Access and Inclusion in Higher Education: A Critical Inquiry among Students with Visual Impairment in Kerala

A Dissertation Submitted to the University of Hyderabad in Partial Fulfillment of the Requirements for the Award of

MASTER OF PHILOSOPHY

IN

SOCIAL EXCLUSION AND INCLUSIVE POLICIES

BY

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17SIHL01

CENTRE FOR THE STUDY OF SOCIAL EXCLUSION AND INCLUSIVE POLICY (CSSEIP)

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JUNE 2019

DECLARATION

I, Aneesh Peter, hereby declare that this dissertation entitled "A**ccess and inclusion in higher education: A critical inquiry among students with visual impairment in Kerala**," is original and an outcome of my own study undertaken under the guidance of Prof.K. Raja Mohan Rao, in the Centre for the Study of Social Exclusion and Inclusive Policy, (CSSEIP), School of Social Sciences, University of Hyderabad. It has not previously formed the basis for the award of any degree, diploma, or certificate of this Institute or of any other Institute or University. I have duly acknowledged all the sources used by me in the preparation of this dissertation.

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International Conference on Innovative Research in Education, Law, Governance, Gender Studies, Humanities and Various Management Practices organized by Dr. G. C. Mishra Educational Foundation, New Delhi.

DATE: 28/06/2019

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CERTIFICATE

This is to certify that the dissertation entitled "Access and inclusion in higher education: A critical inquiry among students with Visual Impairment in Kerala" is the record of the original work done by Aneesh Peter bearing the Reg. No. 17SIHL01 in partial fulfilment of the requirements for the award of Master of Philosophy in Centre for the Study of Social Exclusion and Inclusive Policy is a record of the bonafied work carried out by himself under my supervision and guidance.

This dissertation has not been submitted previously in part or in full to this or any other university or institute for the award of any degree and diploma

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ACKNOWLEDGEMENT

This study is a conglomeration of my relentless efforts and cooperation of my dear ones and well-wishers. On the end of these two years of unknown intellectual journey, I would like to express my sincere thanks and gratitude to them who were with me throughout the journey as co-passengers and provided every possible supports whenever I needed.

First and foremost I would like to thank my family for giving me the chance to pursue my M. Phil. degree in one of the reputed institutions. I would like to express my deepest sense of Gratitude to my supervisor Prof. Raja Mohan Rao, for continuous guidance, support and encouragement in completing this thesis. His valuable suggestion and feedback were useful to improve my analytical as well as written skill. I also thank to Prof. Sreepati Ramudu, DR. J.Rani Ratna Prabha, Prof. Ajailiu Niumai, Dr. Srinivasa Rao and all other office staffs for their support in during the research process. I would like to thank all my friends Catherine, Shamma, Swathi, Shalini, Sasmita, Rathika, Shivjith, Abhijeet, Samiksha, Sabarii, Shahrukh, Sai, Milind who helped me out in this research.

And I would like to thank all others who make me laugh, fought with me and are special to me without your motivation I would not have been submit this thesis. I wanted to thanks all my participants for their valuable time, and Finally, I would like to thank all the people attached to this dissertation in some way or the other. I would not have been complete the research without you people. Sincere thanks to you all.

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ABBREVIATIONS

CBR - Community Based Rehabilitation

CDT - Critical Disability theory

HEI - Higher Educational Institutions

HEPSN - Higher Education for Persons with Special Needs

HRD- Human Resource Development

KSCAT - Kerala State Center for Assistive Technology

NAAC - National Assessment and Accreditation Counsel

PWD - Person with Disability

RPWD - Rights of Persons with Disability

SVI - Students with Visual Impairment

UGC - University Grant Commission

UNCRPD – United Nations Convention on Right of Persons with Disability

WHO - World Health Organisation

Chapter-1

Introduction

1.1 Indian Higher Educational System

Indian higher educational system has been considered one of the largest systems in the world in terms of students' enrollment. The modern universities in India were setup by British colonial regime at Kolkata in 1847. It was divided into four categories namely central, state, private and deemed, but the structure of Higher Education Institutions (HEI) is complex. The governance mechanism of HEI was based on the London University model and its affiliating system for syllabi, examination and regulation Pilkington was followed. According to the model the affiliated colleges function under the governance of a parent university which is responsible to act on all academic and administrative matters (Marc, 2013).

Pawan Agarwal (2006) stated that, the growth of Indian higher education was rapid ever since the country's independence in 1947 (Agarwal, 2006). It has been in 2 distinct phases one until 1980 and one following 1980. After 1980 the number of higher educational institutions started to increase, it turn out to be manifold since when the neoliberal policies were introduced. Huge chunk of colleges were established by private initiatives and through private public partnership during this period. As Kanchan Sarker put it, "since India started embracing neoliberal policies in 1991, the objectives of higher education in India have increasingly shifted from philanthropy to profit-maximization" (Sarkar, 2004). It is clearly evident in the data. There were 6651 new colleges established from 1951 until 1991. Next 10 years from 1991 to 2001 is known as the decade of liberalization of education in which 5460 new colleges were instituted, and enormous number of new colleges, 20217 were created

in the short span of next 10 years, in the 20 years of liberalization from 1991-92 to 2011-12 25617 new colleges were established (Ministry of Human Resource Development [MHRD], 2012).

University Grants Commission (UGC) has consolidated the list of universities in India stated that up to 2018 there are 867 universities in which 389 state universities, 124 deemed to be universities, 47 central universities and 307 private universities. In the annual report 2016-17 UGC acknowledged 42338 colleges in which has only less than 11000 colleges have UGC recognition. Total enrolment in higher education is found to be 34.6 million consisting of 18.6 million boys and 16 million girls. Girls amount to 46.2% of the total enrolment. India's Gross Enrolment Ratio (GER) in higher education estimated for the age group range from18 to 23 years is 25.2% (Ministry of Human Resource Development [MHRD], 2017). But it is far behind the world average. The highest number of students is enrolled in arts or humanities or social sciences courses, followed by B.Sc. and B.Com programs. Out of 34.6 million enrolment, vast number of students that is 79.3 percent are enrolled in under graduate courses, on the other hand only 11 percent of the students are enrolled in post graduate courses and a mere percent of students less than 4 percent are registered in Ph. D. level courses. This figure indicates the altering attitude of students to endure in academia. Despite of having largest higher educational system, ensuring quality in education is one among the most important challenges. National education policy have broadly listed the challenges of higher education, which includes "access to and participation in education, quality of the education imparted, equity in education, system efficiency, governance and management, research and development, and financial commitment to education development" (Mann & Vaishnav, 2019). National Assessment and Accreditation Council (NAAC) an

autonomous institution of UGC have been appointed in 1994 to assess quality in higher education. Recent reports indicates that up to 2015 only one third of the colleges and less than 40% of the universities have been accredited by NAAC, In which only a mere percentage of the institutions have considered for higher ranking. These data reveals the fact that the one of the visions of higher education achieve quality and excellence yet have not been met. In Thorat's opinioned, the principle aims of higher education are "greater access, equal access (or equity), quality and excellence, relevance and promotion of social values" (Thorat, 2006)

NAAC have recognized seven measures to serve as the foundation for its assessment procedure. These are, curricular aspects, infrastructure and learning, organization and management, resources, teaching-learning and evaluation, student support and progression, research, consultancy and evaluation, and healthy practices (cited in Mishra). The afore mentioned mechanisms indicates the fact that majority of the educational institutions are still lagging behind to accommodate the diverse needs of its stakeholders. By failing to ensure the quality in higher education, it is yet again failed to completely realize another vision equal access or equity in higher education. In other words, equity is a vital tool to achieve excellence. Therefore, dearth of quality in education may leads to the rise of inequitable education.

Fairness and equity are the two important dimensions of equity in education. Personal and social statuses are considered in defining fairness. Inclusion ensures a bare minimum quality in universal education (OECD, 2017). Both of these dimensions are intertwine each other. While seeing the reports about the boost of student's enrollment in higher education, it might be misread that equity had been considered all through and has honestly implemented in education. but it is to be noted that until inclusion in education is properly implemented, it is not possible to

achieve equity. Inclusion in higher education is defined as everyone shall be, irrespective of their age, gender, class, ethnicity, impairment, sexual choices and earlier educational experience to study at their optimum level (Barnes, 2007). Nevertheless students enrolment in higher education increase over the years, reasonable accommodation for the students with diverse needs is not reaching at the optimum level. In higher education, students with disabilities are one among the groups who experience the direct impact of unreasonable accommodation. Therefore Rights of Persons with Disabilities (RPWD) Act, 2016 defines "inclusive education as a system of education wherein students with and without disability learn together and the system of teaching and learning is suitably adapted to meet the learning needs of different types of students with disabilities" (Ministry of Law and Justice [MLJ], 2016).

The principle of 'inclusive education' was first introduced in the World Conference on Special Needs Education in Salamanca, Spain. The conference encouraged governments to design education system in a manner that it would consider the various needs of students into account. So that every individual with or without disability can have access to regular schools that would accommodate them in a child centered manner (MHRD, 2003).

1.2 Persons with Disabilities (PWD) in Higher Education

World Health Organisation (WHO) defines disability as following.

"*An impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations"* (WHO, 2006).

The RPWD Act 2016 has categorized disability into three such as person with disability, person with benchmark disability and person with disability having high support needs.

'Person with disability' means "*a person with long term physical, mental, intellectual or sensory impairment which, in interaction with barriers, hinders his full and effective participation in society equally with others".*

'Person with benchmark disability' means "*a person with not less than forty per cent. of a specified disability where specified disability has not been defined in measurable terms and includes a person with disability where specified disability has been defined in measurable terms, as certified by the certifying authority".*

'Person with disability having high support needs' means "*a person with benchmark disability certified under clause (a) of sub-section (2) of section 58 who needs high support"* (MLJ, 2016).

The act has been identified fourteen new disabilities which comprises Three blood disorders, learning disability and acid attack victims and extended the types of disabilities from seven to twenty-one, and also the government have the power to add more types of disabilities.

The United Nations Convention on Right of Persons with Disability (UNCRPD) was declared in 2006 and ratified it in India by 2007. The twenty-fourth article of UNCRPD have been dealt for the education of persons with disabilities, in which section five stated that, states parties shall ensure that reasonable accommodation is provided to persons with disabilities, in accessing general tertiary

education, adult education, vocational training, and provide opportunities for lifelong learning without discrimination and on an equal basis with others (UNCRPD, 2006).

However, while seeing the decline in overall students enrolment, recent surveys indicates that PWD enrolment in education has been climbing upwards over the years, which shows altering societal attitude towards persons with disabilities. This trend had been influenced by number of factors. Emergence of disability rights movements in United States was one among those. By replacing the idea of medical model by social model, it raised voice against the discrimination and marginalization of PWD in the societies and which received recognition across borders by demanding for welfare policies to ensure equality in the societies. United Nations declared the decade of disabled from 1983-92 marked another shift in this pursuit. All of the developed and most of the developing nations were formulated new acts and policies or modified existing ones to cater the needs of persons with disabilities. In India, disability rights movement was started in early 1990s. As the result of their efforts in 1995 Government of India (GOI) passed the Act of Persons with Disabilities, Equal Opportunities and Full Participation also known as PWD Act 1995. National Trust Act, 1999 was also passed before the end of the decade. In 2006 National Policy for PWD was recognized by giving focus on the education, employment and social security of persons with disabilities. Right to Education Act 2009 ensured the primary education of children with disabilities up to 18 years. Rights of Persons with Disabilities Act, 2016 was the recent development in the policies. It completely rejected the idea of medical model and framed the act within the light of rights based approach.

Awareness and sensitization programs were also being a part of. It was reached to the fringes of the society and partly succeeds in sensitizing communities.

Non-Governmental Organizations have played indispensable role in this pursuit. Rather than charity work, Community Based Rehabilitation 'CBR' focused on right based approach, which provided a rational way to deal with disability. Thus PWD enrolment in education is mounting over the years and which eventually reverberated in in higher education with almost equal proportion of girls and boys. But is this adequate to say educational needs of students with disabilities are fulfilled? Have educational institutions abled to satisfy students' needs? Are educational institutions inclusive enough? Keeping these questions in mind, the study seeks answers through the experiences of students with visual impairment in higher educational institutions.

1.3Students with Visual Impairment in Higher Education

RPWD Act 2016 defines "Visual impairment as blindness means a condition where a person has any of the following conditions after best possible correction. Total absence of sight, or visual acuity less than 3/60 or less than 10/200, or limitation of the field of vision subtending an angle of less than 10 degree" (MLJ, 2016).

The World Report on Disability (2011) shows that 15 percentage of the world population or approximately one billion people are disabled, in which 2.2 percent having significant difficulties in functioning. 80 percentage of disabled population lives in developing countries. It indicates that odds for being disabled may rise due to poverty and lack of access with health care facilities. In India as per the senses 2011-16, 26 million people are disabled which is equivalent to 2.21% of the population, and among these 56% are male and 44% are female. Majority of the disabled population in India constituted from rural regions. 45% of disabled population IS illiterates which is almost double than the national average (WHO, 2011). Globally, it is estimated that 285 million people are having vision impairment in which 39 million people are blind

and 246 million people have low vision. Among the 39 million of visual impaired population, almost one third, over 12 million people reside in India. The recent National Council of Education Research and Technology (NCERT) survey indicates that enrolment of visually impaired students in education is rising over the years, whereas, hearing, orthopedic and intellectual impairments are fallen respectively. The more number of students enrolment is reported in Maharashtra and Kerala which is estimated to be 40 thousand. Students enrolment in regular school also seems to increase over the years. In Kerala, approximately more than 4 lakh people have incurable visual impairment in which more than 50 thousand are aged under 18 years. Kerala seems to have higher percentage of SVI attendance in schools which is also reflect in higher education. Among the students with disabilities in higher education, 32% are constituted by students with visual impairment. However, 45% of illiterates among disabled population divulge the fact that still people are lagging behind to have access with even basic education. Data states that this disparity may overcome in near future. On the other hand Scholars argue that though SVI enrolment in higher education increase over the years, barriers still prevalent in educational institutions. To tackle the issue and create inclusive environment in higher education, UGC proposed scheme called higher education for persons with special needs (MHRD, 2012). The scheme is dealing with three major areas. It mandated universities to setup disability resource unit in the institution, which will provide guidance and counseling to students with disabilities and create awareness over the higher educational system. Providing access to people with disabilities is the another component of the plan, which proposed to the educational institutions to ensure the existing structure and future construction projects in the campus are made disabled friendly. The institution should construct distinct amenities such as ramps, rails, separate toilets and make

other needed alterations to serve the special needs of students with disabilities. The third focus is to provide special equipment's to augment the educational services for persons with disabilities. The higher educational institutions should ensure that assistive technologies such as computers with screen reading software, low-vision aids, scanners, mobility devices, ETC are available for persons with disabilities. To accomplish these entitlements UGC will provide one time grand of RS 10 lakh and RS 8.0 lakh respectively.

However UGC have few stipulated criteria to be fulfilled by the educational institution to avail this financial assistance. Therefore many students with disabilities who are enrolled in the higher educational institutions which are not being the part of the scheme, may exclude from accessing the educational services. Kerala State Center for Assistive Technology (KSCAT) an organization working under Kerala State Council for Science started a campaign in Kerala to promote the use of assistive technology among the students with visual impairment. They conducted various workshops in higher educational institutions on assistive technology and its benefits, and started a training program as a trial in 2015 to enhance the computer and language skills of visually impaired students. Incite is an initiative of Kerala government, which aims to use information and communication technology for the skill development of students with disabilities. In collaboration with Kerala Federation of the Blind, it conducts summer computer training program for the students and avail NCERT text books in audio format. Jyothirgamaya is a non-governmental initiative which serves for the empowerment of visually impaired students. It is established a mobile schooling facility for students and organizing training programs on computer, assistive technology and communicative skills.

Nevertheless various initiatives were started to serve the educational requirements of visually impaired students, due to the limitation of resources and access, it is not directly helpful for students in higher education. Therefore this study aims to understand the availability of accessible facilities in higher education and how the academic and social inclusion are translated into practice in higher educational setting and how the visually impaired students experience this situation in higher education institutions.

Chapter 2

Literature Review

This chapter discusses the prime concepts of the study, which includes higher education, inclusive education for students with disabilities particularly visually impaired students, and their challenges to get access in higher education. It begins with the discussion on the findings of the literature in global perspective, and then discuss specifically in Indian contest. It describes disability issues in general and then moves to the discussion on the literature of visual impairment and its practices.

On the study of Rethinking Reservation in Higher Education in India by Laskar (2010) states that "throughout the entire world, higher education is considered to be the key to both individual and societal aspirations". Holding to this notion Altbach and Johnston (1963) states that for any individual education beyond the secondary level is not just limited to learning. It is considered to be the path to better employment opportunities with decent paying jobs, social esteem, intellectual development and expanded life opportunities. Higher education plays a vital role in enhancing the societies too, by being the key to productivity, technology and other components of economic growth and development and international competitiveness. It is expected to be a major apparatus of social justice and equal opportunity and democracy. With a Gross Enrolment Ratio (GER) of 23 per cent, India is still lagging below the world average. In terms of student enrolment, diversity and curriculum, India banks the third position in the world, following United States and China. Since independence the higher education system in India had grown and expanded rapidly (Agarwal, 2005 & Laskar, 2010).

K. M. Joshi in his study on Indian Higher Education observed that growth of public sector in higher education domain is relatively stagnant. The private sector had taken up this space accounting to 63% of the total higher educational institutions and more than half i.e. 52% of the total enrolments in the higher educational system. Despite the existence of all various intervention measures for addressing equity objectives, the disparity still prevails in terms of gender, ethnic groups, class and even on the basis of location (Joshi, 2013).The last two decades had witnessed a great hike in the demand for higher education in India. Since independence the higher education system of our country has witnessed a 14 times increase in the count of universities, 25 time increase of colleges and 35 times increase in the student enrolment. However, yet access to higher education remains limited. At present it stands at 10% and the government is committed to increase the combined access of formal and non-formal higher education to 20 % by 2030 (Joshi, 2013).

Some studies suggest that, the system of formative assessment should become embedded in the teaching-learning process in higher education. Similarly the 'feedback' and 'feed-forward' should become an essential part of the curriculum framing and practices (Juwah, Macfarlane, Matthew, Nicol, Ross and Smith, 2004). Bhupendra Yadav in his article on "*The Demand for Higher Education: New Dilemmas"* published by Economic and Political Weekly (EPW) (2004) critically stated that while the demand for higher education institutions increases, the system and state should realize that the state machinery is not equipped enough to meet the requirements of the rising diverse population. For many of the governments, higher education is kept as a low priority agenda. This negligence of filling the gaps with short term solution such as increase in fee, employ ad-hoc teachers and conducting

market driven courses again intimidate to conciliation and lower the existing quality standards (Yadav,2004).

Pawan Agarval in a paper on *"Higher education in India: Need For a Change"* published by the journal of Indian Council for Research on International Economic Relations in 2006, looks into the various facets of the Indian higher education system. He argues that "Higher education in India suffers from several systemic deficiencies. As a result, it continues to provide graduates that are unemployable despite emerging shortages of skilled manpower in an increasing number of sectors. The standards of academic research are low and declining. Some of the problems of the Indian higher education are: the unwieldy affiliating system, inflexible academic structure, uneven capacity across various subjects, eroding autonomy of academic institutions, and the low level of public funding are well known. Many other concerns relating to the dysfunctional regulatory environment, the accreditation system that has low coverage and no consequences, absence of incentives for performing well, and the unjust public funding policies are not well recognised". Driven by the study the author also points out the absence of quality data, and the lack in the informed public debate on higher education in India (Agraval, 2006).

Looking into the quality of HEI Sheikh (2017) is of the opinion that Indian education system faces many challenges and ensuring quality higher education is the foremost among all. The Indian universities find it hard to mark its place within the world's top universities (Sheikh, 2017). Rajive Kumar and Natasha Gupta (2015) in the study on *"Status And Challenges Of Higher Education In India"* published in the journal of American Research Thoughts states that the goal of higher education in India is to realise the country's human resource to its optimal potential. As Joshi

(2006) put it, higher education is connected significantly to the Human Development Index (HDI) and is lower for the disadvantaged groups. Similarly, the lack of quality education leads the contrary to happen. Thus the level of higher education in a society is directly proportional to level of human development through its influence on two main components of HDI: life expectancy and GDP per capita (Kumar and Gupta 2015).

Earlier reforms in the field of education lead to the conceptualization of inclusive education. Inclusive education was initially identified with terms like mainstreaming, which later on evolved as regular education initiative, and gradually transgressed to integration, and finally reached the concept of full inclusion (Artiles & Kozleski, 2016). In addition to this, inclusive education have a core emphasis on meeting students' needs, rather than making a one size fits for all approach which requires all the students to fit into a pre-existing system (Brydges & Mkandawire, 2017).

To investigate the experience of students with disabilities in higher education T Tinklin, S Riddell and A Wilson (2004) conducted a study on *"Disabled Students in Higher Education"* aimed at examining the impact of multiple policy innovations on the participation and experiences of students with disabilities in higher education. The study was conducted in the period of 2001-2003.The study traced the pathway of transition that the higher education has gone through since mid-1980s. The era witnessed a humungous expansion of student enrolment coupled with decreased funding and increased accountability. The study was of the opinion that these factors had put the HEI in a demanding context. The amendments in the Disability Discrimination Act (DDA) came during this time which brought about many changes

in the legislations. This urged or in the opinion of the researchers pressurized the HEI to enhance its accessibility.

In this study they found that the accessibility of physical environment, labelling and mode of instruction are the major challenges of students with disabilities in HEI. Further, lack of social networks, inability to participate in extra/co-curricular activities are also reported as challenges. In this context many signs of progress and improvement appeared in the provision for students with disability. However, this doesn't solve the problem for all. Further enhanced development agenda need to be executed so as to create an accessible space for all. For this, particularly the barriers to access curriculum needs to address. This would need the component of culture change to step in within the HEI. This change is highly needed with older universities, where a shift is inevitable by bringing in more accessible teaching learning practices combined with wider availability of learning support made available for all students. It also needs to recognize the pressures loaded on staff. For instance, the study *"Problems faced by students with physical disabilities in higher learning institutions"* by Lydia G. Kabuta found that challenges include "high inadequacy of infrastructures in the institutions, teaching and learning materials as well as special schemes, trained staff, funds and scholarship for students with physical disability"(Lydia G. Kabuta, 2014).

Talking about the inequalities faced by the students a study by Sailor (2002) found that these situations occur when the changes prescribed in the curricular are not executed properly or the authority and personnel concerned with the implementation didn't receive enough support or they were not prepared enough to work with PwD. Another reason for this gap arise aue to the inefficient assessment system which could not capture students' potential and performance appropriately (Sailor, 2002). It is

mostly expected that, visually impaired students like their sighted peers should learn incidentally from their environment. Whereas, the actual change is needed in expanding the core curriculum which should be capacitated to sequentially and systematically teach the students in accessible formats including actual or auditory modalities (Hatlen, 1996). De Pountis and Stephen (Stephen, 2008) divided the expanding core curriculum into nine areas such as: compensatory skills including Braille, sensory efficiency, self-advocacy skills, usage of assistive technology, independent living, orientation and mobility, social interaction, recreation and leisure and career education.

Hersh and Johnson define assistive technologies as *"the equipment, devices, apparatus, services, systems, processes and modifications made to the environment for use by disabled and/or elderly people to secure their full, active and easy participation in society"* (Hersh & Johnson, , 2008). On the other hand, Winter and O'Raw define them as *"the equipment, tools and product systems used to enable improvement of the functions of students with disabilities"* (Winter & O'Raw, 2010).

(Ramakrishna, T, 2009) and (Petty, 2012) define assistive technology as *"alternative or adaptive specialized hardware and software, including input and output devices designed for users with various disabilities".* Assistive technologies in particular have supported PwD specifically those with special educational needs in facilitating their skills and utilize in dealing with the daily life situations (Gierrach & Stindt , 2009). For instance (Meyer & Bouck, 2014) reported that the Students with Visual Impairment (SVI)reported that they could read more fluently and fastly with the assistance of text-to-speech software. Course materials printed in Braille, audio texts, screen reader software and magnifiers are also used as assistive technology in enhancing the reading skills (Jansson, (2008b)(Reed, 2007). Portable talking

dictionaries, braille embossers, portable word processor, computers with accessibility features, alternative keyboards, computers with word prediction, computers with word processing software, dolphin pen, computers with voice recognition software and computers with scanner can also be used in the teaching learning process to augment the reading and writing skills (Nankee, Stindt & Lees, 2009)(Parette, 2007)(Jansson, (2008b)(Isaile, 2014)(Christopher Nkiko, 2018).

Individualized or reasonable accommodations in the educational setting is crucial for successful transition from high school to independent living, or access of quality higher education is required to get into the employment setting. In higher education, assistive technology provides a number of solutions to support students to meet their needs (McKnight, 2013). These assistive devices contribute significantly to aid the in their learning process, to build self-confidence, to achieve high quality of life and to become independent (Reed, 2007). It increases the academic success and functional performances students (Edyburn, 2005).

More attitudinal and physical barriers are often experienced by students with disabilities while attending college in comparison with their peers without disabilities.SVI reported that they often feel of being stigmatized and experience being at the risk of social exclusion (Hess, 2010). Larwin & Schade in 2015 on The study of Visual Impairment on Perceived School Climate found that in comparison with positive climate, the negative school climate have significant amount of correlation with degradation of the students happiness and perception (Schade, 2015).

In the research work Academic attainment in visually impaired students in distance education by John TE Richardson, published in 2016 in the British Journal of Visual Impairment reported that the students with visual impairment were not able

to pass the modules and not able to complete the modules to an extent than non-disabled students. In contrast to this finding, students with disabilities obtained better marks in the modules that they passed. He also highlighted the point that the student with visual impairment plus any additional disability are not even getting good grades like students without disability. This study is contrary to the earlier studies which argued that visual disability is not Impacting on high attainment in higher education (Richardson, 2015).

"Access Challenges for Students with Disabilities at the University of KwaZulu-Natal: A Situational Analysis of the Edgewood Campus" a study conducted by Roshanthni Soobrayen and Sithabile Ntombelain 2013 employed a case study approach to identify the nature of access and challenges of students with visual impairment in this campus. The findings of this study show that, through the efforts of many the access for students with disabilities in this institution has improved. However, systemic obstacles that boundaries in the participation of SVI in the academic programs still prevail. They faces many physical barriers includes "environmental inconsistencies like potholes, building constructions, change of lecture venues, broken stairways which can be totally damaging for anyone using the white cane and there mobility. Inaccessibility of assistive devices such as lack of accessible Computer Software's and other electronic devises is another matter of concern. Academic challenges include lack of study materials, difficulties in writing the assignments and project work, lack of support from the teachers and peers". This article concluded by suggesting that "improved access requires partnership between government and higher education institutions to monitor and support systemic transformation" (Sithabile Ntombela & Roshanthni Soobrayen(, 2013).

A study on *"Present Status of Higher Education of Persons With Visual Impairment in the Asia Region"* conducted by International Council for Education of People with Visual Impairment (ICEVI) in the year 2006 in order to understand the current status of higher education of SVI in the Asia to foster the development of HEI and their services for SVI by initiating dialogue on existing strategies. The study was conducted in various countries including China, Afghanistan, Hong Kong, Bangladesh, India, Nepal, Indonesia, Pakistan, Maldives, Sri Lanka, The Philippines and Vietnam. The data collected pointed the major challenges that SVI faced in higher education such as lack of reading materials, unavailability of financial assistance for reader services, teaching-learning materials, transportation etc. Unavailability of assistive technology and devices, both hardware and software and lack of proper training for effective and efficient usage of assistive technology are also identified as the challenges (ICEVI, 2006).Social isolation of SVI restricts their interaction with peers with regard to academic work, feedback on lesson content & resources, decreases the depth of their studies. They also find difficulty in completion of projects and assignments and the process becomes time consuming (Brown, 2013).

While consider the studies done in the context of India, for instance, Syed Salma Jameel 2011conducted the study *'Disability in the Context of Higher Education: Issues and Concerns in India'* discusses the policies and provisions which are available and the major issues faced by the students with disabilities in higher education particularly in Indian contest. With regard to the government policies and programmes on disability and higher education in India, it is quite evident that there are no much of the existing. In many other sectors this gap is bridged by public-private partnerships, NGOs and other volunteer groups. Whereas, in case of education these initiatives are widespread in schools. Unfortunately these initiatives have not got

any impact or spread in the HEI. There are a number of reasons behind this like lack of accessible infrastructural and transportation facilities, approaches towards people with disabilities and inadequate support services (SS JAMEEL, 2011).

In a study conducted by Y. Makha Rangini in 2015 to understand "*Accessibility to Academic Resources For Students With Visual Impairment Pursuing Higher Education in Two Universities of India"* looked at the status of accessibility of various facilities and services in the Universities, that are mean to enable direct and indirect access for the students SVI. The study brings out the issues that the SVI face in accessing academic resources, and strategies used by the students to overcome the issues. This study also tried to understand the student's needs and their expectations from the university in fulfilling the aforementioned strategies. The study found out that, while Universities have made several provisions for students with disabilities, there is a long path, before accessibility to all the services to be realised. The current provisions mostly includes giving monetary benefits to students and acquiring assistive devices which although necessary but are not adequate enough to realize access in higher education. In other words, technology by itself cannot address every needs and requirements of students with disabilities,. There must be a need for sensitization and awareness building among all the University stakeholders and service providers, to realize the goal of accessibility to everyone at its complete sense. Roe (2008)in his study points on to the need to promote social inclusion for SVI by accommodating the 'needs for interact with other students' into day-to-day practices. Further it must be embedded in the curriculum, and also the mode of instruction must be changed with interactive sessions in which special attention should be given to students with disability. This way of practices can bring a healthier relationship with

peers. As Pitt (2003) puts it, positive relationships with peers can be the key to build healthy development of self- esteem and a feeling of social acceptance(Pitt, 2003).

In the context of Kerala, Asha J.V. conducted a study in 2011 to understand the *"Educational/Pedagogical Problems Experienced by Students with Visual Impairment in the Higher Educational Institutions"*. The study was conducted in the colleges affiliated to the University of Kerala. The educational/pedagogic problems and as well as the level of satisfaction of students on the enjoyment of barrier free environment were also taken into account. The analysis brought out that the pressure towards exclusion is much important to understand inclusion. It is because within the same system, the same individuals may be encouraged or discouraged from participation. Thus the real challenge of inclusive education lies in considering all the students equally, both with and without disabilities and meet the special needs of every individuals. Thus, she argues that, it become clear that inclusion is not an easy or soft process and it demands commitment to overcome all types of barriers. The major barriers identified in this study are listed below: "environmental barriers, educational/ pedagogic barriers and psycho-social barriers". These barriers are represented by the inaccessible environments, lack of awareness regards to assistive devices /computer software, reluctance of educational institutions to take up the financial support from UGC and other agencies for assistance, personal and interpersonal problems, rigid curriculum frame and rigid methods of teaching, lack of teachers' support and the lack of involvement in learning activities (Asha, 2011).

Chapter 3

Methodology

3.1 Rationale of the Study

Education is the basic need of every human being. It gives us a platform to transmit not only the knowledge, but also helps in moulding a person's behaviour and character, and these elements are the part of one's identity. For a student with disability access the education is all the more important. Adding to this, he or she has to put more effort to get hold of this basic need itself. The World bank data 2005 reported that, in India, only 2 percentage of people with disability have access to education. The other 98% are out of access with educational system.

For every person the lack of education would leads to inaccessibility of employment, proper health care and better knowledge. For the person with visual impairment or any other disability in general it leads to a double lack of opportunities.

The perspective towards education has been changing over the times. Along with the pace, it has changed the education system for students with disability. It was began as special school in the earlier, then it came to integration. Recently it had again moved to the concept of inclusive education. There are many laws, including 5 % reservations at higher education and other government policies. But most of these policies are instituted to meet just the quantitative data to show the competency of each government. Hence their implementation is often a thing to be questioned.

When it comes to the realm of research and survey, there are many studies done in the field of education and disability. Some studies are also done on the

challenges and experience of students with disability in genera. But it is not forget the fact that experience of disability and its effect on education and any other phases of life differ from one disability to another. In the context of higher education there is dearth of literature which is particular to SVI and the challenges and exclusion experienced by them in higher education. Thus the research is intended to focus on the *"Access and Inclusion in Higher Education with Respect to Students with Visual Impairment in Higher Education".*

The state of Kerala has the highest literacy rate in India. Even then the existing educational system is not yet compatible enough to meet various needs and necessities of its stakeholders. In the case of students with disability it is not just a necessity but is their 'right'. The concept of inclusive education is not completely implemented here. The educational system of Kerala is still confused about how to negotiate a space for the students with disability.

Thus the current research is focuses on the issue of *'Access and Inclusion in Higher Education'* through the perspectives of students with visual impairment who are enrolled in higher education institutions in Kerala.

3.2 Objectives

1. To understand the academic and social inclusion of students with visual impairment in higher educational institutions.
2. To explore the availability of accessible facilities for person with visual impairment in higher educational institutions.
3. To examine the day to day learning experience of students with visual impairment in higher educational institutions.

3.3 Research Questions

1. What are the academic barriers face by the students with visual impairment in higher educational institutions?
2. What is the attitude of the teachers towards students with visual impairment in higher educational institutions?
3. What is the attitude of the peers towards students with visual impairment in higher educational institutions?
4. What are the accessible facilities available for students with visual impairment in higher educational institution?

   What are the strategies used by students with visual Impairment while dealing with accessibility issues?

3.4 Theoretical framework

The study applied a critical perspective to recognise the experience of students with visual impairment in higher educational institutions. Here I briefly describe the foundation of critical - social theory, and its expansion to other discourses particularly on the discourse of disability. Conceptual underpinning of critical disability theory and its application on the discipline of higher education with implications from present study have also been scrutinized.

Emergence of critical perspectives can be trace back its routes from the conflict approach in sociology, which derived from the writings of Karl Marx and later developed by Marx Webber. This approach was adapted by various scholars and further developed and expanded into different discourses. “Critical social theory, as a group of approaches to the study of society, has its origins in the critical theory of the

Frankfurt School in the late 1930s. The Frankfurt theorists perceived the historical convergence of capitalism, bureaucracy and science as progressively restricting the development of critical consciousness and an autonomous society. They moved beyond the Marxian model of social analysis to take up issues such as the 'ascendance of instrumental reason, the rise of authoritarianism, and the emergence of the culture industry'. These cultural trends were viewed as evidence of a crisis for critical reason" (Horkheimer and Adorno 1972) (Horkheimer, 2002).

In 1937, Max Horkheimer put forth, it has come to include a broad range of descriptive and normative foundations for social inquiry, which have the practical goal of maximizing human freedom and putting an end to the authority of some groups by others defined by class, cast, power, race, gender or any other social construct. By proposing a new perspective to look at the issues in the society, it critically observed the issues which modernity did not address. Therefore it contributed a critical lens to the discourses of post-structuralism, post-colonialism and post-modernism and which put a way to conceptualise theories in feminist discourse, critical race theory, queer theory and development of critical disability theory (CDT). In contrast to traditional theory, critical theory doesn't claim to be normatively objective; it purposed is to explain coercion and to alter society with the goal of human emancipation. A significant outcome of feminism, critical race theory, queer theory and postmodern thought in general has been a turn from the static and singular conceptions of identity to a more fluid and contextual understanding. Instead of the broad variation in the critical theory tradition, any adequate critical theory must be explanatory, practical, and normative, all simultaneously. That is, it must elucidate what is wrong with present social reality, recognise the actors to modify it, and offer both clear norms for criticism and attainable practical goals for social alteration. CDT,

as a member of the critical theory family, is a theoretical approach to the concept of disability which is simultaneously explanatory, practical and normative. It has roots in many critically oriented literatures such as, feminist, Marxist, queer, post-colonial, critical cultural studies. It covers topics such as: economic, political, physical and social exclusion; oppressive and exclusionary language; and hegemonic ideologies that portray people with disabilities as abnormal, inferior, and unequal (Charlton, 1998, 2006; Davis, 2006; Devlin & Pothier, 2006).

Based upon notion of the social model that disability is a social construct, not the inevitable consequence of impairment came up the critical disability theory. According to the theory disability is seen as a complex combination and interrelationship between impairment, individual response to impairment and social environment. It believes that the social disadvantage experienced by PwD stems up from the 'social environment' composed of the physical, institutional and attitudinal factors. This social environment goes by majoritarian rule of normalcy and creates barriers in the lives those individuals who fails to or choose not to abide to the social expectation of 'normalcy'. In other words, "How students will respond to their disabilities and how society responds to them" (Davis, 2006; Devlin & Pothier, 2006; Jones, 1996).

"Critical disability scholars explicate the ways hegemonic messages about inferiority, deficit, and "place in society" can lead people with disabilities to internalize oppression and to adopt false consciousness and alienation" (Charlton, 2006, p. 224). In other words, Disability oppression is the product of obligatory social confinements (Shakespeare, 2006. CDT proposes the participants response takes account of the disability so that modifications can be made to eradicate the hindrance to welcoming the individual and facilitating the person to participate as an equal is

necessary. For those, who continue to experience social marginalization instead of interventions responding to their biomedical circumstances, the suitable policy response is to transform the social environment. Thus, the aim of CDT is to accept various needs and interests of persons with disability individually and collectively, by incorporating the diversity of the disabled community within the scope of its conception of equality.

Therefore, this study takes this framework and place students with disability at the centre of the discussion, and seek to understand how students respond to the limitations in higher education caused by their impairment in terms of access with academic and non-academic resources such as 'study materials, library resources, extracurricular activities, architectural concerns etc. By accepting the fact that the experience fluctuate based on the variations in impairment, for instance, 'needs and interests of students with total/partial blindness' may be differed. Therefore it is entail to understand the physical, social and attitudinal barriers created by the socio-political environment of the institutions, and the requirements of the students to achieve equal access in higher education, and how appropriate policy level intervention can bring changes in the current situation.

3.5 Research Design

In this work, the researcher employed mixed embedded research design in educational research methodology. Mixed research method is the type of research where the components of quantitative and qualitative research methods are combined. For instance, the use of quantitative and qualitative viewpoints, data collection, analysis and inference techniques are used in the method to obtain the broad understanding and corroboration of the subject in depth and breadth (Johnson BR,

2007). In this method the researcher collect, analyse and integrate the qualitative and quantitative research in a single study or a longitudinal program of inquiry (Creswell, 2003), (Creswell j. W., 2013). It is helpful to gain a more comprehensive understanding and explanation of the subject being studied (Giddens, 2008).

In embedded research design the initial phase of data collection gives priority to one approach (quantitative/qualitative). This chosen method will guide this phase of the research whereas the other approach will be nested or embedded in the enquiry and plays a supporting role in gathering information. In this approach, it is seen that as the research progresses the primary research question get modified and enhanced on the basis of the initial phase of enquiry (Creswell, 2003)(Creswell j. W., 2013).

3.6 Sampling

3.6.1 Sample Universe

The universe of the study includes the students with visual impairment pursue under graduation/post-graduation in the state universities of Kerala.

3.6.2 Sampling Method & Strategy

Snowball and Purposive sampling were simultaneously used to collect the data from the participants. For the data collection, the researcher chose two state universities, (University of Calicut & Mahatma Gandhi University and its affiliated colleges. These are the two prominent state universities of Kerala having highest number of higher educational institutions. Due to the quality of education, availability of hostel facilities, friendly academic environment and many more other reasons, majority of students with disabilities prefer the colleges under these universities. Thus the researcher took these two universities as the unit of analysis of the study.

3.6.3 Sample Size

The quantitative sample included 60 students with visual impairment in the age limit of 17 and above, And six qualitative sample for the interview was obtained from this 60 participants. Motive behind this was that, generally students complete higher secondary education at the age span of 17, and there is no upper age limit to do Post-Graduation.

3.7 Data Collection

3.7.1 Tool for Data Collection

The researcher used questionnaire and interview guideline to collect data from the participants who are enrolled in the Universities of Calicut and MG University and their 15 affiliated colleges. The questionnaire was divided into three parts on the bases of the proposed objectives. Demographical profile was collected by giving separate form, which included educational profile of student with disability and the age of onset of disability. Mostly close ended questions were asked in questionnaire in which 3-4 point Likert scale were used. The researcher had contacted to some of the participants; it helped out the researcher to reach to other students. Participants were chosen according to the criteria of inclusion. After the survey being done, few of the participants were taken for the interview, which was decided on the bases of their interest to share experience.

3.7.2 Data Collection

In order to finalise the questionnaire of the study, the researcher conducted four pilot studies with students with visual impairment from four different colleges affiliated to Kerala university. The questionnaire was gradually improved up on the bases of the responses received from the students. It was not an easy task;, it took

almost two months to complete the data collection because the participants were spread out in different places and colleges and the data collection was done during the period between November and December.

Questionnaire was given to the participants manually and through e-mail. A separate mail id was created by the researcher for this purpose. The filled questionnaires were collected back same, manually and through e-mail. The concern behind the mail based questionnaire was that the student will be able to fill it up independently with the help of technology, precisely with the use of screen reading software's. Apart from that reason this method is cheaper and less time consuming for students. After the survey, the researcher listed out the name of the participants and contacted them for the interview. The interviewees for the study were decided on the bases of the willingness of the participant.

3.8 Data Analysis

The researcher collected questionnaires back with in the pre-defined time frame. All the questions were entered into excel software and later exported into SPSS. The researcher ensured that the data was cleaned, rechecked and analysed appropriately. Frequency and valid percentage were calculated in SPSS. Some of the participants had missed out few questions and did not answered to the certain questions appropriately. Keeping this reality in mind, the researcher has calculated valid percentage while analysing the data. It someway helped out the researcher to get the appropriate percentage. The recorded files of the interviews were transcribed into English, coding is done and theme for this study were fixed.

3.9 Operational Definitions

Educational barriers: For the purpose of this research study, the term is defined to as any barriers which obstruct anyone from accessing resources that are necessary for academic performance such as course materials, library resources, learning opportunities in the class room, different modes of assessment suchas assignments, examinations, projects. And it also includes the barriers created by the inappropriate teaching pedagogy.

Higher education: A course of education which can be pursued after completing twelve years of school education (RPWD Act, 2016).

Accessibility: The quality of being available in a useable form when one needs it.

Challenges: Problem or any difficulty faced in accessing any services or facilities of higher education.

Attitude: A manner of thinking, feeling or behaving that reflects a state of mind or disposition.

Physical barrier: it designates to surrounded infrastructural barriers which hinders student with disability in his/her daily routine and stops from participating in any activities.

Student with visual impairment: This term includes students with disability having low vision (40 % or more loss of visual acuity) or complete absence of vision as given in the RPWD Act of India 2016.

Barrier free environment: A physical environment that is designed to be free of obstacles and be friendly towards students who are having any disabilities including

both physical and cognitive impairments thus, requires the assistance of prosthetics and wheelchairs.

Co-curricular activities: The programs, actions and education experiences that complement the students' learning in schools/colleges and are associated to or reflect the academic curriculum.

Chapter 4

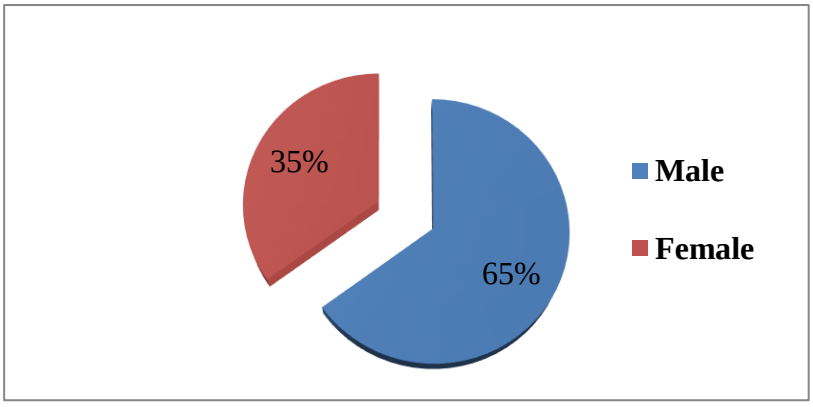
Findings and Analysis

This chapter discusses the detailed understanding of the objectives. The main objectives were to understand the academic and social inclusion of students with visual impairment in higher educational institutions also to understand the availability of accessible facilities in the higher educational institutions. Students' experiences in higher educational institutions were also examined in this study. The participants were visually impaired pursuing graduation and post-graduation.

4.1Demographic Profile

Figure 1.1

Gender of the Participants



The participants constituted 65% of male and 35 % of female, which indicates that major portion of the responses were arrived from the male perspective, though the results have no direct causality with gender differences.

Table-1.1

Age of Participants

Age	Percentage
17-20	36.7
21-24	50
25-28	11.7
29-32	1.7
	100

The above table indicates the age of the participants, in which 36.7% belongs to the age group of 17-20, 50% belongs in 21-24, 11.7% belong to 25-28 and 1.7 belong to 29-32 age group. As majority of the participants belongs to the age group of 21 to 24 years, which is the considerable age group for students to complete under graduation and expected age group to be joined in post-graduation. However, around 68% of the participants were from under-graduation, whereas 32% were from post-graduation. Keeping the objectives in mind, it was seen that the challenges are different at the under-graduation and post-graduation levels.

Table-1.2

Participation from University of Calicut and MG University

Participation from University of Calicut and MG University	
	Percentage
Calicut	61.7
MG	38.3
Total	100.0

Majority of the participants were from colleges affiliated to University of Calicut (61.7%), rest were from MG University (38.3%). It is significant to be noticed

that as the huge number of colleges are affiliated with university of Calicut and the more number of colleges having hostel facilities in comparison with MG university are the determining factors in the selection of universities. The participants were pursuing either under-graduation or post-graduation in 15 various disciplines including Sociology, History, English, Arabic, Malayalam, Politics, Music, Economics, Social Work etc. They were from first year (50%), second year (35%) and third year (20%).

Table-1.3

Educational Background of the Participants

Educational Background of the Participants	
	Percentage
Both Special and Regular	91.7
Regular	8.3
Total	100.0

The above table indicates that majority of the participants (91.7%) completed their formal education through both special and regular school and rest (8.3%) studied solely in regular school. The students' experiences in regular and special school settings may be differed. Those who have studied only in regular school have more chances to face academic challenges than those who have studied in both of these schools. Kerala has not been provided special education in high school level for students with visual impairment. Therefore they must be admitted at regular schools for the completion of high school education. Or in other words, students does not have the choice in secondary education.

4.2Disability Profile

Table-1.4

Disability Percentage of the Participants

Disability Profile	
Disability Percentage	Percentage
40-60	8.3
61-80	16.7
80 above	75.0
Total	100.0

The table indicates that, 75% of the participants have more than 80% of disability. Among the 16.7% of the participants have 61-80% of disability and a mere percentage (8.3%) have less than 60% of disability.

Most of the participants included in the 75% were having total absence of sight, Remaining participants (25%) were fallen under 40-80 percentage. Though they are having little sight, is not denying the use of assistive technology and other accessible academic resources as those with 80% and above disability.

In response to the onset of disability, 85% of the participants have congenital visual impairment. Rest 15% acquired disability before the age of 12. Thus, all the participants have been experiencing the disability since long before, therefore they have adapted alternatives to overcome the functional limitations resulted by the disability.

However disability is not the only by-product of the functional limitations, moreover it should be understood as the result of socially constructed barriers, which influence the person's full and effective participation in society equally with others.

These barriers are quite evident and have a prominent function in the participation of person with disability in various domains like education, livelihood, health etc.

Specific to the research objectives, the barriers faced by person with visual impairment in higher educational institutions is categorized into two,

i) Academic Barriers

ii) Social Barriers

4.3Academic Barriers

Factors considered under academic barriers are,

i) Academic resources,

ii) Semester system,

iii) Curriculum,

iv) Assignments and Projects.

Academic Resources-The academic resources includes text books, class notes, readings and library resources.

Table-1.5

Whether Accessible Academic Resources Provided by University / Institution

	Percentage
No	96.7
Yes	3.3
Total	100.0

The table shows that 96.7% of the participants were not provided accessible academic resources from the universities/colleges. Only a mere 3.3% of the participants were given accessible resources by the educational institutions itself. Though they are not received the academic resources from the institution, some way

or other they are found other alternatives to deal with this challenge. And those alternatives may be to seek assistance from various disability organisations or get help from their teachers and peers.

Table-1.6

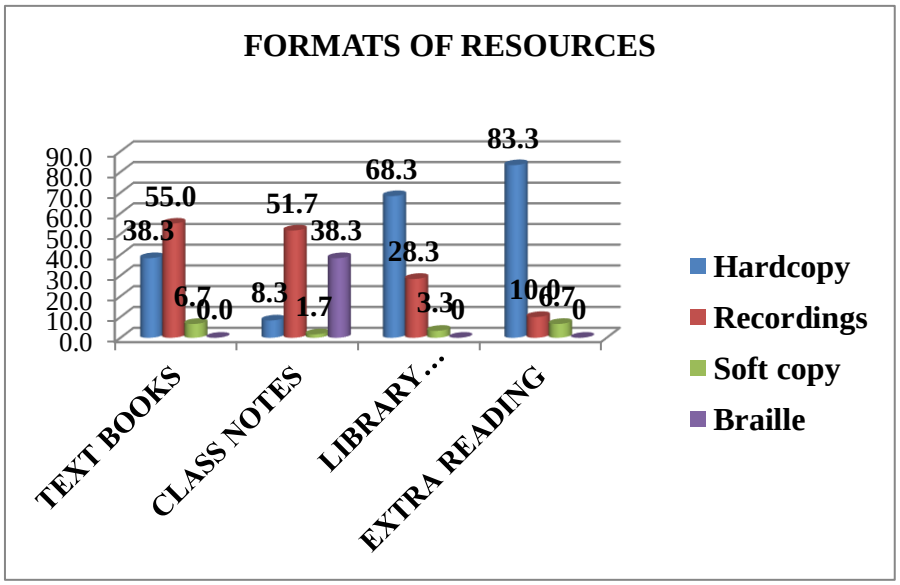
Accessibility of Academic Resources

	Percentage
Never	20.0
Sometimes	61.7
Very often	18.3
Total	100.0

The table shows that 20% of the participants were not able to access any of the resources, while 18.3 % were able to access it more often and 61.7% were able to access it sometimes. It indicates that only 18.3% have often access with academic resources, whereas, huge percentage of the participants, that is (81.7%) have little or no access. It clearly states that although alternatives are found, majority of the students still have mere access with academic resources.

Figure-1.2

Formats of Academic Resources



The above figure indicates the availability of academic resources. In this we can see that, of the total textbooks received 38.3% were in hardcopy, 55% in recordings, 6.7% in softcopy and nobody received the copy in braille.

In case of class notes 8.3% received it as hardcopy, 51.7% do it on recording format, 1.7% got as softcopy and 38.3% take it in braille.

Considering the case of library resources 68.3% were received it in the form of hardcopy, 28.3% were provided it in audio format, 3.3% received it as soft copy and nobody have received it in braille.

In case of the reference reading materials, majority of the participants (83.3%) were received it in the form of hardcopy, 10% in recordings, 6.7% in soft copy and none of them were got in the form of braille.

It is important to notice that, though educational institutions are not provided the academic resources, majority of them have arranged audio text books, (which they

do it with the assistance of disability allied organisations or with the help of teachers and peers. And the lecture notes, either students themselves record the class or they take it on braille. However, both library resources and reference materials were accessible mostly in hard copy. The text books, readings and library resources were not at all available in braille format, as when some of the respondents were still depends on braille materials.

Table-1.7

Satisfaction on Academic Resources

	TEXT BOOKS	CLASS NOTES	LIBRARY RESOURCES	EXTRA READING
Not Satisfied	38.3	28.3	39.0	75.0
Somewhat	48.3	66.7	55.9	21.7
Very Satisfied	13.3	5.0	5.1	3.3
Total	100.0	100.0	100.0	100.0

The above table indicates participants' satisfaction on academic resources. 38.3% of the participants were highly unsatisfied on the availability of textbooks, 48.3% of the participants were neutral, and 13.3% were highly satisfied.

In case of the class notes 28.3% of the participants were highly unsatisfied, 66.7% were neutral and only 5% of participants were highly satisfied with the class notes. In the case of library resources 39% of the participants were not at all satisfied, 55.9% were neutral and 5.1% were highly satisfied. In response to the readings 75% of the participants were highly unsatisfied, whereas 21.7% were neutral, and 3.3% were highly satisfied.

Satisfaction on the academic resources, only 5.1% of the participants have high satisfaction on class notes (5%), library resources (5.1%) and the readings (3.3%). Around 95% of the participants either somewhat or no satisfaction with the academic resources.

Table-1.8

Satisfaction on Current Curriculum

Satisfaction	Percentage
Not Satisfied	16.7
Somewhat	66.7
Very Satisfied	16.7
Total	100.0

The table indicates the Participants' Satisfaction on Current Curriculum. We can see that 66.7% were neutral, whereas 16.7% very satisfied and 16.7% were not at all satisfied. It is to be noticed that more than 84% of the participants are not fully satisfied with the current curriculum.

Table-1.9

Satisfaction on Learning Opportunities in Semester System

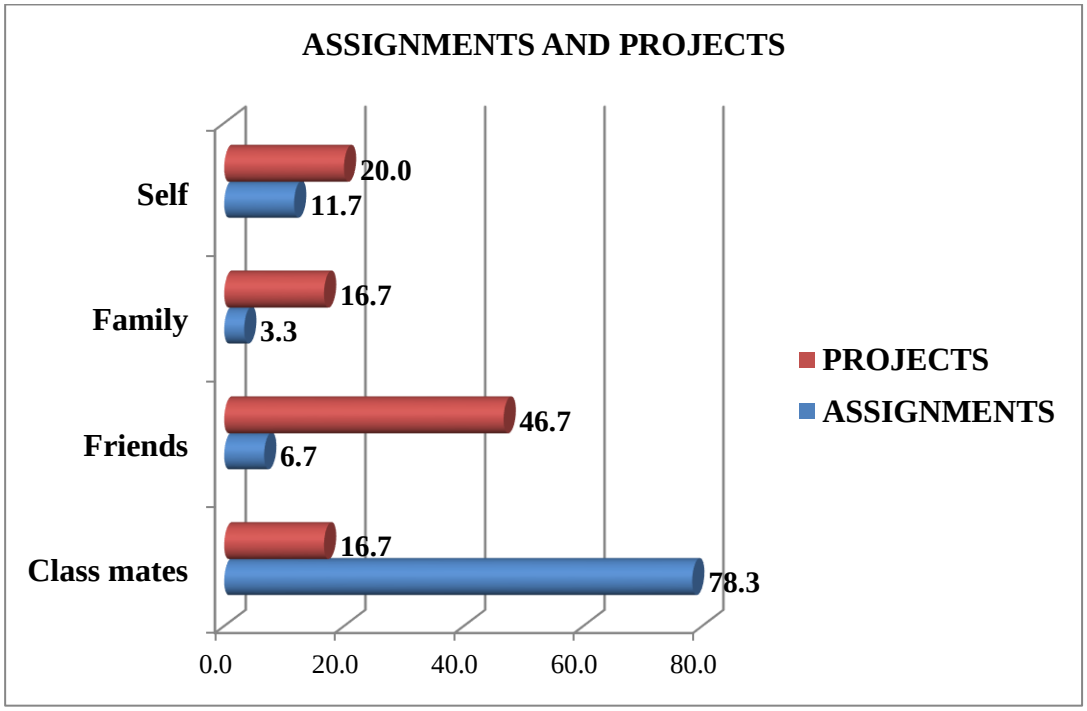
	Percentage
Not satisfied	23.3
Somewhat	61.7
Very Satisfied	15.0
Total	100.0

The table indicates that 23.3% of the participants are not satisfied on the learning opportunities of semester system, 61.7% were neutral and 15% were very satisfied.

In cross tabulation of the independent variable 'satisfaction' with dependent variables such as 'academic resources, current curriculum and semester system', only 16.7% are have full satisfaction with learning opportunities (16.7%), curriculum (15%) and academic resources (5.1%). Up to 95% of the participants are not fully satisfied with the availability of academic resources and up to 85% are not satisfied with both curriculum (83.7%) and semester system (85%).

Figure-1.4

Assignments and Projects



The illustration indicates that how students with visual impairment write their assignments and projects. In response to this query, 78.3% of the participants stated that the assignments were written by their classmates, 6.7% were written by friends, 3.3% were written by family and 11.7% of the participants were written by themselves.

Considering the case of projects 16.7% of the participants responded that their projects were done by classmates, 46.7% responded that the projects were written by friends, 16.7% participants' projects were done by family and 20% of the participants were written the project by themselves.

In the case of writing the assignments and projects majority of the students, that is (88.3%) for assignment and 80% for project are depends on class mates, friends or family, only less than 20%of the participants are able to write the assignments (11.7%) and projects (20%) by themselves.

Writing assignment became a challenging task for students with visual impairment.

For instance [Participant 4] responded: *"assignment. first I go to library with friends.. they will read for me.. do record if the thing is to be referred.. then write it down in braille and again take any of their help to write it in normal text.. yah.. it is bit difficult."*

In few of the higher educational institutions, cores teachers have modified the assessment methods or provided other comparable alternatives to complete the student's assessment. For example, [Participant3] stated: *"assignments..teachers has given three options.. assignment, seminar and vive .. I use to do vive..sometimes I have done seminar.. I have never written any assignment..and the vive is only for differently challenged students.. I think only my department has this facility."* [Participant 1] have also shared similar experience: *"course teacher have allotted one other student as an assistant..so I have to discuss with him.. and he will write it in sighted format."* However these are not permanent solutions and students cannot expect this concession from every other faculties. Lack of proficiency on writing skill

may result barrier in the future. Therefore, educational institutions are expected to take measures to improve the writing skill of students with visual impairment and reduce existing challenges in writing assignments and projects.

Students follow traditional methods to do seminars and presentations. This often creates challenges in effective communication. [Participant 2] stated: *"I will study the topic..key points I write down in braille.. will take it into the class and do presentation.. if I have doubt I will look at the note.. but.. you know.. that is not very easy.. I take time to read ..so I take more time to present."*Though assistive technologies are available to alleviate the challenges while doing seminars and presentations, students does not have access to most of it. Therefore the methods they follow to do seminars and presentations are not their choice or desire, but those are the only methods available to them.

Table-1.10

Finding Scribe

Source	Percentage
Teachers	7.3
Self	63.4
Friends	29.3
Total	100.0

The table indicates that 7.3% of the participants were finding the scribe by teachers whereas 63.4% were finding by themselves and 29.3% were finding by friends. Students are forced to take this extra burden (finding scribe) at most of the times.

It is important to notice that though few educational institutions arrange scribe for the semester examination, still 36.6% of the participants have to depend on either friends (29.3%) or teachers (7.3%) to arrange scribe for them.

Table-1.11

Satisfaction on Scribe System

	Frequency	Percent
Satisfied	28	46.7
Not Satisfied	32	53.3
Total	60	100.0

As per the table 46.7% of the participants were satisfied with the scribe system, whereas 53.3% were not satisfied with the same. Majority of the participants were not satisfied with the scribe system.

Participants' Response on Class Note

The 85% of the participants responded that they are taking notes from the class, whereas 15% were not taking the notes. The students responded that they are not able to follow the lecturing speed, some of them do not know Braille, some were using soft copy to study and others were seeking help from the class mates to get the notes.

Table 1.12

Format of Class Notes

	Frequency	Percent
Braille	19	38.3
Recording	26	51.7
Hardcopy	5	8.3
Softcopy	1	1.7
Total	51	100.0

The above table indicates that 38.3% of the participants had taken notes in braille, whereas 51.7% were recorded the class, 8.3% were taken it in hard copy format and mere 1.7% were taken it as softcopy.

Around 50% of the participants responded that the class notes are always helpful to study, and other 50% either sometimes (42%) and never (8%).

Though most of the students take lecture notes in accessible format, only 50% have confidence to say the class notes are helpful to study the subjects. Students are also realized the inaccessibility of the traditional accessible materials. For example, one of the participant stated: *"now I am taking notes in braille.. I have also collected few audio study materials from my seniors..but I don't have all those materials.. when I was in plus2 I use to get text books in recorded format.. They were told us that recorder will be provided, but we haven't received yet.." "I have a personal computer which I got one month back.. I have few audio books in my computer..but those are note related to my subjects.. my friend has given me his recorder.. sometimes I do record the class.. but there would be lot of noises.. so you can't use it to study for the exams.."*

Up to higher secondary education students with visual impairment have access with textbooks therefore they do not have to rely on class notes to study. Unlike school education, higher education does not provide accessible study materials to the SVI. Thus students are forced to find the accessible resources from their fellow students or they take initiatives to take lecturing notes by recording or writes down on braille. However it is not much helpful to study the subjects and students are even aware about this fact.

For instance, participant 2 stated: *"yes.. I record the class..but can't depend completely on that.. some other things may also need to be referred for assignment an all.."*

4.4Social Barriers

The factors consider under social barriers are: Teachers attitude, Peers' attitude and accessibility of Arts and Sports.

The table below indicates that 78.3% of the participants were given excellent attention by the teachers, 20% of the participants responded that teacher's attention is average and only 1.7% said that they have low attention from the teachers.

Table-1.13

Teachers' Attitude

SOCIAL FACTORS			
	TEACHER'S ATTENTION	TEACHING PEDAGOGY'S INCLUSIVENESS	INTERACTION WITH TEACHERS
EXCELLENT	78.3	68.3	65.0
AVERAGE	20.0	31.7	31.7
LOW	1.7	0	3.3

It can be seen that 68.3% of the participants responded that the teaching pedagogy's is inclusive, while 31.7% were average with teaching pedagogy's inclusiveness and none of them responded that the teaching pedagogy's is not at all inclusive. When looking at the interaction with the teachers can be seen that 65% have excellent interaction with the teachers, while 31.7% have average interaction with the teachers and 3.3% of the participants have low interaction with the teachers. In analysing the table can be seen that the participants were given excellent support

from the teachers in the class, attention (78.3%), inclusive pedagogy (68.3) and the interaction (65%).

Students had both positive and negative view about their relationship with teachers. And they are aware about the limitations of the teacher to provide assistance.

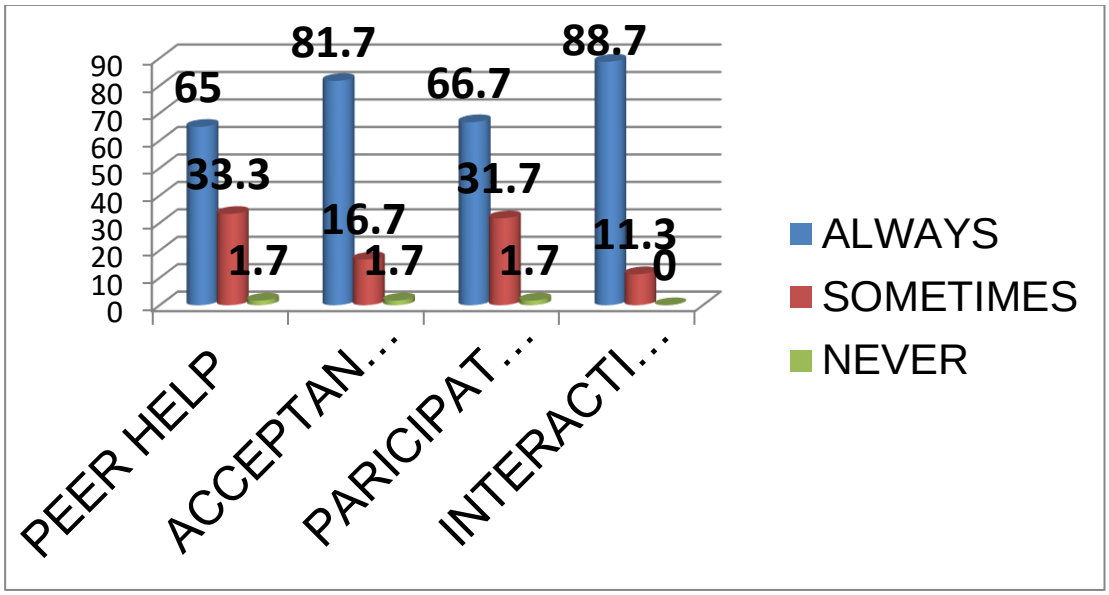
For example, participant 3 stated: *"yes..they are helpful.. some of them have given us recorded study materials.. some of them come and ask what is to be recorded.. even then it has limitations.."*

At the same time, participant 4 has different view on students teacher relation: *"They are not bad..most of them are friendly.. not everyone.. when teachers behave friendly we also do the same.. as my friends there, I have never went to them for any academic help like reading an all."*

Peer's Attitude

Figure -1.5

Bar Graph Showing the Attitude of Peer Group



The Graph indicates the attitude of the peer group. It can be seen that 65% have always had help from the peers, 33.3% reported that sometime they have received help from the peers and 1.7% responded that they never had any help from the peers. 81.7% among the students reported that they always had acceptance from the peer group, 16.7% of the students responded that sometimes they had acceptance from the peer group and 1.7% of the students answered that they never had any acceptance from the peer group. In response to the participation in the peer group discussions, 66.7% of the students responded that they always had participation in the discussions, 31.7% of the students reported that sometimes they had participation in peer group discussions and 1.7% said that they never had any participation in peer group discussions.

When considering the interaction with peers we can see that 88.3% of the participants responded that they were always interacted with the peers, whereas 11.7% of the participants stated that they were interacted at sometimes with the peers and none of them responded that they never had any interaction with the peers. While analyse the graph can be seen that majority of the participants were always got help from the peers (65%) acceptance (81.7%) also they have equal participation (66.7%) and quality interaction (88.3%).

Unlike previous times, students have positive relationship with their peers. For instance, participant 5 responded: *"yah.. I have friendship with most of my class mates..they all are helpful.. I have friends from other departments also..they are also helpful.. not only on studies.. they will also call us to being a part of their company.."*

The shift from special school setting to inclusive education is evident in students attitude. They realized the significance of having social capital. Participant 6

stated: *"We two visually impaired students are there in my class..class mates do always help us.. I am not only having friendship with blind students.. I have lot of friends in the college..even though I am not staying in hostel.. I am there in the Whats App groups.. So I have friendship with most of those hostellers.. Especially with first year students.."*

Table-1.14

Accessibility of Arts and Sports

	Arts	Sports
None of them	0	52.5
Some of them	11.7	42.4
All of them	88.3	5.1

When analysing the accessibility in the arts and sports sections it was observed that one of them had the opinion that arts is not at all accessible to them, around 11.7% responded that some of the arts are accessible and 88.3% responded that almost all the arts are accessible. When considering the sports 52.5% of the participants responded that none of the sports items are accessible to them, 42.4% were able to access some of the sports items and a mere percentage 5.1% responded that all of the sports are accessible.

Taking the accessibility of arts and sports into consideration, majority of 88.3% students responded that almost all the arts programs and activities are accessible to them. However 94.9% students are not able to access the all sports items. Only less than 5.1% have the full access to the sports. Which does not mean that arts are more accessible than sports, it is to be understood that in the current

situation, educational institutions does not have the mechanism to make the sports accessible.

Table 1.15

Participation in Extracurricular Activities

	Frequency	Percent
Always	18	30.0
Never	28	46.7
Sometimes	14	23.3
Total	60	100.0

When considering the participation in the activities 30% of participants responded that they always participate, 46.7% of them said that they never participate in any of the activities and 23.3% of them said that they sometimes participate in the activities.

While look at the challenges in the participation 93.9% of the participants responded that they are not facing any challenges to participate in the activities whereas 6.1% are facing challenges to participate on the same.\

Lack of opportunities in extracurricular activities is one of the main concerns.

Students who had participated well before in arts and sports became downgraded in higher education and which negatively affect their self-esteem. [Participant 3] stated: *"I use to participate in sports.. I play cricket.. I play in district team..earlier college had a blind cricket team.. but now most of the students with visual impairment are girls. we don't have enough students to form a team.. I use to participate in arts at special school festivals .. I am a keyboardist and I have received second price in instrumental music.. Here they have asked me to participate but after that I dint get any responses."*

[participant 1] also have the similar experience:*"no.. I have never participated.. plus one and plus two I did it in special school.. where I use to participate in band display.. I have also participated in elocution competition..then I thought that I cannot do it.. and slowly I lost interest.. here they don't ask us separately.. the college will conduct the program and if anyone wants to participate they can.. I did not participated yet."*

Facilities

Factors consider under facilities are: Accessibility of class room and library, Hostel Facility, Scribe facility, Assistive Technology and Allowance.

Table-1.16

Accessibility of Class Room and Library

	Classroom Accessibility	Library Accessibility
Low	1.7	6.7
Medium	16.7	30.0
High	81.7	63.3

The table above indicates the accessibility of the class room and library. 1.7% of the participants felt that there is low accessibility towards the classroom, whereas 16.7% of them responded that there is medium accessibility to the classroom and 81.7% of them have high accessibility towards the classroom.

In the case of Library accessibility 6.7% responded that the library accessibility is low, 30% of them have medium accessibility towards the library and 63.3% of them have high library accessibility.

When look at the table can be seen that majority of the participants have high accessibility towards the class room (81.7%) and the library (63.3%).

When consider the matter of hostel facility 95% of the participants' responded that the educational institutions were provide the hostel facility to the students, rest 5% were not provided the hostel facility by the same.

Students with visual impairment are hesitated to use cane in the presence of other students. Those who are not stay in hostel take friends' help to go to home.

[participant 3] responded: *"my home is 45 minutes far from the college.. I go by bus..now I am getting help from friends to go home.. because I don't use cane.. but when I was doing my higher secondary at Kolathara I use to go alone quite frequently.."*

Students are not comfortable to use the cane inside the college premises, because they are not wished to be seen differently in the campus.

[Participant 6] responded: *"no.. I go with friends..they will always with me.. I didn't know how to use it.. I learned it very recently..and I don't have the experience of using white cane outside.. yah.. I should use it..when I will go alone I may use it.."*

(Kolathara higher secondary school is a special school for students with visual, hearing and speech impairment).

Rating of Hostel Facility

Table-1.17

Rating the Hostel Facility

	Frequency	Percent
Excellent	23	52.2
Average	20	45.5
Low	1	2.3
Total	44	100.0

From the above table can be seen that 52.2% of the participants responded that the hostel facilities are excellent, whereas 45.5% were average to the hostel facilities and 2.3% of them responded that the hostel facilities are low.

From the total number of 60 participants, 44 were hostellers and 16 were neither provided the hostel nor using the hostel facility. However, around 50% of the participants (47.8%) were not fully satisfied with the hostel facility.

Poor quality of hostels makes students life more vulnerable than students without disabilities. [Participant 2] stated: *"hostel..it is not fully accessible.. there are limitation of basic facilities.. the problem is not only for us.. every students are facing the same issue.. and for us the burden will be double."*

Table-1.18

Scribe Facility

	Frequency	Percent
Always	21	35.0
Never	33	55.0
Sometimes	6	10.0
Total	60	100.0

The table indicates the scribe facility provided by the institution. It can be seen that 35% of the participants were provided the scribe by the institutions, whereas 10% were got it sometimes and 55% were not at all provided the scribe facility. It is clearly visible that majority of the participants that is 65% were not constantly received the scribe facility from the institutions therefore they had to find other alternatives. Though few of the higher educational institutions arrange scribe for the semester exam, students are not completely satisfied with the performance of the writer.

[Participant 6] responded: *"for internals we have to arrange..we call students who are free at that time.. college arrange for semester exam.. but.. you no.. that is depend on our luck.. I have gone through two experiences..few students had come who couldn't even tolerate the things I said.. at the same time very flexible students had also come.. they listen carefully and write well.." "there are three four students whom I know.. I try maximum to bring them to my semester exam.."*

Table-1.19

Assistive Technologies

	Yes	No
Laptop	5	95
Common computers	86.7	13.3
Braille printer	5	95
Screen reader software	53.3	46.7
Scanner	68.3	31.7
Cyber library	53.3	46.7
Recording devises	20	80

The table indicates the assistive technologies available in the institutions. It can be seen that 95% of the Participants were not provided the laptops whereas 5% were provided by the institution.

When considering the common computers 86.7% of the participants responded that it has provided by the institution whereas 13.3% were not provided. While come to the case of braille printer 95% were not provided by the institution and 5% were provided from the same.

While considering other screen reading software's 53.3% responded that it is available in the institutions, whereas 46.7% of them said that it is not available. While looking at the case of scanner facility 68.3% of them responded that they have access within the educational institution, whereas 31.7% do not have access with it. When asked about the cyber library 53.3% responded that it is available, whereas 46.7% were responded that it is not available. When asked about the availability of the recording devices 20% of them responded that it is available in the institution, whereas 80% of them do not have access with it.

In the case of availability of assistive technology, high majority of students were not provided the assistive devices such as laptop (95%), braille printer (95%), recording device (80%).

About 50% of the participants, (46.7%) responded that the screen reading software's and the cyber library were not available at the institution.

Along with the unavailability of assistive devices, Architectural barriers also hinder persons with disabilities from accessing facilities in the campus. For instance, [participant 4] responded: *"there is a computer lab in our college for students with visual Impairment..but nobody is using that.. it seems that computers are not working.. and this lab is outside the college so I have never got any opportunities to go there."*

Inadequate interventions and lack of consideration by the universities on quality education generated other challenges. [Participant 2] stated: *"I don't have personal computer..in college there is one computer lab for us.. but you know.. it is not working.. there are three computers.. now I am in third year.. in these three years I have never seen that anyone is using it."*

Table-1.20

Usage of the Facilities

	Library	Assistive Technology
Never	10.0	31.6
Sometimes	58.3	36.7
Quite often	25.0	30.0
Always	6.7	1.7

By analysing the table above can be seen that 10% of the participants have never used the library, 58.3% of them sometimes use the library, 25% responded that they often use the library and 6.7% said that they always use the library.

When considering the usage of assistive technology 31.7% of the participants responded that they have never used the assistive technology, 36.7% of the participants said that they sometimes use the assistive technologies, 30% of them said that they quiet often use the assistive technology and 1.7% said that they always use the assistive technology.

Majority of the participants that is (90%) were using the library facility and 68.3% were using the assistive technologies. It is to be noticed that most of the educational institutions are not provided audio library facility to SVI, therefore they are not able to read regular text books by themselves.

Table-1.21

Availability of Allowances

	Yes	No
Reader	61.7	38.
Scribe	15.0	85
Stationary	20	80

The table above shows the availability of the allowances. It can be seen that 61.7% of the participants were received reading allowance, whereas 38.3% of the students did not receive the reading allowance.)Reading allowance is the allowance provided to the readers who read for the person with reading difficulties).

15% of the students responded that they were got the allowance for the scribe and 85% of them did not get the allowance for the same. Almost 80% of the participants did not get the stationary allowance, whereas 20% of the participants got the allowance to procure stationary materials. “Stationary allowance is the allowance provided to the students with disability to by stationary things”.

When comes to allowance 85% of the students were not given the scribe allowance and 80% were not provided the stationary allowance. At the same time 61.7% of the participants were provided the reading allowance.

Lack of knowledge about the availability of financial aids often leads to losing the scholarship. [Participant 4] responded: *“I have applied for the scholarship, but I didn’t know about the reading allowance and other allowances..recently one of my friends told me about this.. now I have to apply for that..”*

Inadequate support of the administration and complexities in application processes often produce hurdle to students to apply for the financial aids. [Participant 6] responded: *“there is one scholarship called DC for fee concession.. I applied only for that..reading allowance notification haven’t released yet.. I couldn’t apply for it in last year..something had happened.. one thing is that it has lot of formalities so we are not able to complete it on time.”*

Unavailability of scribe allowance has resulted uncertainty in availing writer for the exam. [Participant 5] stated: *"our college doesn't provide scribe allowance..that is one of the big negatives.. actually it is there.. we use to get it in schools.. if it is there students don't refuse to come."*

Table 1.22

Other Facilities

	Concession in Fees	Scholarship	Awareness Program	Accessible Circulars
Yes	96.7	88.3	31.7	46.7
No	3.3	11.7	68.3	53.3

The table indicates other facilities which were given to the participants. 96.7% of the participants got the concession of the fees, meanwhile 3.3% of the students did not get any concession in the fees, while look at the scholarship 88.7% of the participants got the scholarship whereas 11.7% of them did not get any scholarship. While considering the awareness programs 31.7% of the students responded that they had awareness Programs in the institution and 68.3% of the participants responded that never had any awareness programs.

When we look at the accessible circulars 46.7 % of the participants responded that it was accessible meanwhile 53.3% of them responded that it was not accessible.

While look at the figure, we can understand that the majority of the participants (68.3%) responded that there were no any disability awareness programs conducted within the institution and 53.3% responded that the circulars and other official notices are not accessible.

Table 1.23

Table Awareness about Govt. Schemes and Disability Legislations

	Govt. Schemes	PWD Act	UNCRPD
Highly	5.0	5.0	0
Moderately	81.7	35.0	8.3
Not at all	13.3	60.0	91.7

The table indicates the awareness among the participants about the Government schemes and disability related legislations including the '*Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995'* and '*United Nations Convention on Right of Person with Disability' (UNCRPD)*. It can be seen that in terms of awareness about govt. schemes 5% were highly aware, 81.7% were moderately aware and 13.3% were not at all aware about any.

In terms of PWD Act 1995, 5% were highly aware, 35% moderately aware and 60% were not at all aware. About UNCRPD none of them were highly aware, 8.3% were moderately aware and 91.7% were not at all aware. Dearth of awareness of students on disability schemes and policies often leads to not realising about their rights.

When consider the awareness of the participants on govt. schemes and disability related legislations, we may surprise by the result. A mere 5% had high level of awareness. The PWD Act 1995 was a landmark in the history of disability and was a significant step to ensure equal opportunities and participation of persons with disabilities in Indian society. The RPWD Act of 2016 replaced this legislation by proposing right based approach to deal with disability. However, majority of the

participants that is more than 60% were not at all aware about any of these legislations.

Chapter 5

Discussion and Conclusion

The study was conducted to understand the academic and social barriers associated with students with visual impairment in higher educational institutions in Kerala. It was also aimed to understand the facilities that are accessible and available to the students with VI and how are they experience the disability in the HEI. This chapter discusses the key findings which emerged in the analysis and it has compared and contrasted with the allied literature. The chapter have also encompassed recommendations based on the suggestions of the participants to improve the learning experience of SVI in higher education.

The study *"Access Challenges for Students with Disabilities at the University of KwaZulu-Natal"* conducted in 2013 found the challenges in academics such as lack of study materials, difficulties in writing assignments, project work and lack of support from teachers and peers (Ntombela and Soobrayen, 2013). Additionally, a study conducted in India by Salma Jameel in 2011 reported that within the institution the infrastructural facilities, peoples' attitude towards PwD and lack of support services are the few factors that hinder the entry of students with disabilities into HEI (S.S. Jameel, 2011). Both of these studies indicates that lack of support will create barriers to the persons with disabilities in HEI.

Support in higher education can be distinguish into two types - support from the institutions and support from teachers and peers. The 12th plan of UGC has mandated for the reduction of academic barriers to persons with disabilities in the higher educational institutions by ensuring appropriate services and facilities. Academic resources are the basic requirement of students for learning to be conducive and the

institutions have the responsibility to provide the same to the students with disability who are part of the institution. It is mostly expected that the students with visual impairment like their sighted peers should learn incidentally from their environment. Whereas, the actual change is needed in expanding the core curriculum which should be capacitated to sequentially and systematically teach the students in accessible formats including actual or auditory modalities (Hatlen, 1996).

In this research the results shows that majority of the participants (96.7%) found academic resources to be inaccessible. They had to find other alternatives for meeting their academic needs. Even though alternatives were found, they were not adequate to meet the requirements. Looking at the satisfaction level of students in terms of accessibility of academic resources, it is evident that it low. Around 95% of the participants have mentioned that they were not satisfied with resources that included library resources, class notes and readings. This will affect the students' learning, limiting them to certain boundaries prohibiting them from share the same learning experience as their peers. These variables are important to say that inclusion has still not been translated to practise in India, with respect to higher education.

The literature on attitude of peers and teachers is contradictory in comparison with this research. Lack of support from the teachers and peers towards the students with disability is one among the areas which make challenges in higher education (Ntombela and Soobrayen, 2013), lack of teachers' support or the lack of involvement in learning activities, (Dr Asha, 2011) and mode of instruction (Tinklin, Riddell and Wilson, 2004).

(Colton Brydges & Paul Mkandawire, 2017)found that when students with disabilities are have to depend on their peers more than teachers for instructional

support, potentially reinforces their subordinate status in the educational institution. On contrary to the aforementioned findings, the research has been found that more than half of the participants are getting excellent support from the teachers in class which can be seen in terms of individualized attention, inclusive pedagogy and interactions between teachers and students. While considering the peers of the students with visual impairment, the same amount of the participants were getting tremendous support in the form of help, acceptance and equal participation. Some of the participants of this study reported that they feel more comfortable to do academic discussion with peers rather than teachers. (Karen A. Myers and Joni J. Bastian, 2010)are found out the tenets for effective communication between students with and without visual impairment, those are: respect for others, awareness of disability related issues and experience comfort during interactions. However, This shows that even though they are unable to find accessible resources in terms of academic support from the institution, support from the teachers and peers are found to be on the higher side. This would positively influence their learning experience.

Curriculum and semester system are the other matter of concern while discussing about the academic barriers. Some of the issues of HEI of India include the inflexible academic structure, unwieldy affiliating system and uneven capacity across various subjects (Agraval, 2006)and rigid curriculum frame (Dr.Asha, 2015). Therefore barriers to accessing the curriculum need to be addressed (Tinklin, Riddell and Wilson, 2004). Some studies suggest that the system of formative assessment should become embedded in the teaching-learning process in higher education. Similarly the ‘feedback’ and ‘feed-forward’ should become an integral part of the curriculum framing and practices (Juwah, Macfarlane, Matthew, Nicol, Ross and Smith, 2004). The current study shows that more than 80% of the participants are not fully satisfied

with the curriculum and the semester system. The literature indicates that the curriculum and semester system also needs to be addressed to alleviate the problems faced by students while pursuing higher education. Both of these have a vital role in providing better learning opportunities to the students. (Rachel Hewett, Graeme Douglas, Michael McLinden & Sue Keil, 2017) reported that though few of the HE institutions made certain adjustments to make their course accessible, other factors like gap in the anticipatory adjustments stood as barriers. For instance they found that most of the HEI instead of removing the barrier, this gap is compensated by providing extensions in deadline extensions. This again lead to mount additional pressure on other aspects of the learning. (Audrey C Rule , Greg P Stefanich , Robert M Boody & Belinda Peiffer, 2011) reported three strategies to address inclusion in the class room. "providing the adaptations to all students in the class; convincing the student of the need for adaptation; and involving the class in understanding and accepting the student's impairment."

The current study found that some of the teachers have provided three modes of assessment in which student can choose the method according to their convenience. However educational institutions have not officially adopted this model. Though it can serve integration of students with disability in education, it is not a rational way to deal with the issue and nor it is universally applicable. It is not only mean that students cannot expect these adjustments across universities, rather it may negatively affect their performance. Inclusive education is not just the integration of students it provides a platform in which students with and without disability participate equally. Further, the onset of disability whether by-birth or acquired would also create difference in their need for support. Therefore, inclusive education should focus on

meeting the needs of the student have this at its core, rather than preparing them to them to fit into a preexisting system(Colton Brydges & Paul Mkandawire, 2017).

The study indicates that a majority of the students were not able to fully access education. It reflects that the curriculum employed does not accommodate the needs of students with disabilities. So it can be said that disability is often an overlooked factor during curriculum framing. The semester system was not able to provide better learning opportunities to the SVI. In following the semester system, the students have to appear for examination at different levels- two continuous assessment tests from the institution and the main semester exam. They additionally need to complete assignment. Without accessibility of academic resources, the students would find it difficult to study and come in par with other students.

Taking accessibility of extracurricular activities in the institution into consideration, majority of the participants were not able to access all the sports facilities available in the institution, whereas almost all the aspects related to art facilities are accessible. Extra-curricular activities have a vital role in academic achievement, personal and social development (Patricia A. Haensly, Ann E. Lupkowski and Elaine P. Edlind , 1985 jan 1986). Co-curricular or extra-curricular represents a rich array of experiences and opportunities for persons with disabilities (Hall, G.E., Hord, S.M., Rutherford, W.L., and Huling, L.L., 1984). While looking through the lens of inclusive education, all curricular and co-curricular activities should be accessible for everyone. It should also address all the needs of the vulnerable groups especially students with disabilities by availing access with all amenities of education, at only in which equity can absolutely realise. The results of this study reveal that sports facilities in the institutions are not at all accessible. This situation would impact the student in many ways particularly with students with

visual impairment. It is to be considered among the segregations, which happens based on one's body. It leads to social exclusion of students And therefore it may negatively affect their mental health. It is clearly visible that most of the institutions are not given importance for education of students with visual impairment. Thus It will affect the full participation of SVI in higher education.

In a study done by Kabuta (2014), pointed-out that, students with physical disabilities face a number of problems HEI. It includes high inadequacy of infrastructures in the institutions, lack of special schemes, trained staff, funds and scholarship for students with physical disability (LYDIA G. KABUTA, 2014). Another study shows that infrastructures with in the institution are often not accessible (SS. Jameel, 2011).

Taking the accessibility of class room and library as infrastructural concerns, the result is contradictory to the above studies. It shows that 81.7% of the participants have high access to the class room and 63.3% have high access to the library. Even then while rating hostel facility 47.8% responded that it is either medium or low. While comparing the results it can be seen that even though the students are able to access the library, the library resources are not accessible for the SVI. It clearly pointed out that institutions' responsibility does not end in creating accessible structures inside the institutions. It is also the responsibility of the institutions to create inclusive environment including provision of accessible academic resources, ensuring participation of person with disability in both curricular and extra-curricular activities to enhance the learning experience of the students.

The insensitivity towards persons with disabilities belonging to the institutions is evident even in infrastructures. It can be seen that while looking through the responses

given by the participants about the hostel facility, almost half of the participants were not completely satisfied. Most of the students with visual impairment were residing in the hostels. It is the responsibility of the institutions to make it accessible to all. Even then the students are been facing difficulty to reach the hostel and live in the hostel independently. Considering the allowance under the funds and scholarships, the results is similar with the literature. High inadequate funds and scholarships for person with physical disability will be a challenge in higher education (Lydia G. Kabuta, 2014).

The results indicate that a majority of the participants 85% and 80% were not provided the scribe allowance and stationary allowance respectively. Both of these allowances also contribute into the enrichment of learning experience of students with disability. It is the responsibility of the institutions to provide scribe for the students with disability and the UGC has been mandated to provide fund for the institutions for delivering the allowance for scribe and buying stationary for PWD. However, the educational institutions were not taken the responsibility to arrange scribe for the students therefore the students had to arrange it by themselves or get help from the teachers or peers to find scribe for them. the scribe allowance is required to be given as honorarium to the writer.

Taking writing assignments and projects as a concern the result is parallel to the literature. Difficulty in writing assignments and project is one of the challenges of person with disability in higher education (Ntombela and Soobrayen, 2013). This difficulty always becomes a barrier for the students with visual impairment. The students are required to write the assignment in hard copy format. Even if they are wanted to do it in other modes, the adequate services like assistive devices, laptops, braille printers ETC were not available in the institutions. Meyer and Bouk (2014)

reported that the students believed they read faster and more fluently by using text-to-speech software. Nankee, Stindt and Lees (2009) indicated that Portable talking dictionaries, Portable word processor, Computers with accessibility features, Computers with word processing software, Alternative keyboards, Computers with scanner, Computers with word prediction and Computers with voice recognition software can be used in education of writing skills. Meyer and Bouk (2014) reported that the students believed they read faster and more fluently by using text-to-speech software. Nankee, Stindt and Lees (2009) indicated that Portable talking dictionaries, Portable word processor, Computers with accessibility features, Computers with word processing software, Alternative keyboards, Computers with scanner, Computers with word prediction and Computers with voice recognition software can be used in education of writing skills

The result reveals that majority of the participants thus are not able to write the assignments and project by themselves. Up to 88.3% of the participants had to depend on others to do the works.

The Study of the Present Status of Higher Education of Persons with Visual Impairment in the Asia Region done by International Council for Education of People with Visual Impairment in 2006 found that unavailability of assistive technology (hardware and software) and lack of training in the use of assistive technology (ICEVI, 2006), lack of accessible computer software and other electronic devices (Ntombela and Soobrayen, 2013), lack of awareness regarding assistive tools/computer software (Dr Asha, 2011) as challenges.(Rachel Hewett, Graeme Douglas, Michael McLinden & Sue Keil, 2017)have conceptually explained the barrier of students to access assistive devises. “Having limited knowledge of the equipment available; not being equipped to advocate for equipment; not having

received formal training to use specialist equipment; and not having had the experience of incorporating such equipment into their working practice."

The findings of the study shows that 95% of the participants were not provided the laptops and braille printers and 80% were not getting the recording devices which are the required assistive devices that help SVI in improving their learning in higher education. Some computer Braille printers are used to print regular text between the lines of Braille. It helps the teachers too in typing standard orthography, transcribe assignments and other documents written in Braille (Hill, 1990; Apple, 1992; Gusen, 1998; Banes, 2009). This usage of IT in assistance process symbolizes belonging, competence and independence. Whereas the assistive technologies many a times stand as a symbol for difference, dependency and restriction (Kelly, 2011; Soderstrom & Ytterhus, 2010).

The result of this study clearly shows that majority of the students were hindered from the effective learning, which would have been avoided by the use of assistive technology, and this situation make them depended on others even for fulfilling their basic academic needs.

Conclusion

The research was aimed to understand the challenges of students with visual impairment in higher educational institutions on the bases of the objectives of academic and social barriers and accessibility of facilities available in the institutions. The study found out that the institutions were providing mere academic resources in terms of study materials, assistive technology and allowances. It has affected the students' learning experience. The participation of students in the co-curricular activities was limited. Even though the infrastructure was somewhat friendly for

person with disability, the academic resources provided were not enough in meeting the basic academic need of the students. (Anabel Moriña, 2017)suggested four strategies to make an ideal type of university, such as students with disabilities should be better oriented and informed, educational inclusion should be ensured by providing proper training to the academic staff, there should be accessible settings and infrastructures and the universities should be always prepared and sensitive to work with people with disabilities.

On the basis of the suggestions given by the participants and enhanced understanding of the researcher, few recommendations are given to the policy makers and to the institutions for enriching the learning experience of the person with disability in higher educational institutions.

First and foremost the institutions shall ensure that the accessible academic resources including study materials, library resources, extra reading etc. in accessible format. If not available further actions shall be taken to make an accessible platform for the persons with disability.

An officer shall be appointed as resource person in the institutions to ensure equal participation of the PWD in all levels. The person shall be in-charge to find efficient scribe for person with disability, assist them in availing the allowances which includes disability scholarship, scribe allowance, reader allowance, stationary allowance etc.

The person shall not be an existing faculty or office staff of the institution. Proper recruiting process shall be conducted to select the person. The person shall have deep understanding about the disability issues, different govt. schemes for PWD

and shall be able to carry out all the duties and responsibilities with due regard and dignity for the rights of person with disability.

The institutions shall be provide the assistive devices to person with disability including laptops, recording devices, computer with screen reading software (Jaws and Kurzweil), brail printers, accessible scanners etc. The institutions shall have provisions for training and skill development including computers, communication skills, creative writing etc. As (Christopher Nkiko, 2018)said, Multi-National Corporations should use Corporate Social Responsibility (CSR) activities in procuring software to enhance learning experience and modern information technology devices for students.

All the existing infrastructure of the institution and future construction shall be accessible for students with disability. The institutions shall ensure that all the extracurricular activities in the institution are accessible for person with disability. Special focus shall be given to sports. Use appropriate assistive technologies to make the sport accessible. It also shall ensure the participation of PWD in co-curricular activities. If the institution take up these recommendation in consideration and give due focus on implementation, it could reduce the challenges of person with disability to a great-extend and make higher educational institutions a much accessible space for all.

References

Agarwal, P. (2005). Higher Education in India: Growth, Concerns and Change Agenda. Indian Council for Research in International Economic Relations.

Anabel Moriña, R. L.-G. (2017). What if we could Imagine an Ideal University? Narratives by Students with Disabilities. International Journal of Disability, Development and Education, 64, (4), 353-367.

Audrey C Rule , Greg P Stefanich , Robert M Boody & Belinda Peiffer. (2011). Impact of Adaptive Materials on Teachers and their Students with Visual Impairments in Secondary Science and Mathematics Classes. International Journal of Science Education, 33(3), 865-887.

Brown, C. P. (2013). Adequacy of the Regular Early Education Classroom Environment for Students With Visual Impairment.

Christopher Nkiko, M. A.-O. (2018). Information Technology and Transcription of Reading Materials for the Visually Impaired Persons in Nigeria. Journal of Education and Learning, 7(1).

Colton Brydges & Paul Mkandawire. (2017). Perceptions and Concerns about Inclusive Education among Students with Visual Impairments in Lagos, Nigeria. International Journal of Disability, Development and Education, 64:2, 211-225.

Creswell, J. W. (2003). Advanced mixed methods research designs: Handbook of mixed methods in social and behavioral research. 209-240.

Creswell, J. W. (2013). Designing and conducting mixed methods research (2 ed.).

Edyburn, D. (2005). Research and Practice. Journal of Special Education Technology, 20(2), 47-49.

Gierrach & Stindt . (2009). Assistive technology for activities of daily living. In J. Gierach, Assessing Students' Needs for assistive technology (pp. 5-16). ASNAT 5th Edition.

Hall, G.E., Hord, S.M., Rutherford, W.L., and Huling, L.L. (1984). "Change in High Schools: Rolling Stones or Asleep at the Wheel. Educational Leadership, 46.

Hatlen, P. (1996). The Core Curriculum for Blind and Visually Impaired Students, Including Those with Additional Disabilities.

Hersh & Lamp; Johnson, . (2008). modelling assistive technology systems part 1: modeling framework. Technology and Disability.

Horkheimer, M. & Lamp;. (2002). Dialectic of enlightenment: philosophical fragments. In G. Schmid.

ICEVI. (2006). A STUDY OF THE PRESENT STATUS OF HIGHER EDUCATION OF PERSONS WITH VISUAL IMPAIRMENT IN THE ASIA REGION. INTERNATIONAL COUNCIL FOR EDUCATION OF PEOPLE WITH VISUAL IMPAIRMENT.

Isaile. (2014). The assistive software, useful and necessary tool for blind student’s abilities development. Social and Behavioral Sciences, (pp. 2089-92).

Jansson, G.). ((2008b). Haptics as a substitute for vision . In M. H. Johnson, Assistive technology for visually impaired and blind people (pp. 135-160). London : Springer.

Johnson BR, O. A. (2007). Toward a definition of mixed methods research. Journal of Mixed Methods Research, 1(1), 112-133.

Juwah, Macfarlane, Matthew, Nicol, Ross and Smith. (2004). Enhancing student learning through effective formative feedback. Higher Education Academy Generic Centre.

Karen A. Myers and Joni J. Bastian. (2010, May/June). Understanding Communication Preferences of College Students With Visual Disabilities. Understanding Communication Preferences of College Students With Visual Disabilities, Volume 51, Number 3, May/June 2010(3), 265-278.

KM Joshi. (2013). in INDIAN HIGHER EDUCATION: SOME REFLECTIONS. Intellectual economics.

LASKAR. (2010). Rethinking Reservation in Higher Education in India. dNEW DELHI: INDIAN LAW INSTITUTION.

Lydia G. Kabuta. (2014). PROBLEMS FACING STUDENTS WITH PHYSICAL

DISABILITIES. Tanzania: Open University of Tanzania.

LYDIA G. KABUTA. (2014). PROBLEMS FACING STUDENTS WITH PHYSICAL DISABILITIES. Tanzania : Open University of Tanzania .

Mann, G. & Vaishnav, A. (2019). Committee Report Summary. Draft National Education Policy. Retrieved on January 12, 2019 from https://www.prsindia.org/report-summaries/draft- national-education-policy.html

McKnight, L. &. (2013). Current perspectives on assistive learning technologies 2012 review of research and challenges within the field. Kellogg College Centre for Research in assistive technology.

Meyer & Bouck. (2014). The impact of text-to-speech on expository reading for adolescents with LD. Journal of Special Education Technology, 21-33.

Nankee, Stindt & Lees. (2009). Assistive technology for writing, including motor aspects of writing and composing. In J. Gierach, Assessing Students' Needs for Assistive technology (pp. 1-28).). ASNAT 5th Edition.

Parette, H. P.-K. (2007). Facilitating student achievement with assistive technology.

Education and Training in Developmental Disabilities, 387-397.

Patricia A. Haensly, Ann E. Lupkowski and Elaine P. Edlind . (1985 jan 1986). The Role of Extracurricular Activities in Education . University of North Carolina Press, 110-119.

Petty, R. (2012, MARCH). Technology Access in the Workplace and Higher Education for Persons with Visual Impairments: An Examination of Barriers and Discussion of Solutions. Independent Living Research Utilization at TIRR. Houston, Texas.

Rachel Hewett, Graeme Douglas, Michael McLinden & Sue Keil. (2017). Developing an inclusive learning environment for students with visual impairment in higher education: progressive mutual accommodation and learner experiences in the United Kingdom. European Journal of Special Needs Education,, 32:1 , 32:1, 89-109 DOI: 10.1080/08856257.2016.1254971.

Ramakrishna, T. (2009). Serving Students with Disabilities in Distance Education. IGNOU STRIDE Handbook).

Reed. (2007). A resource guide for teachers and administrators about assistive technology. Wisconsin Asistive technology initiative. Oshkosh., 1-22.

Richardson, J. T. (2015, may 5). Academic attainment in visually impaired students in distance education. British Journal of Visual Impairment,, 33(1), 126–137.

RPWD, A. (2016). rights of persons with disabilities act 2016. new delhi: Department), MINISTRY OF LAW AND JUSTICE (Legislative.

Schade, B. &. (2015). Impact of Visual Impairment on Perceived School Climate. International Journal of Evaluation and Research in Education,, 5.

Sheikh, Y. A. (2017). Higher Education in India: Challenges and Opportunities. Journal of Education and Practice, 8(1).

Sithabile Ntombela & Roshanthni Soobrayen(. (2013). Situational Analysis of the Edgewood Campus.

SS JAMEEL. (2011). the study Disability in the Context of Higher Education: Issues and Concerns .

Stephen, D. V. (2008). The Impact of Transition Services in Facilitating College Degree Completion for Students with Visual Impairments: post Bachelor's Degree Perspectives. Journal of Postsecondary Education and Disability,, 31(1), 5-15.

Winter & Lamp; O'Raw. (2010). Literature review of the principles and practices relating to inclusive educational needs. Retrieved 09 03, 2018, from National Council for Special Education.: http://ncse.ie/wp-content/uploads/2014/10/NCSE_Inclusion.pdf

ANNEXURE

QUESTIONNAIRE

DEMOGRAPHICAL PROFILE

1. Name:
2. Sex:
3. Age:
4. Name of the course:
5. Name of the college:
6. Name of the university: University of Calicut / Mahatma Gandhi University
7. Year of studying:
8. Educational background: i) Regular school
   ii) Special school
   iii) Both
9. Percentage of disability as per disability certificate:
10. Age of onset of the disability:

ACADEMIC RERSOURCES

11. Do you get the academic resources in accessible format?

i) Always ii) Very often iii) Sometimes iv) Never

12. Are these resources provided from the Institution? i. Yes ii. No

13. In what format are these available?

    a. Text books: i. soft copy, ii. Recordings, iii. Hard copy, iv. Braille

    b. Readings: i. soft copy, ii. Recordings, iii. Hard copy, iv. Braille

    c. Class notes: i. soft copy, ii. Recordings, iii. Hard copy, iv. Braille

d. Library resources: i. soft copy, ii. Recordings, iii. Hard copy, iv. Braille

14. Are you satisfied with the access to the academic resources, such as

i) Not satisfied ii) somewhat satisfied iii) very satisfied

a. Text book:

b. Readings:

c. Class notes:

d. Library resources:

15. Do you take notes from the class?

i. Yes ii. No

16. If yes, in which format do you take the notes?

i. soft copy, ii. Recordings, iii. Hard copy, iv. Braille

17. If no, why? (state the reasons)

18. Are these notes helpful in studying the subjects?

i. Always ii. Sometime iii. Never

19. Are the teachers aware about you taking notes in the class?

i. All of them ii. Some of them iii. None of them

CURRICULUM AND SEMESTER SYSTEM

20. Are you satisfied with the current curriculum of the University?

i. Not satisfied ii. Somewhat satisfied iii. Very Satisfied

21. Is the semester system able to facilitate better learning opportunity?

i. Always ii. Sometimes iii. Never

EXAM AND EVALUATION

22. Does the university arrange scribe to write the exam?

i. Always ii. sometimes iii. no

23. If NO, how do you manage to find a scribe to write the exam?

    i. Teaches help you find one
    ii. Friends help you
    iii. Thyself
    iv. Others (Specify)

24. Are you satisfied with the present scribe system?

    i. Yes ii. No

25. Are you given extra time as mentioned in the UGC norms

    i. Yes ii. No

26. How do you write your assignments?

    i. Self
    ii. Family
    iii. Classmates
    iv. Friends

27. How do you write your projects?

    i. Self
    ii. Family
    iii. Classmates
    iv. Friends

28. Have you been trained to use internet?

    i. Yes ii. No

29. From where did you get the training?

    i. University
    ii. Other private institutions
    iii. Self

ATTITUDE OF PEERS AND TEACHERS

30. How would you rate the attention that the teacher gives you in class?

    i. Excellent ii. Somewhat ok iii. Low

31. How do you rate the teaching pedagogy's inclusiveness

    i. Excellent ii. Somewhat ok iii. Low

32. How do rate your interaction with your teachers?

    i. Excellent ii. Somewhat ok iii. Low

33. How do you rate your interaction with your peers?

    i. Excellent ii. Somewhat ok iii. Low

34. How much do your peers help you in studies?

    i. Always ii. Sometimes iii. Never

35. Do you feel accepted in the friend circle?

    i. Always ii. Sometimes iii. Never

36. Are you able to equally participate in the peer group discussions as other students?

    i. Always ii. Sometimes iii. Never

CO-CURRICULAR ACTIVITIES

37. What are the types of co-curricular activities available in the institution?
    i. Arts
    ii. Sports
    iii. Others (Specify)

38. Are the co–curricular activities of the institution accessible to you?
    i. All of them
    ii. Some of them
    iii. None of them

39. Do you participate in these activities?

    i. Always ii. Sometimes iii. Never

40. Have you faced challenges to participate in these activities?

i. Yes ii. No

41. How are these activities conducted in your institution?

i. Separately for the persons with disability

ii. Along with the other students

INFRASTRUCTURAL CONCERNS

42. Is hostel facility available to the students?

i. Yes

ii. No

Are you staying in hostel?

43. If YES, how do you rate the services provided?

i. Excellent ii. Somewhat ok iii. Poor

44. If NO, what is the mode of transport?

i. By walking

ii. Private vehicle (car, bike, auto)

iii. Public transport services

45. How comfortable are you with the classroom accessibility?

i. Very comfortable ii. Not so comfortable iii. Not at all comfortable

46. How comfortable are you with the library accessibility?

i. Very comfortable ii. Not so comfortable iii. Not at all comfortable

47. How often do you access the library?

i. Always ii. Very often iii. Sometimes iv. Never

Assistive technology services available in the college

48. facilities

a. Personal laptop/notebook: yes/no
b. Common pool of computers: yes/no
c. Braille software/printer: yes/no
d. Screen reader software (EG: JAWS, NVDA, KURZWEIL): yes/no
e. Recording devices: yes/no
f. Scanners: yes/no
g. Screen magnifier: yes/no
h. Separate cyber library: yes/no
i. Other please specify: _____

49. frequency of usage (approximate)

i. Always ii. Very often iii. Sometimes iv. Never

Awareness

50. Are you aware about the different schemes and policies of government related to disability?

i. All of them ii. Some of them iii. None of them

51. Are you aware of your rights as given in the Persons with Disability act 1995 of India?

i. Yes ii. Yes but not in detail iii. No

52. Are you aware of the United Nations Convention for Rights of Persons with Disability?

i. Yes. ii. Yes but not in detail. iii. No

Allowances and Scholarships

53. Does university provide any allowance?

    Allowance available- yes/no

    i. Reader allowance:
    ii. Scribe allowance:
    iii. Stationary allowance:

54. Are you availing any concession in payment of fees? i) Yes ii) No

55. Do you avail any scholarship with regard to disability? i) Yes ii) No

56. Are any awareness programs conducted in the University on the topic of Disability?

    i. Yes ii. No

57. If yes, for whom are these programs conducted?

i. Only for Students with Disability
ii. For all students
iii. Only for Teachers and staff

58. Are circulars, notices and other information available in accessible formats?

    i. Yes ii. No

SUGGESTIONS

59. What other facilities and opportunities do you think if provided would help students with Visual Impairment to improve their educational experience in higher education?

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Authored by Aneesh Peter and Catherene Elisa John

in one day International Conference held in Jawaharlal Nehru University (J.N.U.), New Delhi.

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Access and Inclusion In Higher Education: A Critical Inquiry among students with Visual Impairment in Kerala

by Aneesh Peter

Submission date: 30-Jun-2019 10:34AM (UTC+0530)
Submission ID: 1148031003
File name: Aneesh_thesis_1.docx (141.43K)
Word count: 17048
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