाने के लिए पढ़ाई बीच में ही छोड़ दी थी. लेकिन उसके गाँव में सभी अनपढ़ हैं और उसे बहुत पढ़ा-लिखा समझकर हमेशा उसकी सलाह लेते हैं. राजू अपने गाँव में अंधों में काना राजा है.

- ☐ राजू काना था और उसके गाँव के लोग अंधे थे.
- ☐ राजू मेट्रिक पास होने के कारण राजा था.
- ☐ राजू अत्यंत गुणी था और लोग उसे श्रेष्ठ समझते थे.
- ☐ राजू अत्यंत गुणी नहीं था, फिर भी लोग उसे श्रेष्ठ समझते थे क्योंकि वह उनसे बेहतर था.

Appendix 4: Test Booklet used for production tasks on children

 मुहावरों का खेल - चित्रों का चमत्कार	
नमस्कार!!	
हम अभी एक बहुत ही मज़ेदार कार्य करने जा रहे हैं. पर सबसे पहले हम आपके बारे में कुछ जानकारी चाहेंगे.....	
कार्य शुरू करने से पहले कृपया हमें कुछ जानकारी दें.	
Name - नाम	
Age - उम्र	
Gender - लिंग	
Class - कक्षा	
Native place - जन्म स्थान	
Place where you have stayed for the longest duration? आपने अधिकतम समय कहाँ बिताया है?	
* 2. क्या आपको हिंदी समझने में कठिनाई है ?	
☐ Yes - हाँ	
☐ No - नहीं	
* 3. आप स्कूल में कितने सालों से हिंदी पढ़ रहे हैं?	

* 4. क्या इनसे बात करते समय आप हिंदी का प्रयोग करते हैं?

	Yes - हाँ	No - नहीं
Grandparents? दादा-दादी/नाना-नानी?	☐	☐
Parents? माता-पिता?	☐	☐
Siblings? भाई-बहन?	☐	☐
Cousins? चचेरे-ममेरे भाई-बहन	☐	☐
Relatives? रिश्तेदार	☐	☐
Neighbours? पड़ोसी	☐	☐

* 5. क्या आपको हिंदी के अलावा कोई अन्य भाषा भी आती है?

- ☐ Yes - हाँ
- ☐ No - नहीं

6. Please mention the language(s) you know.

आपको जो अन्य भाषाएँ आती हैं, उन्हें यहां लिखें

1	
2	
3	



मुहावरों का खेल - चित्रों का चमत्कार

आपको नीचे दिए गए चित्रों को देखकर जो मुहावरे याद आ रहे हैं, उन्हें लिखें:



- 1.
- 2.
- 3.



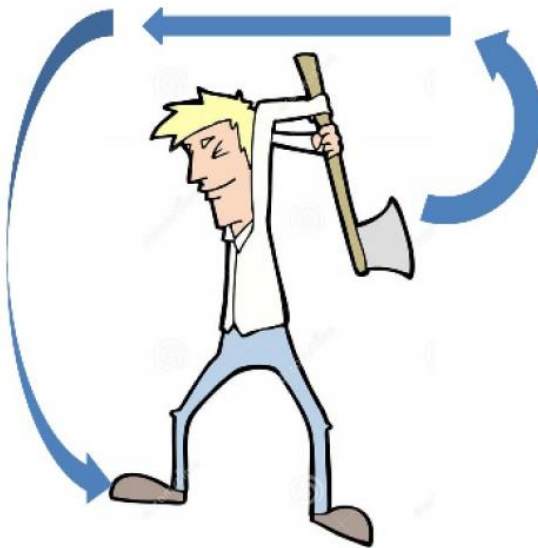
- 1.
- 2.
- 3.



- 1.
- 2.
- 3.



- 1.
- 2.
- 3.



- 1.
- 2.
- 3.



- 1.
- 2.
- 3.



- 1.
- 2.
- 3.



- 1.
- 2.
- 3.



- 1.
- 2.
- 3.



मुहावरों का खेल - चित्रों का चमत्कार

आपको नीचे दिए गए चित्रों को देखकर जो मुहावरे याद आ रहे हैं, उन्हें लिखें:



- 1.
- 2.
- 3.



- 1.
- 2.
- 3.



1.

2.

3.



1.

2.

3.



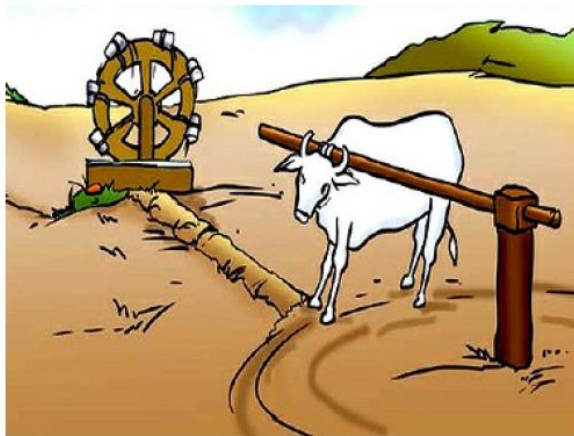
1.

2.

3.



- 1.
- 2.
- 3.



- 1.
- 2.
- 3.

रिक्त स्थानों में उचित मुहावरा भरें.

1. मनसा के हाथों से गुलदस्ता गिर के टूट गया. उसकी मालकिन ने उसे खरी _____.
2. सेना के जवान भारत की रक्षा के लिए जान _____ तैयार रहते हैं.
3. गरीबी के बावजूद श्याम ने कभी गलत काम करके पैसे नहीं कमाए. वह अथ _____ अपने उसूलों पर कायम रहा.
4. राज पढ़ लिखने के बाद भी बेरोज़गार है. वह अपने पिता की छाती _____ रहा है.
5. ट्रैन रद्द होने के कारण हमारा मुंबई जाने का कार्यक्रम खटाई _____ है.
6. मिर्जा का परिवार गरीब है. सुविधाओं के अभाव में भी उनके बेटे ने पहले प्रयास में डॉक्टरी की परीक्षा पास कर ली. सच में मिर्जा का बेटा गुदड़ी _____ है.
7. तुम आज तक गणित में पास नहीं हुए. तुम्हारे लिए इंजीनियरिंग पढ़ना हथेली _____ जैसा है.
8. कोहली को आप बहुत शांत बालक समझते हैं, पर वह हमेशा बाकी बच्चों से लड़ाई करता रहता है. वह कोई दूध _____ नहीं है.

Publications

1. Hena, S. (2020). Exploring the comprehension of idioms: A study on Hindi speaking children of age-group 7 to 12 years. In Khan, T. (ed.) Trends in Applied Linguistics and Language in Use. Mysore: CIIL. 70-83. (ISBN No: 978-81-946499-9-1)

(The cover page, initial pages denoting the ISBN No. and contents, and the first two pages of the chapter are enclosed herewith.)



CENTRAL INSTITUTE OF INDIAN LANGUAGES
Manasagangotri, Mysuru, Karnataka, India, 570006

Trends in Applied Linguistics and Language in Use
Editor: Tariq Khan

ISBN No: 978-81-946499-9-1
CIIL Publication No: 1252

First published: AD 2020 July; Ashadha 1942 (Shaka)

© Central Institute of Indian Languages, Mysuru, 2020

Production Team
Head, Publication Unit: Umarani Pappuswamy
Officer-in-Charge, Publication Unit: Aleendra Brahma
Printing Supervision: H. Manohara, R. Nandeesh & M. N. Chandrashekar

Cover Design: Manjula Bevoor
Layout: Seethalakshmi M. L.

Printed at CIIL, Printing Press, Mysuru

Contents

Message - Director, Central Institute of Indian Languages ..	v
Message - President, Linguistic Society of India	vii
Message - Secretary, Linguistic Society of India	ix
Introduction	xi
Acknowledgement	xiii
Abbreviations	xiv

Articles

1. Morphological Processes in Early Grammar of Young Bilingual Children: Evidence from Word Based Analogy RITA MATHUR	1
2. Imperative Markers: A Comparison of Monolingual and Bilingual Early Language Acquisition ARATHI RAGHUNATHAN, GAYATHRI KRISHNAN & VAIJAYANTHI M. SARMA	15
3. Lexical Fast Mapping Competency in Children with Specific Language Impairment BRAJESH P, S. P. GOSWAMI & JAGHA CHARAN, K.	27
4. Speech-Language Pathologists' Perspective Regarding the Assessment of the Speech of Bilinguals with Stuttering SHALINI AGRAWAL	45
5. Pubescent Voice Change of Indian Urban and Rural Adolescents: A Forensic Phonetic Perspective SWAPNA AKOJU & DIDLA GRACE	54
6. Second Language Acquisition by Autistic Children of Age Group 14-18 Years NILANJANA CHOWDHURY	59
7. Exploring the Comprehension of Idioms: A Study on Hindi Speaking Children of Age Group 7 to 12 Years SHEERIN HENA	70
8. Productive Skill Related Strategy Use: A Case Study of EAP Students DISHARI CHATTARAJ	84

Exploring the Comprehension of Idioms: A Study on Hindi Speaking Children (Age-group 7 to 12 years)

SHEERIN HENA

Abstract

The present cross-sectional study contributes to the discourse on perspectives on figurative language comprehension, particularly idioms. The experiment involves a comprehension task, carefully designed to cover four distinct categories of idioms, aided by context and multiple choices, and done on Hindi speaking children of three different age groups (7-8 years, 9-10 years, and 11-12 years), in a controlled environment. Multiple choice questions provided with four options and a sentential context were used. Hindi idioms used for the test vary in their linguistic dimensions of usage frequency (frequent to less frequent) and analysability (decomposable to non-decomposable). Idiom characteristics of 'analysability' and 'usage frequency', and the external factors of 'context' and 'language learner's age group', were analysed quantitatively in the study. Based on this, enhanced comprehension model of idiom was developed along with establishing the statistical significance and the relative importance of the factors which aid idiom comprehension. Results indicate that the comprehension of idiomatic expressions shows a marked increase between 8 to 9 years of age; the critical age in figurative competency development.

Keywords: analysability, comprehension model, figurative expressions, frequency, idioms.

Introduction

An idiom is a figurative form of language and can be defined as an expression which has a dual representation of meaning. The meaning of idiomatic expressions can be a direct literal meaning as well as an idiomatic meaning. Most of the times, the direct literal meaning is inappropriate for the context as it;

- a) does not make sense (e.g., aank^hein caar honaa; Literal meaning: 'eyes become four', Figurative meaning: 'to fall in love', or 'to meet someone'), or
- b) is implausible (e.g., unṭ ke munh mein ziiraa; Literal meaning: 'cumin seed in the mouth of a camel', Figurative meaning: 'ridiculously insufficient quantity'), or
- c) simply does not exist (e.g., nau ḍo gyaarah ho jaanaa; Literal meaning: 'to become nine two eleven', Figurative meaning: 'to run away or escape'), or

- d) in some cases is even valid and plausible independently but sounds wrong in the given context (e.g. $\text{aank}^h \text{dik}^h \text{aanaa}$; Literal meaning: 'to show eyes', Figurative meaning: 'to show anger' or 'to bully someone').

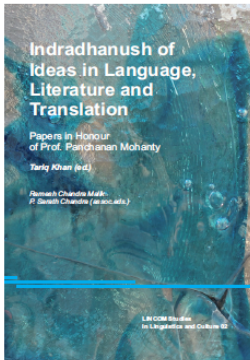
In each of these cases, the figurative meaning of idiom completes the context and becomes a very important tool in a language user's arsenal to convey his/her thoughts and emotions in the most accurate manner. Figurative language through the usage of idioms is hence pervasive in all cultures and is an integral part of the day to day communication. Much of our everyday talk reflects people's ability to think what is not literal. For example: ' $\text{anguut}^h \text{aa dik}^h \text{aanaa}$ ' might refer to an expression of showing thumb, but in a specific context it would mean to 'say no to someone', or to 'deny doing some assistance or work'. This lexical ambiguity is an interesting as well as an intriguing linguistic phenomenon. Such a dual representation of meaning will pose a comprehension difficulty, both for the first language learners and the Second Language learners. The young children, as well as children with language disability, will come across a lot of challenges while achieving the figurative competence. The studies so far indicate that the developmental process of idiom acquisition is a long process which starts at the young age of 4-5 years (Ackerman 1982, Nippold & Martin 1989, Levorato & Cacciari 1992; 1995), where the child interprets the idioms literally. Over a period of time the literal interpretation is suppressed, and then the child starts giving the figurative meaning of the idioms. The traditional view of idiom acquisition states that children below the age of 9-10 years can hardly comprehend the meaning of the meaning of the idioms like 'spill the beans' and comprehend them literally (Ackerman 1982, Nippold & Martin 1989).

There are primarily two approaches proposed by scholars which address the comprehension process of idiom's acquisition. Some scholars believe that idioms are learnt by children as long giant lexical items as a memorised string through contextual abstraction in the same way as normal lexical items are learned through repeated exposure (Strand & Fraser 1979, Nippold & Martin 1989). This is known as the acquisition via exposure hypothesis. This hypothesis highlights the importance of children's linguistic environment in which idioms are used. This, in a way, indicates that idioms with a higher frequency of usage (familiarity) will have a cognitive advantage over less-used or less-frequent used idioms. The other hypothesis suggests that the acquisition process of idioms is a general linguistic process, and that children's understanding of an idioms' meaning is dependent on the cognitive development of the child. This hypothesis has given rise to the GEM model (Global Elaboration Model). This model states that,

2. Hena, S. (2020). Determining the properties of Hindi idioms which facilitate comprehension. In Khan, T. (ed.) *Indradhanush of ideas in Language, Literature and Translation: A Festschrift in Honour of Prof. Panchanan Mohanty*. Munich, Germany: Lincom Europa, 186-202. (ISBN No: 9783969390276)

(The cover page which includes the ISBN No., the initial page denoting contents, and the first two pages of the chapter are enclosed herewith.)

LINCOM EUROPA academic publications



also available from:
amazon.de - amazon.co.uk - amazon.fr
abebooks.it - abebooks.de - abebooks.fr
abebooks.co.uk - iberlibro.com
abebooks.com - amazon.com
amazon.es - amazon.it

Indradhanush of Ideas in Language, Literature and Translation

Papers in Honour of Prof. Panchanan Mohanty

Tariq Khan (ed.)
Central Institute of Indian Languages

Ramesh Chandra Malik, P. Sarath Chandra (assoc. eds.),
Utkal University, Maulana Azad National Urdu University

This festschrift contains twenty refereed papers contributed by scholars of established repute in Linguistics, Literature and Translation Studies. The authors representing various countries have contributed these papers in honour of Professor Panchanan Mohanty, who is a well-known figure in teaching and research of Linguistics and Translation Studies in India. The papers included in this volume represent diverse themes and subfields of Applied Linguistics, Linguistic Fieldworks, Literary Studies and Translation. The contents of this book are relevant for the students and scholars of Language Sciences, Literature, Translation Studies, Comparative Literature, and Culture Studies. This book can also help those concerned with the pedagogy of Linguistics and policy for languages.

ISBN 9783969390276 (Hardbound).
LINCOM Studies in Linguistics and Culture 02.
345pp. USD 190.00 / EUR 158.00 / GBP 144.00. 2020.

Please send me/us

____ copy/ies of **Indradhanush of Ideas in Language, Literature and Translation**

creditcard no.: _____ exp. date: __/__/__

3 digit security code: _____
(3-4 digits on the back of the card)

Name/address: _____

Date, signature: _____



LINCOM EUROPA
academic publications

webshop: www.lincom-shop.eu
LINCOM GmbH, Hansjakobstr. 127a,
D-81825 Muenchen
FAX +49 89 6226 9404
contact@lincom.eu

Contents

- | | |
|--|---|
| <p>Itamar Even-Zohar
The Complexity of Culture and the Sustainability of Groups</p> <p>Ali R. Fathi
Ismat Chughtai's Lihaf: Translating the Textual Construction of Femininity</p> <p>Boris Zakharyin
Kōśur (Kashmiri): a Majority Language Turned into a Minor One</p> <p>Sarah G. Thomason
Does Language Contact Simplify Grammars?</p> <p>Aejaz M. Sheikh & Hilal A. Dar
Phonology and Morphology of Gaddi: a Descriptive Sketch</p> <p>Kavita Rastogi
Raji Revitalization Program: a Reality Check</p> <p>Alain Desoulières
16c Gujarati Navigation According to Urdu Historiography: Diu and the Route to Malacca (Portuguese and Indian, Urdu Sources)</p> <p>Shagufta Imtiaz
Identity, Place and Belongingness in the Adivasi will not Dance</p> <p>Ahmad Ayar Afshord
Manipulation in Literary Translation</p> <p>S. Gghufrān Hashmi & S. Imtiaz Hasnain
Counsellor-patient Interaction: a Conversation Analysis</p> <p>Sushant Kumar Mishra
Structuring Analysis of Communication
Language Studies in Bharatanāṭyaśāstra</p> | <p>Anindita Choudhury
The Three Language Formula: a Case Study of Meghalaya</p> <p>Sanjay K. Jha & Chilkuri Bhuvaneshwar
The Structure of Maithili Proverbs: a Karmik Discourse Analysis</p> <p>Sheerin Hena
Determining the Properties of Hindi Idioms which Facilitate Comprehension</p> <p>Abdullah M. Ali Khalil
Incorporating Reality into Fiction: Depiction of Modern Arab Political Public Sphere through Domiat Alnnar's Novel</p> <p>Mahmoud Altarabin
Ideology as a Tool of Self-assertion and Denial of the other Examples of Israeli English News Translated into Arabic</p> <p>Ranjit Singh Rangila
Beyond Boundaries</p> <p>Abdullah Saleh Aziz
Translation and the Evolution of the Arabic Novel</p> <p>Ramesh C. Malik
Translation Strategies of the Non-native Odia Translators (1807-1874)</p> <p>Smita Das
Cognitive Aging; Function of Mind and Knowledge in Semantics (with Special Reference to Poet Ramakant Rath's "SriRadha").</p> |
|--|---|

DETERMINING THE PROPERTIES OF HINDI IDIOMS WHICH FACILITATE COMPREHENSION

SHEERIN HENA

ABSTRACT

Idioms are expressions which have a figurative meaning, which is generally different from their literal meaning. They belong to the family of figurative expressions and hence are considered as one of the most challenging areas in language learning. In this paper, an attempt is made to understand some of the characteristics of Hindi idioms by performing two experiments on native Hindi speakers who have also studied Hindi as part of their formal education. Two experiments were conducted using an online tool (SurveyMonkey) on Hindi speakers, proficient in reading the language. The experiments were designed to study the role of usage frequency, decomposability, and literal meaning of idioms in their comprehension. Also, an investigation was done to ascertain if certain words in idioms aid the comprehension process. Results indicate a complex, but a consistent and predictable pattern, in the effect of these idioms' characteristics on the comprehension process. The insights got from these experiments are instrumental in understanding the comprehension process, and helpful in building an idiom comprehension model. The paper is broadly divided into three sections. First, we have given an overview of the current literature pertaining to the properties of idioms which influence the comprehension process. Next, we discuss the design and methodology of the experiments conducted to study the interpretation mechanism of idioms in a no-context situation. Finally, we analyse and discuss the findings, and conclude by proposing a comprehension model for idioms.

KEYWORDS: Idioms, Compositionality, Frequency, Familiarity, Decomposability, Literality, The point of idiom identification, Comprehension.

INTRODUCTION

Idioms were considered frozen expressions for long. However, the recent psycholinguistics and cognitive linguistics studies have presented a view that not all idiomatic expressions are dead or frozen (Gibbs, 1990). Although metaphors and idioms belong to the same figurative family, they are different because of some specific properties and characteristics which the idioms possess. The interpretation of metaphoric expressions is built compositionally through a symbolic reference. In the case of idioms, the meaning of some idioms is available directly through memory retrieval while for some, it is built up compositionally (Gibbs, 1985; Titone, and Connine, 1999). In short, the varied nature of idioms makes it an interesting area of interdisciplinary research.

The comprehension of any expression will be easier if its meaning is straightforward rather than being complex. By this, it is meant that the most comprehensible speech would be “what is said is what is meant.” However, does it stand true always, and would such a speech be effective in conveying complex human emotions, sarcasm, humour, symbolism, etc.? Humour, sarcasm, irony, idioms, proverbs etc. are non-literal forms of language usage in day-to-day conversational situations. Communication situations are not always straightforward. Figurative language is a common conversational phenomenon in all cultures, and it is an integral part of daily communication. Much of our everyday talk reflects language users’ ability to think about what is not literal.

For this study, different categories of idioms were chosen to develop an understanding of figurative language comprehension. Idioms pose a lot of difficulties not only to the second language learners but also sometimes to the first language speakers. The reason could be that there is typically a considerable gap between the meanings of an idiom’s constituents (literal meaning) and its actual meaning (the figurative one). In other words, it can be said that idioms are expressions that can have both literal and figurative meaning, with the figurative meaning carrying the actual intent of the speaker, and if the listener does not appropriately understand this, it can cause a communication error. Idioms represent a broad range of linguistic phenomena. Most idioms are phrases constructed according to syntactic well-formedness principles. However, some idioms are syntactically abnormal because they violate a syntactical rule. For example, ‘by and large’ does not have a well-formed structure, while ‘crack a joke’ does not break the syntactic rule, but is not in alignment with the traditional collocations or the semantic restrictions of word usages (Dilin Liu, 2008).

Language	Idiom	Literal Meaning	Figurative Meaning
English	Spill the beans	Tipping out of the beans from a jar	Revealing a secret
Hindi	हाथ खड़े करना haath kha.De karnaa Hand raise do	To raise hand	To give up

The present study tries to explore idiom comprehension by Hindi speaking adults and to identify the cognitive process underlying in conceptualising idiomatic expressions. In this empirical study, a summary of some characteristics of idiomatic phrases of Hindi is presented, and the interpretation mechanism of idioms is studied. The two experiments were conducted on 36 native Hindi speakers.

RESEARCH QUESTIONS

a) How does an idiom’s compositionality (analysability) ease the

3. Hena, S. (2019). Understanding the Cognitive Mechanisms Responsible for Interpretation of Idioms in Hindi-Urdu. *Language in India*, 19(1), 301-309. (ISSN No: 1930-2940)

(The first two pages of the paper which include the ISSN No. are enclosed herewith.)

Language in India www.languageinindia.com ISSN 1930-2940 Vol. 19:1 January 2019
India's Higher Education Authority UGC Approved List of Journals Serial Number 49042

Understanding the Cognitive Mechanisms Responsible for Interpretation of Idioms in Hindi-Urdu

Sheerin Hena, M.A., M.Phil., Ph.D. Research Scholar
University of Hyderabad

Abstract

The traditional view of idiom indicates that idiom/ idiomatic expressions consist of two or more words and the overall meaning of the idioms are unpredictable from its constituent words (Fraser, 1970; Katz, 1973). Idioms are assumed to be taken as an item of the lexicon that is independent of any conceptual system. This paper takes an insight from cognitive semantics, which states that most of the idioms are conceptually motivated (Lakoff, 1987; Kovecses and Szabao, 1996).

The present paper tries to apply the concepts of conceptual metaphor, conceptual metonymy, and conventional knowledge, which are treated as cognitive mechanisms in the cognitive semantics theory. This cognitive semantics view plays an important role in the comprehension and emergence of idioms and figurative languages. The paper takes an account of Hindi-Urdu idioms, and tries to look into those idioms which seem to be motivated by conceptual metaphor and metonymy. The concepts of conceptual metaphor and metonymy proposed in the study so far are applied on Hindi-Urdu idioms. The paper also tries to establish an analogy between idiomatic comprehension mechanism in Hindi-Urdu, and English in terms of concepts. The paper strengthens the idea that idioms are conceptual, and this view can actually be useful in teaching and learning of idioms for the second language learners.

Keywords: Idioms, Cognitive Mechanisms, Conceptual Metaphor, Conceptual Metonymy, Conventional knowledge.

Introduction

Metaphors are the reflection of human cognition. They facilitate understanding of concepts in terms of other concepts. There are two traditional approaches on the role of metaphors in language:

- a) The classical view
- b) The romantic view

The Classical View

The classical view uses metaphors as decorative devices to gain some especial effects. This view treats metaphor outside the normal or regular language, and seems to believe that metaphorical interpretation requires a special mode of comprehension.

Language in India www.languageinindia.com ISSN 1930-2940 19:1 January 2019
Sheerin Hena, M.A., M.Phil., Ph.D. Research Scholar
Understanding the Cognitive Mechanisms Responsible for Interpretation of Idioms in Hindi-Urdu
<301-309>

The Romantic View

The romantic view states that there is no distinction between literal and figurative language. Cognitive linguistics treats metaphors and metonymy as fundamental factors for cognitive behaviour and socio-cultural practice. Cognitive linguistics also looks at universalities and culture specific metaphors.

Idioms

The interpretation of idioms meaning is considered to be one of the most difficult areas for the second language learners. Idioms can be based on metaphors, metonymy, sayings, similes etc. In the traditional view idioms are considered to be multiword expressions which are independent of any conceptual system. Many idioms are based on conceptual metaphors and conceptual metonymies; and there exists a systematic motivation, which arises from sets of 'conceptual mappings or correspondences' between a source and a target domain (Lakoff, 1987; Kovecses and Szabao, 1996).

Therefore, idioms are not just string of words whose meaning is special, distinct from the constituent words of an idiomatic expression. The meanings of many idioms arise from our general knowledge of the world, which is embodied in our cultural context, and conceptual structure (Kovecses and Szabao, 1996). We make sense of an idiomatic expression based on our conceptual knowledge, and therefore idioms do not consist of arbitrary set of words, which generate a special meaning, but are actually conceptually motivated (Gibbs and O'Brien 1990; Gibbs, 1994). The particular words in an idiom are the result of the motivation primed by the cognitive mechanism (metaphor, metonymy and conventional knowledge) which links different domains of knowledge. The conceptual mapping between two or different domains of knowledge is responsible for the emergence of the idiomatic meaning.

A Diagrammatic Representation of Idiomatic Interpretation (Kovecses And Szabao, 1996).

Traditional View

Special idiomatic meaning

meaning of the linguistic forms
linguistic forms and their syntactic properties

Example:

Die

kick the bucket
kick the bucket (no passive, etc.)

=====

Language in India www.languageinindia.com ISSN 1930-2940 19:1 January 2019

Sheerin Hena, M.A., M.Phil., Ph.D. Research Scholar

Understanding the Cognitive Mechanisms Responsible for Interpretation of Idioms in Hindi-Urdu

<301-309>

Presentations

1. Hena, S. (2018, December 5-7). *Exploring the comprehension of idioms: A study on Hindi speaking children (age-group 7 to 12 years)*. 40th International Conference of Linguistic Society of India. Organized by Central Institute of Indian Languages (CIIL), Mysore, India. (International)



2. Hena, S. (2014, February 6-8). *Do gender differences affect men and women language use? An Empirical Study*. 30th South Asian Languages Analysis Roundtable. Organized by Centre for Applied Linguistics and Translation Studies (CALTS), University of Hyderabad, Hyderabad, in collaboration with Central Institute of Indian Languages (CIIL), Mysore, India. (International)

30th South Asian Languages Analysis Roundtable
(SALA Roundtable-30)
6-8 February 2014

Centre for Applied Linguistics and Translation Studies
School of Humanities, University of Hyderabad, Hyderabad-500046 (India)
Co-organizer: Central Institute of Indian Languages, Mysore-570006 (India)



CERTIFICATE

This is to certify that Mr/Ms/Prof/Dr. Sheerin Hena has presented a paper titled Do gender differences affect men and women language use? An Empirical study in the 30th South Asian Languages Analysis Roundtable (SALA-30) held from 6th to 8th February, 2014 at the Centre for Applied Linguistics and Translation Studies (CALTS), School of Humanities, University of Hyderabad, Hyderabad-500 046.


(Prof. G. Uma Maheshwar Rao)
Director, CALTS


(Prof. Panchanan Mohanty)
Coordinator

Originality Report (Similarity Verification Report)

The report on the plagiarism statistics for this thesis from the Indira Gandhi Memorial Library, University of Hyderabad is enclosed herewith.

Idiomatic Expressions in Hindi: A Study of Comprehension and Production of Idioms by Children in the Age Group of 7- 13 Years

by Sheerin Hena

Submission date: 19-Aug-2021 04:03PM (UTC+0530)

Submission ID: 1633175464

File name: Sheerin_Hena.pdf (3.75M)

Word count: 108570

Character count: 560449

Idiomatic Expressions in Hindi: A Study of Comprehension and Production of Idioms by Children in the Age Group of 7-13 Years

ORIGINALITY REPORT

7 %	5 %	4 %	1 %
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	www.openaccess.hacettepe.edu.tr:8080 Internet Source	1 %
2	Submitted to Laureate Higher Education Group Student Paper	<1 %
3	Rosa E. Vega Moreno. "Creativity and Convention", John Benjamins Publishing Company, 2007 Publication	<1 %
4	epdf.pub Internet Source	<1 %
5	es.scribd.com Internet Source	<1 %
6	www.philologica.net Internet Source	<1 %
7	hdl.handle.net Internet Source	<1 %

8	static.aston.ac.uk Internet Source	<1 %
9	Daniela Singh, Elizabeth Wonnacott, Anna Samara. "Statistical and explicit learning of graphotactic patterns with no phonological counterpart: Evidence from an artificial lexicon study with 6–7-year-olds and adults", <i>Journal of Memory and Language</i> , 2021 Publication	<1 %
10	www.tandfonline.com Internet Source	<1 %
11	etheses.whiterose.ac.uk Internet Source	<1 %
12	eprints.nottingham.ac.uk Internet Source	<1 %
13	journals.sagepub.com Internet Source	<1 %
14	eprints.iain-surakarta.ac.id Internet Source	<1 %
15	docplayer.net Internet Source	<1 %
16	Debra A. Titone, Cynthia M. Connine. "On the compositional and noncompositional nature of idiomatic expressions", <i>Journal of Pragmatics</i> , 1999 Publication	<1 %

17	Submitted to Bolton Institute of Higher Education Student Paper	<1 %
18	Submitted to Grenoble Ecole Management Student Paper	<1 %
19	scholarcommons.usf.edu Internet Source	<1 %
20	eprints.lancs.ac.uk Internet Source	<1 %
21	gradesfixer.com Internet Source	<1 %
22	Carolina Oi Lam Ung, Yuanjia Hu, Hao Hu, Ying Bian. "Investigating the intention to receive the COVID-19 vaccination in Macao: implications for vaccination strategies", Cold Spring Harbor Laboratory, 2021 Publication	<1 %
23	lup.lub.lu.se Internet Source	<1 %
24	shareilmugizi.blogspot.com Internet Source	<1 %
25	www.yumpu.com Internet Source	<1 %
26	bohemica.com Internet Source	<1 %

27	journal.trunjoyo.ac.id Internet Source	<1 %
28	ir.canterbury.ac.nz Internet Source	<1 %
29	tutkielmat.uta.fi Internet Source	<1 %
30	Stéphanie Caillies, Kirsten Butcher. "Processing of Idiomatic Expressions: Evidence for a New Hybrid View", Metaphor and Symbol, 2007 Publication	<1 %
31	bura.brunel.ac.uk Internet Source	<1 %
32	Debra A. Titone, Cynthia M. Connine. "Comprehension of idiomatic expressions: Effects of predictability and literality.", Journal of Experimental Psychology: Learning, Memory, and Cognition, 1994 Publication	<1 %
33	pea.lib.ptep.hu Internet Source	<1 %
34	vi.scribd.com Internet Source	<1 %
35	Hanoi University Publication	<1 %

36	bip.ur.edu.pl Internet Source	<1 %
37	darhiv.ffzg.unizg.hr Internet Source	<1 %
38	vetri.in Internet Source	<1 %
39	Anna B. Cieřlicka. "Chapter 7 Second Language Learners' Processing of Idiomatic Expressions: Does Compositionality Matter?", Springer Science and Business Media LLC, 2013 Publication	<1 %
40	Wiltrud Wagner. "Idioms and Ambiguity in Context", Walter de Gruyter GmbH, 2020 Publication	<1 %
41	Andreas Langlotz. "Idiomatic Creativity", John Benjamins Publishing Company, 2006 Publication	<1 %
42	www.hindawi.com Internet Source	<1 %
43	www.mcgill.ca Internet Source	<1 %
44	Wendy A. Schweigert. "The comprehension of familiar and less familiar idioms", Journal of Psycholinguistic Research, 1986 Publication	<1 %

45	archive.siasat.com Internet Source	<1 %
46	tree.ltrr.arizona.edu Internet Source	<1 %
47	"Collaboration and Integration in Construction, Engineering, Management and Technology", Springer Science and Business Media LLC, 2021 Publication	<1 %
48	Yvonne M. Broom, Estelle A. Doctor. "Developmental phonological dyslexia: A case study of the efficacy of a remediation programme", Cognitive Neuropsychology, 1995 Publication	<1 %
49	Rohani, Gholamreza, Saeed Ketabi, and Mansoor Tavakoli. "The Effect of Context on the EFL Learners' Idiom Processing Strategies", English Language Teaching, 2012. Publication	<1 %
50	Zahra Fotovatnia, Ghazal Khaki. "The Effect of Three Techniques for Teaching English Idioms to Iranian TEFL Undergraduates", Theory and Practice in Language Studies, 2012 Publication	<1 %
51	Brinton, B.. "Elementary school age children's comprehension of specific idiomatic	<1 %

expressions", Journal of Communication Disorders, 198508

Publication

52 Shelley Ching-Yu Hsieh. "Idiom Comprehension in Mandarin-Speaking Children", Journal of Psycholinguistic Research, 12/31/2009

Publication

53 Gibbs, R.W.. "Idioms and mental imagery: The metaphorical motivation for idiomatic meaning", Cognition, 199007

Publication

54 Submitted to University of Hong Kong

Student Paper

55 Evelien Keizer. "Idiomatic expressions in Functional Discourse Grammar", Linguistics, 2016

Publication

56 a1-www.is.tokushima-u.ac.jp

Internet Source

57 uir.unisa.ac.za

Internet Source

58 www.academypublication.com

Internet Source

59 Abdu Kamil. "Factors Affecting on Entrepreneurial Intention of University

Students (Case Study on Wollo University)",
Research Square Platform LLC, 2021

Publication

60	pressto.amu.edu.pl Internet Source	<1 %
61	www.nice.org.uk Internet Source	<1 %
62	taalunieversum.org Internet Source	<1 %
63	Barbara Nesi, Maria Chiara Levorato, Maja Roch, Cristina Cacciari. "To Break the Embarrassment", European Psychologist, 2006 Publication	<1 %
64	Raymond W Gibbs, Nandini P Nayak, Cooper Cutting. "How to kick the bucket and not decompose: Analyzability and idiom processing", Journal of Memory and Language, 1989 Publication	<1 %
65	Submitted to West University Of Timisoara Student Paper	<1 %
66	jyx.jyu.fi Internet Source	<1 %
67	"Cognitive Linguistic Approaches to Teaching Vocabulary and Phraseology", Walter de	<1 %

Gruyter GmbH, 2008

Publication

68	A Kovecses. "Idioms: a view from cognitive semantics", Applied Linguistics, 09/01/1996 Publication	<1 %
69	open.library.ubc.ca Internet Source	<1 %
70	www.ogf.com Internet Source	<1 %
71	Edward Holsinger, Elsi Kaiser. "Processing (non)compositional expressions: Mistakes and recovery.", Journal of Experimental Psychology: Learning, Memory, and Cognition, 2013 Publication	<1 %
72	Submitted to TechKnowledge Turkey Student Paper	<1 %
73	Submitted to iGroup Student Paper	<1 %
74	ira.le.ac.uk Internet Source	<1 %
75	Submitted to University of Aberdeen Student Paper	<1 %
76	securityandrisk.blogspot.com Internet Source	<1 %

77	www.nationmultimedia.com Internet Source	<1 %
78	Submitted to Leibniz Universitaet Hannover Student Paper	<1 %
79	Submitted to University of Messina Student Paper	<1 %
80	ddd.uab.cat Internet Source	<1 %
81	digitalcommons.law.ggu.edu Internet Source	<1 %
82	erepository.uonbi.ac.ke Internet Source	<1 %
83	espace.curtin.edu.au Internet Source	<1 %
84	repository.up.ac.za Internet Source	<1 %
85	www.languageinindia.com Internet Source	<1 %
86	www.phon.ucl.ac.uk Internet Source	<1 %
87	Beate Abel. "English idioms in the first language and second language lexicon: a dual representation approach", Second Language Research, 2016 Publication	<1 %

88	Stéphanie Caillies, Christelle Declercq. "Kill the Song—Steal the Show: What Does Distinguish Predicative Metaphors From Decomposable Idioms?", <i>Journal of Psycholinguistic Research</i> , 2010 Publication	<1 %
89	Submitted to Tikrit University Student Paper	<1 %
90	scholar.ufs.ac.za:8080 Internet Source	<1 %
91	www.laslab.org Internet Source	<1 %
92	"Frontiers in Computer Education", Springer Science and Business Media LLC, 2012 Publication	<1 %
93	"Metaphor in Foreign Language Instruction", Walter de Gruyter GmbH, 2019 Publication	<1 %
94	vbn.aau.dk Internet Source	<1 %
95	www.arenaswimwearstore.com Internet Source	<1 %
96	www.diss.fu-berlin.de Internet Source	<1 %
97	www.jelli.co.za Internet Source	<1 %

		<1 %
98	Adam Makkai. "Idiom Structure in English", Walter de Gruyter GmbH, 1972 Publication	<1 %
99	Elham Rahmani Samani. "The Effect of Conceptual Metaphors on Learning Idioms by L2 Learners", International Journal of English Linguistics, 01/30/2012 Publication	<1 %
100	M. CHIARA LEVORATO, CRISTINA CACCIARI. "The creation of new figurative expressions: psycholinguistic evidence in Italian children, adolescents and adults", Journal of Child Language, 2002 Publication	<1 %
101	Sophia Skoufaki. "Investigating the Source of Idiom Transparency Intuitions", Metaphor and Symbol, 2008 Publication	<1 %
102	Submitted to University of Birmingham Student Paper	<1 %
103	dialnet.unirioja.es Internet Source	<1 %
104	eprints.uwe.ac.uk Internet Source	<1 %

105	repozitorij.unizg.hr Internet Source	<1 %
106	Submitted to Gardner-Webb University Student Paper	<1 %
107	Harati, H.. "Selective cholinergic lesions in the rat nucleus basalis magnocellularis with limited damage in the medial septum specifically alter attention performance in the five-choice serial reaction time task", Neuroscience, 20080422 Publication	<1 %
108	Kadri Muischnek. "The variability of multi-word verbal expressions in Estonian", Language Resources and Evaluation, 08/01/2009 Publication	<1 %
109	L. Grant. "Criteria for Re-defining Idioms: Are we Barking up the Wrong Tree?", Applied Linguistics, 2004 Publication	<1 %
110	Submitted to University of Leeds Student Paper	<1 %
111	Vicki Sudhalter, Martin D. S. Braine. "How does comprehension of passives develop? A comparison of actional and experiential verbs", Journal of Child Language, 2008 Publication	<1 %

112	dspace.nwu.ac.za Internet Source	<1 %
113	journals.openedition.org Internet Source	<1 %
114	library.science.org.au Internet Source	<1 %
115	text-id.123dok.com Internet Source	<1 %
116	www.hausarbeiten.de Internet Source	<1 %
117	www.sconli.org Internet Source	<1 %
118	"Time-dependent effects of decomposability, familiarity and literal plausibility on idiom meaning activation: A cross-modal priming investigation", The Mental Lexicon, 2015 Publication	<1 %
119	J. Cooper Cutting, Kathryn Bock. "That's the way the cookie bounces: Syntactic and semantic components of experimentally elicited idiom blends", Memory & Cognition, 1997 Publication	<1 %
120	Jihad M. Hamdan, Alaa' M. Smadi. "Comprehension of Idioms by Jordanian	<1 %

Arabic-Speaking Children", Journal of
Psycholinguistic Research, 2021

Publication

-
- | | | |
|-------|--|------|
| 121 | MORITO, Shohei and 森藤, 庄平. "Interactions between Verbs and Constructions in English : A Constructional View", NAGOYA Repository, 2014. | <1 % |
| <hr/> | | |
| 122 | Submitted to Mae Fah Luang University | <1 % |
| <hr/> | | |
| 123 | Submitted to University of Wales central institutions | <1 % |
| <hr/> | | |
| 124 | Wang, Ching-Yu, and Jhen-Bin Wang. "Analysis and Evaluation of Taiwan Water Shortage Factors and Solution Strategies", Asian Social Science, 2010. | <1 % |
| <hr/> | | |
| 125 | digitalarchive.gsu.edu | <1 % |
| <hr/> | | |
| 126 | Submitted to Eastern Mediterranean University | <1 % |
| <hr/> | | |
| 127 | Huber-Okraïneç, J.. "Idiom comprehension deficits in relation to corpus callosum agenesis and hypoplasia in children with spina | <1 % |

bifida meningomyelocele", Brain and
Language, 200506

Publication

128	Kate Cain, Andrea S. Towse, Rachael S. Knight. "The development of idiom comprehension: An investigation of semantic and contextual processing skills", Journal of Experimental Child Psychology, 2009 Publication	<1 %
129	Submitted to University of Debrecen / DEA Student Paper	<1 %
130	Submitted to University of Florida Student Paper	<1 %
131	e-space.mmu.ac.uk Internet Source	<1 %
132	jurnalmahasiswa.stiesia.ac.id Internet Source	<1 %
133	www.oberstaufen.de Internet Source	<1 %
134	www.theroundtable.ro Internet Source	<1 %
135	www.ukessays.com Internet Source	<1 %

Exclude quotes On

Exclude matches

< 14 words

Exclude bibliography On