

**ANALYSIS OF GOVERNMENTAL POLICIES AND THE PROBLEMS
FACED BY VISUALLY CHALLENGED STUDENTS AT HIGHER
EDUCATION LEVEL IN KERALA**

**Thesis submitted for the degree of
DOCTOR OF PHILOSOPHY IN EDUCATION**

**By
ANILA M.A.**

Supervised by
Dr. MEERA K.P.
Professor

**DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT
2022**

DECLARATION

I, **ANILA M.A.**, do hereby declare that this thesis entitled **ANALYSIS OF GOVERNMENTAL POLICIES AND THE PROBLEMS FACED BY VISUALLY CHALLENGED STUDENTS AT HIGHER EDUCATION LEVEL IN KERALA** is an original work carried out by me under the guidance and supervision of **Dr. MEERA K.P.**, Professor, Department of Education, University of Calicut, Kerala, for the award of the degree of Doctor of Philosophy in Education. I also declare that this thesis or any part of it has not been submitted by me for the award of any other Degree, Diploma, Title or Recognition before.

Place: CU Campus

Date :

ANILA M.A.

(Research Scholar)

Dr. K.P. MEERA

Professor

Department of Education

University of Calicut

Calicut University PO

Pin-673635

Meera_jayaprakash@yahoo.com

Certificate

I, **Dr. K.P. MEERA.**, do hereby certify that this thesis entitled **ANALYSIS OF GOVERNMENTAL POLICIES AND THE PROBLEMS FACED BY VISUALLY CHALLENGED STUDENTS AT HIGHER EDUCATION LEVEL IN KERALA** is a record of bonafide study and research carried out by **Mrs. ANILA M.A.**, for the degree of **Doctor of Philosophy in Education, University of Calicut**, under my supervision and guidance and that no part thereof has been presented before for any other Degree, Diploma or Associateship in any other university.

Place: Calicut University

Date:

Prof. (Dr.) K.P. MEERA

(Supervising Teacher)

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

<i>Chapter</i>	<i>Title</i>	<i>Page No.</i>
1	INTRODUCTION	1-16
2	REVIEW OF RELATED LITERATURE	17-64
3	METHODOLOGY	65-104
4	ANALYSIS AND INTERPRETATIONS	105-162
5	FINDINGS AND DISCUSSIONS	163-176
6	RECOMMENDATIONS OF THE STUDY	177-182
	REFERENCES	183-192
	APPENDICES	

LIST OF TABLES

<i>Table No.</i>	<i>Title</i>	<i>Page No.</i>
1	Enrollment of Minority Community and Persons with a Disability During Last 7 years in Kerala	5
2	Connection between Research Questions and Objectives	72
3	The Details Regarding the Expert Panel	74
4	Gender-wise Representation of Visually Challenged Students	79
5	Economic and Educational Status of Parents of Visually Challenged Students	80
6	Details of Sampling Techniques used for the Study	82
7	Example of Case Analysis	107
8	Major Themes Related to Research Question 1	113

LIST OF FIGURES

<i>Figure No.</i>	<i>Title</i>	<i>Page No.</i>
1	Nature of Higher Educational Institutions	77
2	Academic Degrees Pursued by Visually Challenged Students in Higher Education in Kerala	78
3	Types of Disability	81
4	Creswell's (2008) Visual Model of the Coding Process	98
5	List of Main Themes Regarding the Research Question Number 2	145

LIST OF APPENDICES

Appendix	Title
I	Personal Profile for Visually Challenged Students
II	Interview Schedule for Visually Challenged Students in Higher Education in Kerala
III	Interview Schedule for Dropout Students (Visually Challenged) in Higher Education in Kerala
IV	Interview Schedule for Teachers of Visually Challenged Students
V	Interview Schedule for Parents of Visually Challenged Students
VI	Interview Schedule for Government Authorities
VII	Interview Schedule for NGO Officials
VIII	Observation Schedule for Training Centers
IX	Questionnaire on Facilities for Visually Challenged Students at Higher Education
X	Focus Group Discussion Schedule for Perception of Peers

Chapter 1

INTRODUCTION

- *Need and Significance*
- *Statement of the Problem*
- *Definition of the Key Terms*
- *Objectives of the Study*
- *Research Questions*
- *Methodology*
- *Scope of the Study*
- *Delimitations of the Study*
- *Outline of the Study*

INTRODUCTION

The international goal of education is 'Education for All'. Education holds the key to the all-round development of the individual. The present education system is aiming at providing access to all students irrespective of caste, creed, colour, and disability. Quality Education is an integral part of the agenda of sustainable development goals 2030. Education is one of the factors that contribute to capital formation, an important element for economic development. We cannot ignore weaker sections, ie, scheduled castes, scheduled tribes, women, backward classes, and Persons with Disabilities.

According to the WHO, disability is an umbrella term that includes impairments, functional limitations, and participation restrictions. A disability is a problem with the function or structure of the body; a functional limitation is a difficulty a person has in performing a task or activity, while a participation restriction is a problem experienced by a person interacting in life situations. Thus disability is a complex phenomenon that reflects the interaction between the characteristics of the society in which he or she lives (World Health Organization, 2013). Fifteen percent of the population is disabled across the world, according to the World Bank's disability statistics 2011. One-fifth of them has a serious disability. Disability prevalence is high in third-world countries. It is great evidence that according to the census report 2011 of India, 2.21 percent of the population is disabled. Kerala is the

first state in India that conduct a disability census. According to the disability census 2015 in Kerala, 793937 people have various disabilities. The sex ratio of Persons with Disabilities is 55:45.

Disability in higher education has different effects from school education. Higher education increases employment opportunities and thus ensures a dignified life for Persons with disabilities (Jameel, 2011). The inclusion of persons with various kinds of impairments in different aspects of everyday life has been a pressing concern across the world (Palan, 2016). Attempts have been made around the world to make laws and policies for such people. The developed countries made policies and laws according to their needs. They are the Americans with Disabilities Act 1990 in the USA and the Equality Act 2010 in the UK. Several policies and legislative attempts were made by different countries after the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD). India was also a signatory with UNCRPD and revamped a new act for the upliftment of persons with Disabilities. The new legislation made by India is called the Rights of Persons with Disabilities (RPwD Act 2016). It is a great decision after a long gap from the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 PwD Act (1995), which touched every aspect that helps to develop the persons with Disabilities in India.

The All India Survey of Higher Education (AISHE, 2019) report says that the enrollment of Persons with Disabilities in higher education in India is

on the rise. Therefore, all higher education institutions need to be prepared to accept Persons with Disabilities. The campus environment and learning facilities need to be prepared for their upliftment. The necessary steps need to be taken expeditiously. What is needed here is an education system that is inclusive of all.

According to RPwD Act 2016, there are 21 types of disabilities. In the act Visual Impairment is an important disability that is of two types. Blindness means total absence of light and low vision. The low vision category has 40% and above benchmark disability. “Disability can be by birth or due to some tragic incidence in life” (Disability Statistics Profile, 2016). Here the investigator used the term visually challenged instead of visual impairment because the most referenced term is used to denote those people having no vision nowadays. Primary senses are absent in those visually challenged people which is by birth or accidentally. So they are living on this earth without seeing and only other senses are working to know the surroundings.

The world of the visually challenged is vast. The primary education of a visually challenged student is different from a normal student. They have another medium to read and write. The adapted curriculum is used to teach those students. Their post-secondary education has to be one of the most limited opportunities. They went on to secondary education with the help of everyone. But now it is becoming a place where one cannot travel alone without parents, teachers, or peer groups.

Education in a democracy emphasizes the freedom, dignity of the individual, responsible citizenship, economic efficiency, self-realization, and equality of opportunities. The Right to Education (RTE) is a universal human right as mentioned in Article 26(I) of the universal declaration of human rights. RTE provides a ripe platform to reach the unreached, with specific provisions for disadvantaged groups including students with disability

Need and Significance

The World's Declaration on "Education for All" provides recommendations for imparting education to all children regardless of their different backgrounds and disabilities. Countries in the world were urged to provide free education to all children without any restrictions and discrimination (UNESCO, 1990). Teaching and learning approaches in the classroom are modified to meet their special needs. Because visual learning for a visually challenged student is restricted; the process of receiving information through visual input, therefore, will be limited even if they still have residual vision (partially sighted or low vision). According to Friend (2005), the absence or lack of visual input can affect the individual, especially, the aspects of development, learning, social skills, and behavior.

Every child has unique characteristics, interests, abilities, and learning needs, and therefore, if the right to education is to mean anything, education

systems should be designed and educational programs implemented, to take into account the wide diversity of these characteristics and needs (UNESCO, 1994).

As per the All India Survey on Higher Education (AISHE) Report 2018-2019, there are 85877 students of Persons with Disabilities (PwD) enrolled in higher education in India. Out of which 48212 are male and 37665 are female students. In Kerala, the representation of Persons with Disabilities is 3511. Out of which 1807 males and 1704 females are there.

Table 1

Enrollment of Minority Community and Persons with a Disability During Last 7 years in Kerala

Academic Year	Male	Female	Total
2018-19	1807	1704	3511
2017-18	1388	1356	2744
2016-17	1285	1233	2518
2015-16	1415	1807	3222
2014-15	1430	1603	3033
2013-14	1230	763	1993
2012-13	1108	1030	2138

From AISHE Report 2018-19

Table 1 shows the enrollment of Persons with Disabilities is increasing, so each institution can build and strengthen a culture of inclusion of Persons with Disabilities and identify each individual with their diverse needs. Accept diversity and adopt inclusive values in higher education.

Higher educational institutions are needed to capitalize on their commitment and competency to supporting Persons with Disabilities by supporting the promotion of this change in higher education through education, networking, and mentoring efforts. Evans et al. (2017) in their study opined that “more research is needed to understand how the campus environment affects aspects of the lives of college students with impairments. Specifically, researchers should examine how various types of educational settings affect the experiences of these students”. Evans et al. (2017) quoted a study of (Mamiseishvili & Koch, 2011) to press the need for comparing educational campuses in different level on “outcomes such as persistence and success rates, along with factors contributing to each of these outcomes”.

In the Indian scenario there are a lot of schemes or plans launched and investing crores of rupees by the government, on physical and vocational rehabilitation as also legal empowerment, the goal of mainstreaming persons with disability into society is still as far away as ever. Especially the visually challenged students in higher education in Kerala need a more equitable atmosphere in pursuing their academic degrees. Those students have only participated in their classrooms with hearing, touch and smell.

Most of the studies offered different suggestions for using universal design principles about the physical environment (Burgstahler, 2008; Kalivoda, 2009, Gilbert, 2013 & Salmen, 2011). Equal opportunities should be provided to those visually challenged students and accept their medium

and abilities. They are largely absent in the representation of classroom activities. The policy ensures reservation of seats in higher education but the number of Persons with Disabilities are rarely seen. The representation of educated visually challenged students is not seen in the workplace. There is a wide gap in policy formulation and implementation. So this study aims to find out the existing gaps.

A study by Swick and Hooks (2005) provides an in-depth description of the parents of students with disabilities and their experiences and beliefs that influenced them to choose inclusive educational placements for their students with disabilities. This study gathers data from the parents, teachers, and administrators of the representative samples of students with disabilities. Each of the parents involved in this study perceived inclusive educational placements as the best placement for their students with disabilities. There is a common belief that segregated settings were limiting such children academically and also did not provide them with appropriate situations that supported social development.

Furthermore, Alur (2001) reported that there is a strong belief of 'disability as guilt, stigma and fear' among a vast majority of the people of India. Consequently, 'Persons with Disabilities are historically marginalized from social, political, educational, and economic participation (Singal, 2006). Greater research and study in this area must be undertaken to assist in overcoming such limiting views about the education of students with disabilities and special educational needs.

Indian teachers are relatively inexperienced and inadequately trained to address such children academic and behavioral issues in classrooms. Special education is not a compulsory paper in Bachelor's and Master's level programs of education which are too theoretical with no provision for practical experience (Seshadri, 2012). Additionally, special educators are trained by the Rehabilitation Council of India (RCI) and other non-formal institutions under the aegis of the Ministry of Social Justice and Empowerment (MSJE). Singal (2006) viewed this as the existence of two exclusive systems of training for teachers: one for mainstream schools and another for special education teachers.

It should be acknowledged that there is a huge disparity between policy and practice. As in the case of Kerala, most centrally sponsored schemes or programs not only in special education but also in the case of general education were introduced with a lack of political will and educational vision. In all these projects NGOs played a major role. There are issues of quality of service within these institutions (Alur, 2002; Singal, 2006). Until now, there is no specific legislation for identifying or educating visually challenged students either in mainstream or in special education settings. This allows identifying children with such characteristics within mainstream settings and proposes educational provisions for their appropriate inclusion.

The investigator reviewed the related literature about this problem thoroughly and found that most of the study is related to the rights of persons

with disability impacts on pupil characteristics and pupil-parent relationship, academic achievements of visually challenged students in higher education is one of the studies from Rwanda. Most of the literature on the students with disability within higher education was student population facing stigma, prejudice, discrimination, and marginalization attitudes (Pena, 2014; Stevans, 2011), sociology of the body (Saguy, 2013), and legal studies (Jones, 2012; Stover 2010). The investigator selected this study because the inclusion of visually challenged students in higher education is important. After all, all students must be included in the education system.

Hence the present study mainly focuses on the gaps between the implications of educational policies and the social and educational experience of visually challenged students in higher education. It also will help policy implications to meet the objectives of the welfare state that Central and state governments come with different policies. The development programmes should be designed for social and educational empowerment of the weaker sections of Indian society, especially the visually challenged students.

For an appropriate and effective policy formulation, data and information from the grassroots level are very significant inputs. The visually challenged students in higher education institutions in Kerala are the underprivileged groups in Indian society. Hence they have to tell about their needs and concerns. The well-wishers of this society should share in

governmental interventions through development programs and schemes. The theme of the World Social Justice Day 2020 is “Ending Inequalities and Gaps in Achieving Social Justice”. Inequalities should be decreasing as time goes by. Every small decision made now is an echo of a big change for the future.

This study brings out some useful inferences which may be important in program implementation, some policy decision-making, and public administration. It will help to understand the present position of visually challenged students at the higher education level and the current policies, and favors offered by the central and state government. It also explores the social and educational experiences of visually challenged students in higher education institutions in Kerala.

Statement of the Problem

Studies are being conducted around the world on the education of Persons with Disabilities in higher education. Nowadays the enrollment of students with disabilities are higher in India. The needs are different for Persons with Disabilities. The visually challenged students faced more challenges in the educational field. So the investigator attempts to find out those challenges by this study and hence entitled “ANALYSIS OF GOVERNMENTAL POLICIES AND THE PROBLEMS FACED BY VISUALLY CHALLENGED STUDENTS AT HIGHER EDUCATION LEVEL IN KERALA”.

Definition of Key Terms

Governmental Policies. In this study governmental policy means the Laws, Regulations, Rules, and Guidelines laid down by central and state governments relating to the education of visually challenged students.

Visually Challenged Students

The definition of visually impairment

- a) Blindness means a condition where a person has any of the following conditions, after best correction
 - i) a) Total absence of light or
 - b) Low vision means a condition where a person has the following conditions
- ii) Visual acuity not exceeding 6/18 or less than 20/60 up to 3/60 (RPwD Act 2016)

According to Kenneth Jernigan Visually challenged means “ having greatly reduced vision, dim-sighted, near-blind, purblind, sand-blind, unsighted - unable to see; a person is blind to the extent that he must devise alternative techniques to do efficiently those things he would do with sight if he had a normal vision" (Jernigan, 1986).

In the present study, visually challenged students stands for the students having problems in vision (No Vision and Low Vision categories) enrolled in different higher education institutions in Kerala.

Higher Education Level

A college, university, or similar institution offering academic instruction suitable for students who have completed secondary schooling or its equivalent is called the institution of higher education.

In the present study, higher education institution means all the universities and colleges that offer graduation and above courses in Kerala.

Kerala

Kerala is one of the states of India.

Objectives of the Study

Following are the objectives of the present study

- To explore the problems of visually challenged students in higher education in Kerala
- To find out the reasons for dropouts of visually challenged students in higher education in Kerala
- To analyze the problems perceived by the teachers, peers, and parents of visually challenged students in higher education in Kerala
- To study the provisions of supporting services for the educational development of visually challenged students in higher education in Kerala
- To study the educational provisions in the governmental policies for visually challenged students in higher education.

Research Questions

- ✓ What are the impediments faced by visually challenged students in pursuing their academic degree in higher education in Kerala
- ✓ What are the provisions and facilities available for the education of visually challenged students in higher education in Kerala
- ✓ What are the inputs needed to make a responsive education system for visually challenged students in higher education in Kerala

Methodology

The investigator chooses qualitative research methods for this study. Multiple case study/collective case study method was used to find out the challenges faced by visually challenged students in higher education in Kerala. The identified themes were analyzed through a social justice lens.

Participants

Participants of the present study are 50 visually challenged students who study in their graduation and above courses in the university departments and government and aided colleges in Kerala. Here the population of the visually challenged students in the different universities of Kerala and other stakeholders are the teachers, parents, and peers of visually challenged students.

Sampling Technique

The investigator chooses purposeful and selective sampling and snowball sampling for this study.

Tools and Techniques

Data collected through

1. Questionnaire
2. Interview
3. Document scrutiny
4. Observation schedule
5. Focus Group Discussion
6. Case study method

Scope of the Study

The study aims at highlighting the policies for visually challenged students and how far it is meeting their needs and demands. Hence it will help in identifying areas that need more attention. In the Kerala context, the higher educational needs of visually challenged students are different. Environmental factors, attitudinal problems, health issues, and uneconomic backgrounds like every aspect need to address in the upliftment of visually challenged students in higher education. Collaborative teaching-learning is suitable for them. The curriculum planners and administrators have a major role to set the appropriate teaching and learning environments for visually challenged students in higher education.

Disability studies are multidisciplinary. Not only the lived experience of visually challenged students in higher education but also the technological advancements lead their lives easily. New experiments and assistive devices

are needed to construct at an affordable rate. In the field of engineering, innovations should be started to help those visually challenged students to read, write and walk through their life. New research will need in every sector to include visually challenged students' education and employment. It will bring out the importance of the needs and problems, which will be very useful for visually challenged students themselves, their families, the community, and the Government.

Delimitations of the Study

The investigator delimits the study by taking only the visually challenged students at the higher education level in Kerala. Also chose the Government and Aided Colleges in which graduation and above courses are offered. The other categories of differently-abled students are not considered. Only educational aspects of visually challenged students in higher education in Kerala were considered in this study.

The investigator selected the visually challenged students who were willing to participate in this study.

Outline of the Study

Chapter one presents the rationale, the scope and limitations of the present study. The study objectives and research questions will be presented. And a brief description of materials and methods used in this study, sampling techniques will be explained and different analyses used in the present study.

Chapter two will present the general concepts of inclusive education. The history of Persons with Disabilities in higher education. The theoretical background of the social justice model and explain how this model fits the present topic about the higher education of visually challenged students. The related studies are thematically described and it will give a clear idea of the relevance of the topic of the present study.

Chapter three will present the methodological approach adopted in this study. The objectives of the study, the data collection methods used, how and why the sample was selected, and how the data were analyzed will be discussed. It will also discuss the ethical considerations and finally, the limitations raised by this study.

Chapter four will present the findings from the data collection and analysis. Different themes that emerged through data analysis will be presented with supporting quotes from the narratives.

Chapter five will present the interpretation of the findings obtained, the findings are relevant to the present study and the findings are related to other research conducted.

Chapter six concludes with a summary of the entire research study along with a series of recommendations.

Chapter 2

REVIEW OF RELATED LITERATURE

- *Theoretical Overview*
- *Review of Related Studies*
- *Conclusion*

REVIEW OF RELATED LITERATURE

This chapter deals with historical background of the present study and also the related literature about the inclusive education of visually challenged students in higher education. It is the purpose of identifying the concepts and models of disability in general. General ideas of the inclusion of disabled students in higher education. Review of literature helps to develop the problem identification and helps to identify suitable methods for the present study. So this part of the study is important to seek novel idea about the educational experience of the visually challenged students in higher education.

Theoretical Overview

Inclusive Education

The concept of inclusive education stresses that no child should be excluded their school lives in this diversified universe. It is a diverse approach that responds positively to the diversity of students and does not regard individual differences as an issue, but as an opportunity to enrich learning. Inclusive education requires the process of increasing student engagement and reducing their exclusion from school cultures, curricula and societies (Mariga et al, 2014). It is important to facilitate the restructuring of societies, policies and procedures in order to embrace the diversity of students in their communities. It strengthens the skills of self-advocacy for other students who engage in the diversified environment in the learning process. This involves

not only children with disabilities, but those who, because of race, gender and poverty, are at risk of exclusion.

Inclusive education is based on the following fundamental values that must be grasped by participants: the right to education for all children, including children with disabilities. It is a dedicated approach to find ways to support children who perform differently and at different levels of learning. The capacity of the child is encouraged and created in a holistic way: physical, linguistic, social, cognitive and sensory. It promotes various learning strategies with a variety of impairments. Parents, teachers, families, school officials, policy makers, programme designers, training centers and persons with disabilities are central stakeholders in special needs education. Inclusion means, above all, modifying the educational system to accommodate the children.

Inclusive education, as articulated in the United Nations Convention on the Rights of the Child (1989) and on the Rights of Persons with Disabilities (2006), is embedded in the values of human rights. While these conventions have been ratified by many countries, few have implemented them into national legislation as a means of ensuring the security of the rights of citizens, especially those who are most vulnerable in society, such as children and people with disabilities. Some governments, however, have provided policy guidelines on how programmes are supposed to meet the needs of children and families, how governments can sign international rights

conventions, and yet do little to ensure that they are incorporated in national legislation or policy guidance. Therefore, advocacy programmes are also required to bring about change. Politicians have responded to the demands of groups for people with disabilities and parent associations affiliated with technical and community guidance (Mariga et al., 2014).

The Realities of this concept however, depends very much on practical considerations, such as the area covered and the services available there. This involves individuals, resources and finance, as well as cultural developments and attitudes.

Social Capital Formation

Inclusive education is an end in itself, but rather a means to an end, namely to create a better quality of life beyond school for children and their families and to nurture a more equal and just community for everyone (Mcconkey & Bradley, 2010). In these words, to do this requires what the World Bank (1998) has defined as 'social capital'. Social capital is not only some of the institutions underpinning society, it is also the glue that binds them together. It involves the universal principles and rules of social behavior embodied in personal relationships, trust and a common sense of "civic" accountability that makes society more than just a community of people.

The development of social capital is arguably vital to an initiative whose ultimate purpose is to create an equitable society. The development of social capital needs improvements in stakeholder behavior and

encouragement to pursue more inclusive policies throughout society and not within society. The results that an equitable education system as a whole should achieve. This can be represented at different levels, but these can be as summarized nationally as

- National education coverage is achieved
- Equality of opportunities and regard for diversity for all people
- Building empowered people who can contribute to local communities and larger communities
- Societies
- producing effective schools for present future generations (Mariga et al., 2014)

Global Initiative

UNESCO organized a world conference on special needs education in 1994, held in Salamanca, Spain. The final report stated that children with special educational needs must have access to ordinary schools. They argued that: 'regular schools with this inclusive orientation are the most effective means of combating the discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all. Moreover, they provide an effective education to the majority of children and improve the efficiency and ultimately the cost effectiveness of the entire education system (UNESCO, 1994, p.10).

Salamanca Statement (1994)

The UNESCO Salamanca Declaration defined the advantages of inclusive education. The merit of such schools is not only that they are capable of offering quality education to all children, but that their establishment is a vital step in helping to change discriminatory attitudes, to build supportive societies and to develop an inclusive society. A change in social outlook is crucial. “For far too long, the problems of people with disabilities have been compounded by a disabling society that has focused upon their impairments rather than their potential” (p.7).

Internationally, for children with disabilities, the emphasis has changed from special to separate schools. Instead, local communities are considered responsible for providing all children with an appropriate education. This ethos emerges from the campaign for disability rights and represents the desires and experience of various groups of people with disabilities. Visually challenged and deaf people in particular, however, had often benefited from education in special schools. Otherwise they would have been either uneducated or unable within the mainstream school to access the regular curriculum. This debate continues, although the primary confidence of the Salamanca statements was to find ways to allow all children to work together to be educated while recognizing their diversity. “Today the Salamanca statement is the key international document on the principles and practices of inclusive education”.

The Jomtien Declaration on Education for All committed the world's governments to providing education to all the world's children by 2015. It agreed that unique groups needed extra attention if this aim was to be accomplished. Article III, Universalizing Access and Fostering Equality, notes that there have been very pronounced inequalities in education and that many different classes have been vulnerable to discrimination and exclusion. This includes girls, street children, rural and remote poor people, ethnic minorities and other groups with special regard to disabled children.

More than 1100 participants from 164 countries gathered in Dakar, Senegal, in April 2000 for a World Education Forum to examine progress towards education for all. They adopted a world framework for action (2000) ranging from teachers to ministers, scholars to policy makers, non-governmental organizations to heads of major international organizations. The Forum has collectively taken on this commitment. "In order to attract and prevent children from being disadvantaged and excluded classes, education systems should adapt flexibly to education systems that must be comprehensive, actively seek out children who are not enrolled, and respond flexibly to the circumstances and needs of learners". The forum set the six goals for this frame of action:

1. Expand early childhood care and education
2. Provide free and compulsory primary education for all
3. Promote learning and life skills for all adults
4. Increase adult literacy

5. Achieve gender priorities by 2015
6. Improve the quality of education

United Nations Convention on the Rights of Person with Disabilities

Since 1948, the United Nations has released numerous declarations of rights culminating in the Convention on the Rights of Persons with Disabilities (CRPD) in 2007. The drafting of this convention was a demanding and yet inspiring process. In particular, civil society and Persons with Disabilities have played a central role. While strong and opposing views have been elicited by Article 24 on education, it commits governments to ensure that their education systems are inclusive (Mitler, 2012).

The UNCRPD is a new milestone in the creation of a culture of various capabilities. Many countries have ratified this convention and these guidelines are signed and implemented according to the needs of their countries. The majority of this convention is focused on education. The one and only way to live in equality and to achieve their full potential is to educate individuals with disabilities. Article 24 provided instructions to state parties, to give equal opportunities and equity to people with disabilities, who have the right to education. Their talents are at their fullest ability. It will give them confidence in competing with others to lead their own lives.

Indian Scenario

Mani (2000) pointed out that in the post-independent era, the concept of inclusion was referred to in many national education documents. Article 45

of the Indian Constitution guarantees improved treatment for people with disabilities. The report of the Education Commission (1964-66) proposed the placement of the disabled child "as far as possible" in ordinary schools. A full chapter on 'education of the disabled' and formulated recommendations for action are included in the National Policy on Education (NPE, 1986). The NPE strongly stressed the need for an extension of the curriculum for integrated education.

As a result of NPE, the centrally funded Integrated Education for Disabled Children (IEDC) scheme was launched in 1974. Efforts for inclusion have also been persistently made. While these national documents stressed the need for programmes for people with disabilities, the actual implementation of activities for persons with disabilities has not been adequate in the past.

According to Mani(2000), the implementation of the Person with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act 1995 was a turning point in view of the fact that programmes for children with disabilities are no longer considered to be welfare operations, but rather to be viewed as the rights of children with disabilities. The PWD Act guarantees the obligations of the central and state governments with respect to the disability programme. The Act also guarantees the full life of persons with disabilities in order to make a full contribution in accordance with their disability status. Under the act, there are seven impairment conditions. They are blindness, poor vision, healing of leprosy, hearing impairment, disability

of the loco motor, mental disease and mental retardation. As per the Act, both the central and state governments ensure that free and appropriate education is available for every child with disabilities until the age of 18.

It also points out that integrated schooling and special schools would have to be set up to accommodate the educational needs of children with disabilities. The Act also emphasizes the implementation of non-formal education, practical literacy programmes, the provision of aids and appliances, education through open schools and universities, etc.

The Rehabilitation Council of India (RCI) Act came into force in 1992. It was under the Ministry of Social Justice and Empowerment to control initiatives for the development of human power in the field of children with special needs. The implementation of the RCI Act 1992 on the enhancement of the power of man is intended to promote education for all disabled children. Inclusive education policy is also firmly endorsed by RCI.

In India's history of disability movement, the Persons with Disabilities Act, 1995 (PWD ACT) (Equal Opportunities, Protection of Rights and full Participation) is an important legislation passed by the Parliament of India after a long journey of creating various acts and laws on the chronic oppressed groups. Their rights, education and jobs, etc., have been created for the disabled population. State parties have the right to make equal opportunity, protection of rights and full participation available to the disabled population. These are assured by this 1995 PWD act. It is considered

a significant effort by state and central governments to secure the interests of disabled people. This act is intended to provide equal opportunities for persons of various abilities and to ensure their complete participation in all deeds.

Rights of Persons with Disabilities (RPWD) Act, 2016

The rights of persons with disabilities act, 2016 was a landmark in the fight for equal opportunity for disabled people in India, showing a paradigm change in thinking about disability from a concern for social welfare to the issue of human rights. The Act has expanded the categories of disabilities from the present 7 to 21, along with additional benefits in the fields of education, jobs and poverty alleviation schemes. It has also been emphasized that public buildings be accessible within a prescribed time span, so that various citizens can travel quickly (Vohra, 2018).

The purpose and scope of this law is comprehensive and explicitly respects the rights of people with disabilities to dignity, to live in the community, to exercise their legal power, and to ensure that their rights are fully and fairly enjoyed. This new law acknowledges that accessibility is key to inclusion and that multiple stakeholders across various government departments, ministries and agencies are a cross-sectional concern to be implemented. It guarantees that people with disabilities enjoy the right to freedom, to live with dignity, and to uphold their own integrity. Non-discrimination, recognition of disabilities as part of human diversity and humanity was stressed (Vohra, 2018).

Kerala Initiatives on Disability

The United Nations Convention on the Rights of Persons with Disabilities acknowledges that disability derives from a combination of impairments and barriers that "inhibit complete and successful participation in society on an equal level with others." The impairments can include "long-term physical, emotional, intellectual or sensory impairments" while the obstacles may be attitudinal or environmental. Disability has long been considered a social issue, requiring social reactions. To fully participate in society, a person with disabilities will require assistance - formal or informal.

The Kerala State Government has agreed to launch a new program named 'State Initiative on Disability(SID) which is for Prevention, Diagnosis, Early Intervention, Education, Jobs and Rehabilitation' while recognizing that the State's initiative has not had a substantial effect in the past either in disability prevention or in early intervention and rehabilitation. The government has explicitly directed this initiative to be "implemented by the Department of Social Justice with the active participation of the Department of Health and the Department of Education in the Project mode."

Access to quality education for all children by 2030 and opportunities for lifelong learning are now called for by the Sustainable Development Goals adopted by the United Nations in September 2015. With the launch of the Sugamaya Bharat Abhiyaan (Accessible India Campaign) in December 2015, it is hoped that new aspects of education that have been most frequently

overlooked in the past would be promoted, such as school accessibility, transport to schools, records, school books and websites.(The Indian Express, August 03, 2009).

To pursue a more holistic life cycle approach to disabilities, the State Initiative on Disabilities (SID) is being revised. SID is a special programme of the Department of Social Justice for the prevention, diagnosis, early intervention, education and rehabilitation of people with disabilities.

The Kerala State Social Security Mission (KSSM), which has been implementing SID, has suggested that selected disabilities can be established in which the life cycle approach can be designed and individual care plans developed in the long run for each disabled person in a locality by enhancing local government participation, from primordial prevention to recovery (The Hindu, 2016).

According to the first ever State Disability Census report released at the beginning of 2016, there are almost eight lakh disabled people in Kerala, 33% of whom have locomotive disabilities and 17.3% of whom have multiple disabilities.

The census found that 42.8% of the conditions were congenital and that 57% were disabled. Much of congenital disability can be avoided or better controlled by early intervention initiatives in the first five years of birth, " said Executive Director of Kerala Social Security Mission.

The phrases impairment, disability, and handicap are frequently used interchangeably. According to experts in the field, these phrases might have distinct connotations in different cultural situations. The degree to which a given physical abnormality is regarded a "disability," "handicap," or "impairment" is determined by the society in which a person lives. The terms "handicap" and "disabled" are used negatively to designate those who have an impairment or limitation. These words imply that the individuals are unable to perform daily activities that a typical person with full physical health can perform. It frequently leads to discrimination against these persons.

Some sociologists objected to using such words to designate people with disabilities. Such stigmatization or labelling of these disabilities was harshly criticized. The term "differently abled folks," coined by the US Democratic National Committee in the early 1980s, quickly became more acceptable than "handicap" or "disability." The reason appears to have been a real desire to regard those previously labelled as handicapped in a more positive light, as well as a desire to be seen as politically correct.

The Role of NGO in India

Non-governmental organizations have an important role in the development of visually challenged students in higher education. Disability campaigns were developed globally. Global networking was very useful to identify the international engagements of diverse needs of visually challenged persons all around the world. The momentum of the right based movements will

spread all over the world. Developed countries made important laws for the wellbeing of the visually challenged community. Several programmes were arranged to fulfill the educational aspirations of the visually challenged persons.

Different NGOs working for visually challenged community and they are provided many programmes for improving their education and employment. Different social media groups are exist for helping visually challenged. They are whatsapp groups for newspaper reading, reading groups and helping for legal issues. Training programs like vocational training are given by the NGOs.

Models of Disability

Many models of disability are similar to their paradigms than to hypotheses in that they offer a certain way of understanding disability based on the attitudes, opinions and experiences of individuals rather than research evidence. The world view of particular time periods and societies mirrored the meaning and conceptualizations of disability presented in models (Drum, 2009).

Here the overviews of the established models of disability described in a study done by Evance et al. (2017) and gave a historical developments in the field of disability. From the starting of moral model it turns in 19th century as medical model. But in the 20th century it also changes their dimension as functional limitation model and in the 1960's and 1970's the social model and minority model are arises.

The various disability models are described here. They are

- Morel model
- Medical model
- Functional limitations (rehabilitations) model
- Social model
- Minority group (sociopolitical) model
 - Critical approaches to disability
 - Critical disability theory
- Critical realism
- Social Justice (Ableist or Disability oppression) model

Moral Model

Proponents of the moral model interpret "disability [as] a deficiency caused by moral lapse or sin" (Olkin, 1999, p. 25). Physical impairments may also be "the work of the devil" (Drum, 2009, p.27) because they were seen as the product of the deficient actions of people, which brought embarrassment to the individual and to the family (Olkin, 1999). In the late 1800s, disability and its associated consequences, such as poverty, unemployment, and dependency on others, continued to be seen as a product of nature, God's retribution, or human moral shortcomings (K.W.Hickel, 2001), although the moral paradigm is the hottest view of disability today, the vestiges of disability remain in today's language, culture, and values (Olkin, 1999).

Olkin (1999) offers another view based on the moral model: "the myth of disability as mysticism" (p.25). This belief implies that when individuals lose one of their senses, other senses are heightened. Similarly, some people assume that persons can grow special moral, mental or reflective properties as a result of overcoming the adversity of dealing with physical disability (Olkin, 1999).

Medical Model

The covering of several variables during the mid-1800s contributed to the medical model's development. In the late 1700s, the beginning of the science and medical fields and their refinements in the 1800s were most significant (Castaneda, Hopkins & Peters, 2013). The second element was the introduction of the idea of an "average man" whose attributes and qualities were considered to be "correct or normal" or normal deviant, irregular and in need of adjustment in order for an individual to be appropriate to society.

Disability was deemed a public health concern by the end of 1800, and people began to believe that it should be handled by doctors in hospitals built for that reason (Drum, 2009). At the beginning of the 20th century, social welfare organizations, educational institutions, health care personnel and decision makers formalized the medical model of disability and put disability under the control of medical and quasi medical practitioners (Nielson, 2002). The medical model has revolved around these roots and remains a key standard of recognising, treating and employing persons with disabilities.

Several variants of the current medical paradigm are existing (Altman, 2001); Masala & Petrette, 2008).

Fine and Asch (2000) identified the following medical model assumptions: (a) disability is found only in the body (b) the difficulties of a person are triggered by the disorder of the person (c) disabled people are 'victims who need to learn to cope with the circumstances they experienced (d) how disabled people see themselves and equate themselves to other disability centers, and (e) people who need to learn to cope with their circumstances.

Users of this model focus “on the disease process itself, with the goal of curing the disease and returning the patient to normal functioning” (Lutz & Bowers, 2007, p.13). Using a medical viewpoint, university disability office workers will concentrate on student access to adequate healthcare.

"They are" social representations of their physical disability "for followers of the medical model: they are dysfunctional and quasi functioning or non-functional bodies to be fixed or, if not, handled with bureaucratic and economic effectiveness" (Meade & Serline, 2006, p.3). It is up to the medical practitioner to determine how to treat the disabled person's problem and the disabled person must do exactly what is recommended in order to “get well” (Pfeiffer, 2007, p.7).

Scrambler and Scrambler (2010) noted that, under the medical paradigm, the lives of people with disabilities can be influenced by both the

fear of stigmatization and the direct effects of exclusion from society. As a result of being excused from their social responsibility, they encounter.

The medical model can be found in the literature in a variety of criticisms. Imrie (1997) noted that concentrating solely on the biological dimensions of disability ignores factors such as culture, the environment and politics that play an important role in disability and its effect on individuals directly and through perceptions and biases that arise from these aspects of society.

The notion of equating disability with disease or abnormality is opposed by disability advocates. Most find the opinions and the resultant care that people with disabilities receive as coercive and marginalizing from members of the medical community (Brischer, 2000). Strong adherents of the medical model who are concerned only with the cure of illness or physiological abnormalities exhibited by people with disabilities are most likely to see disabled people as unfit to attend college or work in any capacity within the medical model, and there is no expectation that society will make adjustments to change people, attitudes or the environment in such a way as to improve the quality of life. In order to address the symptoms and problems associated with their impairment, people with disabilities are expected to rely on medical intervention, such as medication, therapy or other forms of treatment. Many adhering to the medical model often think that there is no current intervention to treat. Many who stick to the medical model still claim

that if there is no current intervention to treat disabilities, they must adapt to being strangers and wait to heal their disease.

Functional Limitations (Rehabilitations) Model

With the establishment of hospital-schools to train crippled children to work in society, the idea of rehabilitation first emerged about 1800 (Byrom, 2001). Disability was seen by adherents of this approach as a disability that could be resolved with the assistance of practitioners whose task was to deal with these children's social and medical issues (Burch & Sutherland, 2006). In order to resolve the growing number of injured veterans since World War I, the rehabilitation approach was applied (Strauss, 1965).

The focus shifted from its original emphasis on social rehabilitation during the early 20th century, providing education and training so that people with disabilities could find a place to fit into society, to medical rehabilitation consisting of surgical and technological intervention to correct the impairments of people with disabilities (Byrom, 2001). The main argument in the functional limitations (or rehabilitation) model is that disabilities have caused limitations on the ability of a person to perform specific daily life functions (Bryane, 2002). The functional limitation model of disability, like the medical model, is exclusively focused on the person; it rehabilitates the individual rather than society (Imrie, 1997).

The model of functional limitations is essentialistic in nature; it does not recognise that the extent to which functional limitations affect the ability

of people to do things can be influenced by culture, situation or environment (Imrie, 1997). Adherents of this model also see the disability as dichotomous, that is, those who have functional limitations and those who do not (Drum, 2009) are only two types of individuals in the world.

"The objective of this model is to enhance the functional capabilities of people with disabilities so that they are" restored to their previous condition, "which is the usual human condition of" ordinariness" (Michalko, 2002, p.152). The functional limitations model, unlike the medical model, does not address the underlined condition that caused the impairment; rather, the emphasis is on improving the functional capacity of individuals (Drum, 2009). To do so, personal rehabilitation assesses functional constraints and creates rehabilitation plans that concentrate as much as possible on restoring people to their formal level of functioning and helping them to adopt their environment (Bryan, 2002). As Michalko (2002) has pointed out, people seem to be judged in today's society by how well they can perform tasks, "make a living" and contribute to society. Disability resource office workers operating from a model of functional limitations will concentrate on providing adaptive facilities for accommodation and individual coaching to enable students with disabilities to "overcome" their functional limitations and meet their academic objectives, excel in college, and enter the workplace.

The functional limitations model has a number of criticisms. The functional limitations model, from a social justice point of view, as with the

medical model, places, power and control in the hands of medical personnel who determine what tests and treatments should be administered to address the functional limitations of the individual and when the individual functional capacity has improved sufficiently to consider the rehabilitation a success (Lutz & Bowers, 2003/2007) "Persons with disabilities who are unable to regain full function successfully remain dependent on others for care and are left" in a chronic role of dependence "(Lutz & Bowers, 2003/2007, p.12). "In accepting the idea that they are" inferior "to those who are not disabled, they are socialized and act in ways that conform to the stereotypes and behaviors that others expect (Imrie, 1997). It is necessary to rehabilitate individuals with disabilities that make them unique so that they are similar to everyone else and can assimilate into society (Sticker, 1999).

The functional limitations model ignores the effects of aspects of the environment by focusing only on internal bodily limitations (Bickenbech et al., 1999, Hahn, 1991). It also considers ways to change the environment to suit disabled persons by expecting the disabled person to adjust to the environment (Bryan, 2002).

Health professionals operating from a recovery point of view have often been criticised for focusing so much on the causes of disorders affecting people with disabilities that they appear to segregate them into groups of illnesses and isolate them from those with various disabilities rather than bringing them together to tackle common issues such as discrimination and

environmental obstacles (Bry). Moreover, reducing a person to a disease ignores other aspects of the entity as a whole (Bryan, 2002).

Social Model

The social model of disability originated in the United Kingdom and was based on universal disability values (1976), a text written and distributed by the Association of the Physically Disabled against Segregation, a disability activist organization. The concept set out in the paper to establish the social model of disability, the most frequently cited version of which was written by Oliver (1990), was formalized by scholars in the United Kingdom, notably Michael Oliver, Collin Barnes, and Vic finkelstein. The social model was developed as an alternative to the responses to medical and functional limitations that were objected to by many disability activists (Drum, 2009). Since the 1980s, many variants of the social paradigm have emerged, including cultural versions of materialism (Finkelstan, 1980) (Barnes, 1991; Shakespeare, 1994) and feminism (Thomas, 1999) (Tregaskis, 2002). The social model was introduced specifically for use by professionals and advocates with disabilities. As a consequence, Oliver (2004) emphasized that it was not a theory of disability. Often referred to as the "major definition" of the movement of disability. In the United Kingdom, by bringing disabled people to think about their commonalities and the challenges they all faced, the social model had a significant impact on building the mutual disability understanding of its participants (Oliver, 2004).

Barnes (1991) described disability as "the lack or restriction of opportunities due to physical and social obstacles to take part in the normal life of the society on an equal basis with others" (p.2). Disability is thus a term that is socially formed, its definition centered on the expectations of those that make up society (Llewellyn & Hogan, 2000; Olkin, 2011). This model's advocates claim that disability is found in the social environment rather than in the body, which they perceive as exclusionary and restrictive (Marks, 1999). The social modelist has generally described the environment as including physical, economic, political, and social factors (Tregaskis, 2002). In all facets of their lives, including job setting, housing choices, educational opportunities, civil rights, transportation, and access to the architectural world, they understand disability as the challenges that people with disabilities have to face (Thomas, 2004).

Instead of any factors specific to students themselves, disability resource office workers employed inside the social model will be involved only in environmental obstacles such as inaccessible architecture, lack of captioning on recordings, or inaccessible technology.

The primary purpose of this model's adherents is to make sense of "disabling sociopolitical and cultural practices" and to change them (Godley, 2004, p.123). "Social modelers often argue against separate, special or modified facilities for people with disabilities, as these facilities send a message that people with disabilities are different from other community

members and cannot fit into the" usual "environment (Marks, 1999). Instead, they promote the use of universal design to change the mainstream world so that all people with or without disabilities can reach it (Marks, 1999).

The strength of the social model is that it introduced a new way of thinking about disability for professional disability staff and researchers and posed new research questions that are appropriate for various analytical approaches to better understand the definition of disability (Llewellyn & Hogan, 2000). This model has provided some profound changes in society to enable access and inclusion for people with disabilities.

Critics have concentrated on the role of illness and personal stories within the social model, some claiming that their inclusion would reduce the efficacy of the model and others suggesting that they are critical to a fuller understanding of disability (Shakespeare & Watson, 1997). Abberley (1987) opposed the reduction of illness, claiming that it was socially created like disability. Others, especially feminists, proposed that the body should be taken into account because it has an influence on the experiences of an individual (Thomas, 2004).

The type of social barriers discussed in the social model was seen by Thomas (2004) as too small, in that only material barriers found in the external social environment were taken into account. "Marks(1999) and Thomas (2004) concluded that psycho-emotional dimensions of disability still occur, specifically the effects of social interactions between the" powerless

disabled "and the" strong non-impairment, "such as families , communities, health facilities and educational services, when they make people with disabilities feel weak, worthless, unattractive, etc.

Abberley (1987) and Marks (1999) and Vernon (1998) have pointed out that the social model ignores individual variations in ethnicity, gender and other social roles, as well as historical periods when considering the impact of the environment on people with disabilities. Finally, Shakespeare (2006a) indicated that there was an impossible notion that eliminating all social obstacles would remove disability. Anesthesia on and Kanffmen (2011) clarify that eliminating all barriers for persons with one type of disability, which is not a necessarily practical idea, may build barriers for persons with another type of disability.

Minority Group (Sociopolitical) Model

The model of the minority group is an extension of the social model that supporters in the United States felt that it has a too narrow view of the environment (Drum, 2009). The minority group model originated from the disability rights movement in the United States in the 1970s (Hahn, 1988; Smart & Smart, 2006). Those affiliated with this movement were distrustful of the medical model and medical practitioners who dominated all decisions affecting the care of persons with disabilities, leaving disabled persons without voice in decisions that impacted their lives (Lutz & Bowers, 2003/2007). Disability Rights advocates have claimed that non-disabled

academics who had no understanding of the problems facing people with disabilities were frequently biased and that disabled researchers should take the lead in disability research as they understood the problems (Longmore, 2003). As a result, the new "minority group" approach was promoted by disabled scholars in the United States, especially Hahn & Longmore, which led to its predominance in the 1970s and 1980s as a basis for research and development of disability studies in the United States (Hahn, 1985, 1988; Longmore, 2003).

The aim of this campaign was to shift the "burden" of disability from people with disabilities to society (Lutz & Bowers, 2007, p.14) by building a sense of solidarity among people with disabilities and reinforcing losses to fight discrimination and reform public policy (Hahn, 1985, p.14). Hahn added that "the social stigma of a disability is largely due to the fact that important life tasks may be impaired by the resulting functional impairments" (p.43). The importance of creating awareness among students with disabilities of the injustice and prejudice they face on campus and within society is likely to be highlighted by disability resource workers working within the framework of the minority group model. They are likely to build awareness-raising groups and support students' activist orientation to achieve rights and policies to build a more just climate.

Under the minority group model, impairment and disability are perceived to be separate terms (Nielson, 2012). Impairment is used to refer to

a mental or physical disorder, accident or ailment affecting the body or mind of the person; disability is defined as "the result of contact between people and the environment" (Hahn, 1991). Hahn (1991) saw social attitudes as the most important environmental factor affecting people with disabilities. To this proposition, he gave three postulates: a) negative attitudes are the main cause of the challenges faced by people with disabilities, b) public policy drives all aspects of the environment, and c) social attitudes affect the development of public policy.

In the history of disability, the minority group model is especially significant as it was instrumental in the passage and implementation of disability rights, legislation and the growth of disability advocacy in the United States (Drum, 2009; Longmore, 2003). The minority group model is more complex than either the medical or social models. Since, rather than just one of these variables, it considers the relationship of the person and the environment.

Batavia and Schrinea (2001) viewed it as "over simplified" indicating that it leaves out consideration of important factors that affect the ability of a person to "live independently and productively" (p.692) including individual, family and cultural variables. A lack of attention to the position of the human body is also a point of contention (Drum, 2009; Imrie, 1997), as is the limited emphasis on approaches to public policy to eliminate disability discrimination (Imrie, 1997). In the view of social justice educators, the most silent critique of the minority community model is its construction as a deficit model that

reinforces the stereotype of people with disabilities as being victims in need of help (Jones, 1996).

Critical Approaches to Disability

Critical Disability Theory (CDT) and critical realism are two more recent models that have strong potential to sharpen the work of disability practitioners and academics. Both are part of the umbrella of critical theory.

Critical Disability Theory. Critical Disability Theory (CDT) is a structure that originated from current disability theories' postmodern and post-conventional criticisms (Corker, 1998; Corker & Shakespeare, 2002; Davis, 2002; Meekoshe, 2006; Meekosha & Shuttleworth, 2009; Shildrick, 2009, 2012). CDT became part of the literature on higher education and student affairs (Meekosha & Shuttleworth, 2009; Pena, Stapleton & Schaffer, 2016; Vacearo, Kimbell, Well & Ostiguy, 2015). CDT emerged mainly as a challenge to the social model's assumed superiority (Davis, 2002).

CDT is a dynamic and multifaceted model; impairment is described as "slippery, fluid, and heterogeneous" as one of the four core components of CDT (Shildrick, 2009, p.4). This definition enables disability to evolve and be intersectional over time; that is, it is influenced by other dimensions of the sense of social identity. In higher education settings, a concept of disability that is flexible and transient may be helpful in that it enables disability to be recently acquired, or recently diagnosed, or can alter its effect on college experience.

Second, as a way of recognising the living experience of people with disabilities, CDT provides local awareness (Meekosha & Shuttleworth, 2009). Locally situated awareness is imperative for those working with disabled people in higher education contexts, considering the importance of the campus atmosphere.

Third, teachers of the CDT respect liberation and highlight human rights and social justice problems (Meekosha & Shuttleworth, 2009). Practitioners may believe that significant social justice concerns mainly relate to housing, education and physical access for people with disabilities. By taking social justice to fields that are important to disabled people, such as culture and sex, CDT goes beyond the political focus of other theoretical structures (Meekosha & Shuttleworth, 2009).

Finally, researchers using a CDT paradigm argue that both impairment and environment are relevant and that embodiment and disability are linked to a discourse (Meekosha & Shuttleworth, 2009). CDT allows for a "casual relationship between impairment and disability," unlike other theoretical constructs that separate impairment (Corker, 1999, p.632).

CDT provides a specific collection of tools for practitioners in higher education environments to consider disability issues in a more complex and intersectional way. CDT offers a platform that enables gender, intersectionality, campus cultures, disability and visible and non-visible representation to be considered by students, staff and others in higher

education settings; it offers effective tools to break down hierarchies and incorporate underrepresented voices. CDT provides innovative opportunities for social justice, but it can also be daunting to involve undergraduate students, staff and community members. Practitioners in higher education and academics want to incorporate CDT into their practice and study.

Critical Realism. Critical realism is a theory of science rather than a model of disability. It is applied to the study of disability, and demands that we reintegrate the constructivist emphasis on the institutional and social structure with the consideration of the physical realities of the body and mind (Shakespeare, 2014). It was built in ways that would "serve progressive politics" to overcome the shortcomings of both essentialist perspectives and constructivist perspectives (Moya, 2000, p.3).

Critical realism, applied to disability studies to fix social model limitations (Shakespeare, 2014), is a theory that holds that fact exists in ways that allow us to make causal claims of truth. Both physical and social phenomena are thought to occur regardless of the interpretations of them by observers and participants.

The multilayered essence of truth is a second central principle in critical realism. There are numerous, mutually affecting layers of phenomena such as disability: biological, physiological, psychological, social, and structural / cultural (Williams, 1999). Shakespeare (2014) made it clear that disability should not be viewed simply as a social construction, writing that

"even with the elimination of obstacles and the availability of assistance, for many disabled people, impairment would remain problematic" (p.85).

There are two main drawbacks of the critical realist approach. The first one is the model's inaccessibility. Many books and papers on critical realism are written using a vocabulary that is incomprehensible to anyone without experience in metaphysics and science theory. The second is that it seems that critical realism has done nothing on the road to social science practice. While writing about critical realism is easy to find, finding studies that use a critical realistic approach, especially disability research, is more difficult.

Social Justice (Ableist or Disability Oppression) Model

The social justice (or disability oppression) model of disability is based on principles aligned with the overall social justice movement in the United States, which borrowed ideas from the separate civil rights, women's and new left movements of the 1960s and 1970s (Bell, 2013). This model uses terms such as social justice, emancipation and inequality to explore, assess and change social behavior systems, unequal institutional frameworks and cultural traditions (Adams, Bell & Griffin, 2007). The University of Massachusetts Social Justice Education Program has had a particular effect on the creation and promotion of this model, with the exception of the conceptual work of writers affiliated with the University of Massachusetts programme and some research done in the United Kingdom, little writing and almost no research in the area of social justice based on ableism (Nocella, 2009).

Rather than concentrating on disablism identified by Campbell (2009) as "a collection of assumptions (conscious and unconscious) and behaviors that facilitate unfair or unequal treatment of people due to real or assumed disabilities" (p. 4), the adherents of the social justice paradigm "prefer the word 'capability' to describe oppression of people with disabilities" (Griffin, Peters & Smith, 2007, p. 335). Raussches and McClintock (1997) clarified that, across history, the ability to establish an environment that is often hostile to anyone whose physical, mental, cognitive or sensory capacities fall beyond the boundaries of what is generally known as socially acceptable (p. 198).

Campbell, (2009) added that "ableism" equates "able bodiedness" with normality; disability, on the other hand, is seen as abnormal, dependent, and impaired. As such, people with disabilities often do not perform the social and economic positions required by society and their abilities are not recognised (Casteneda et al., 2013; Smith, 2009). The assumption that disability is a negative status is implicit in the capacity viewpoint and should, if possible, be removed or rehabilitated (Campbell, 2009).

The theory of disability oppression is used to explain the dynamics of prejudice and inequality in a competent society directed towards people with disabilities (Casteneda & Peters, 2000). Hutcheon and Wolbring (2012) argued that the idea of capability is useful in two ways: it helps to clarify the perspectives of people who are 'capable-diverse' (p.47) and enables policy and its impacts to be more effectively examined.

Capability operates at cultural, systemic and individual levels, comparable to other types of oppression (Castenada et al., 2013; Griffin et al., 2007; Rauscher & McClintock, 1997). In institutions such as family, faith, law, housing, healthcare and government, the policies, procedures and standards defined build obstacles for people with disabilities. The model of social justice explains how people with disabilities transcend these types of discrimination as they step towards empowerment as a result of the development of fair access and accommodation within society and the creation of social systems under which all individuals are able to take on equally essential tasks and meaningful roles while interdependently interacting with other individuals (Castenada & Peters, 2000).

The focus on privilege and inequality as major factors in influencing how disability is perceived and interpreted in US society are three major components specific to the social justice model of disability; its emphasis on the complexity and intersectionality of the backgrounds, responsibilities and identities of people with disabilities; and its deliberate educational mission. Bell (2013) clarified that there are four characteristics of discrimination against people with disabilities. It is systemic in that injustice is "woven as well as rooted within individual consciousness in social systems" (p.22). It is limiting in that there are systemic and material obstacles to the lives of people with disabilities. As members of the dominant non-disabled group are advantaged by disempowering the marginalized disabled group, it is

hierarchical. Finally, it is internalised both by disabled people and by non-disabled members of the dominant group.

There are three dimensions of oppression: context, application and understanding (Hardiman et al., 2013). In any of these ways and places, social justice educators and advocates will counter injustice. Diversity classes, for instance, can include disability units to dispel the negative mindset, misinformation and perceptions of students about people with disabilities; advocates of social justice should review policies and procedures in areas such as admissions, residence life and student events to ensure that all students are equal.

The paradigm of social justice is consciously educational. Three significant dimensions of social justice activism in education were identified by Mackinnon et al. (2004). Applied to disability, they are a) offering help to students with disabilities; b) educating the nature of disability oppression to both students with disabilities and those who are not affected, engaging with them to build an atmosphere that values differences and teaching them to fight for the liberation of their own and others; and c) working to change social system and policies.

The social justice model is aligned with four objectives: elimination of capacity, redefinition of normality, respect and equity, and creation of a positive identity of disability. Eliminating capacity includes altering the physical and social environment in order for people with disabilities to work

efficiently (Griffin et al., 2007). Advocates of the social justice model of disability in the post-secondary environment emphasize the right of every participant to have a satisfying and successful academic and co-curricular experience in which the full identity and personal experiences of each person are taken into account (Evans & Herriott, 2009). Disabled people are proud of their differences within this paradigm and work to make others aware of their achievements and abilities (Rauscher & McClintock, 1997).

In its interpretation of how mechanisms of privilege and inequality impact how people with disabilities perceive themselves and how others perceive them, the social justice paradigm is more complex than previous ones. It is also much more attentive to the intersectionality of social roles and the particular aspects of the life of each individual as a disabled person than other models.

Review of Related Studies

According to Palan (2020) the voice of disabled students in higher education (HE) has been generally explored within the global north but relatively little knowledge about the experiences of their counterparts in the global south. The investigator tried to find out this lacuna in Indian higher education sector. This study is a part of the author's doctoral study in 2013-14 explored the lived experiences and aspirations of 29 visually challenged students by using phenomenological research methodology. The investigator ensures that their access to courses and subsequently, employment

opportunities were found to be restricted due to the systemic exclusion, lack of data, internalized oppression, pedagogy and career opportunities. The researcher identified that the visually challenged students have not given proper attention in the field of higher education especially the issue of access to different courses, however the disability legislations in India are focusses to widening the participation in HE. The researcher wants to emphasize the importance of facilitating their access to their desired courses in HE through this paper and suggestions made to give support in schools also.

A study on Better campus life for visually impaired University students: intelligent social walking system with beacon and assistive technologies, Kose and Vasant (2020) argues that the purpose of this study is to implement a new, low-cost, intelligent social walkway support system for visually impaired students around the campus, using beacons, Artificial Intelligence-based optimization techniques, Big Data support, and an Internet of Things system. The developed system has been used in detail within the two linked campus areas of Suleyman Demirel University located in Isparta, Turkey, and effective support for walking paths has been ensured in order to allow students to visually travel to target locations with instructions provided by an intelligent system. It is also intended to encourage students to experience a better campus life in this way. With its Artificial Intelligence-oriented features, the study carried out here is exceptional, ensuring an intelligent navigation control and planning system

by benefiting from only interactions between beacons and mobile devices as not requiring physical road bumps to be used, thereby reducing costs by removing all physical road bumps. This reduces costs by removing both physical components and advanced communication systems. Other students' data on social media environments are often used as Big Data to support successful decisions made by the system. After actual implementation of the system, so much positive feedback was received from visually impaired students.

Cinarbas and Hos (2020) conducted a study on Access to higher education for visually impaired Students in Turkey: Disclosure, Inclusion, and Oppression of Two Pre-service Teachers which suggested that while the institution met the minimum standards for legislation, there were a range of problems that needed to be resolved in order to ensure accessibility for students with visual impairments. The empowerment and advocacy of students with disabilities has also been suppressed by the domination of social, cultural and political institutions. This qualitative case study explored the experience of two pre-service teachers with visual impairments at the Turkish university. The research was attended by two pre-service visually impaired teachers, four teacher educators, six colleagues and three administrators. The data was obtained through individual and focus group interviews, observations, reflective journals and structured records. Qualitative data processing was done with the use of MAXQDA tools.

Frank et al. (2019) identifies the barriers and enablers in their study on accessing curriculum, university based learning experiences of visually impaired physiotherapy students. Qualitative multiple case study design was employed for the study where the learning experiences of visually impaired physiotherapy students in U K was selected. The study identifies various factors as being an obstacle or barrier for their learning and also some sort of experiences with others serve as helping hands.

A study reported by Kaunda. (2019) shows that the South African library for the blind (SALB) helps to improve the quality of lifetime of print disabled people and it encourages the independence through access to information, decision making process and receiving the enjoyment of recreational reading. From the study on “strategic library and information services models for the visually impaired persons: the South African library for the blind perspective”, the two strategic models are agent mini libraries and comprehensive mini libraries are constituted by SALB and its management and administration of the services are given to the print disabled intimately. The investigator emphasized that the visually challenged people experience how to use tactile-like assistive technologies, the use of libraries and training and interactions with community members.

According to Stone et al. (2019) there are good sorts of accommodations inside and outside of the classroom based on the empirical literature on cognition and learning and their own experience in teaching a

blind student in an introductory statistics course. They opined that the instructor of postsecondary classes in statistics are stuck heavily on visual content in their teaching. It is like textbooks, handouts and software etc. the visual content is inaccessible to students with visually impaired (BVI). This article revealed that the unique challenges involved in adapting both pedagogy and course materials to accommodate a BVI students may provoke anxiety among instructors for the first time, they may find themselves feeling unprepared or “reinventing the wheel” so the investigators tried to find out the different types of accommodations of BVI student in an introductory statistics course.

Ingram et al. (2019) proves that there is a significant gaps in the acquisition of basic life skills with the congenital total blindness by the study “Exploring the lived experience of acquiring life skills with congenital total blindness: An Interpretive Phenomenological Analysis”. Life skill acquisition has given importance because if the totally blind student teaches life skills in their early stages of life, it will help them to live independently later.

From the study on “Mathematics Education and Accessible Technologies for Visually Impaired students in Bangladesh”, Nahar et al. (2017) proves that different assistive technologies are helpful for those students to study mathematics in an easy way. For analyzing the present scenarios of learning mathematics in various blind schools in Bangladesh, the survey method was mostly useful. The Braille system, Taylor Frame, Abacus etc. are the main

assistive devices for reading, writing and counting numbers. So it shows that assistive technology has an important role in helping visually impaired students for their learning.

Cosier and Pearson (2016) made an attempt to investigate how teacher educators utilize disability researchers in their curriculum. “Can we talk? The underdeveloped Dialogue between teacher education and disability studies” is an exploratory study using a survey method. The teacher educators have not got awareness because there is a confusion between disability studies and special education. The disability matters should have been included in the curriculum because the teacher educators also gave awareness, about how to treat a disabled child at a student level.

In the study, Bansal (2016) recognizes that there are no in service training programmes to teach teachers about inclusive education. Various researchers (Forlin et al., 2009; Winzer & Mazurek, 2011) have found that teacher preparation is very important for inclusion in today’s context. The general classroom teacher plays an important role in the success of inclusive education. General education teachers only study an optional paper for inclusive education which is not enough to train and prepare teachers to identify and diagnose disabilities. From the study of Bansal (2016) it is clear that universities that include some aspects of special education in their teacher training programs fail to adequately train teachers to integrated settings.

From their study Ajuwon et al. (2015) explores the assumptions of pre-service teachers regarding the integration of blind or visually disabled students into their classrooms. Data were obtained by participants of three universities in the U.S. before and after an introductory special education course using a modified version of the Pre service Inclusion Scale (PSIS). In order to research changes of attitudes towards inclusion among participants, a multivariate analysis of variance (MANOVA) test has been performed. The measure of anxiety showed an improvement in the level of calmness of pre-service teachers, and the measure of receptivity revealed a substantial shift in their level of receptivity to inclusion. The findings of the study revealed that the inter-subject impact of the universities was not apparent, no major changes in aggression or receptivity were reported, and the confidence of pre-service teachers in teaching visually disabled students was seen.

Gavira and Morina (2015) pointed out in their study on Hidden Voices in Higher Education: Inclusive Policies and Practices in Social Science and Law Classrooms was a wider biographical-narrative research project that studies barriers and support for students with disabilities at the University of Spain (Barriers and Support That Disabled Students Recognize at the University. Project sponsored by the Spanish Ministry of Science and Innovation (Morina, 2010-2014). This research focuses primarily on obstacles and resources found by students with disabilities participating in Social Sciences and Law undergraduate programmes. The investigators tried to examine, from the point of view of students with disabilities (applying the

biographical-narrative methodology), which obstacles exist and which support the higher education meetings of this community. To this end, results are grouped into the following categories: general institutional data; data relating to facilities, design and accessibility; data relating to faculty and teaching; data relating to fellow students; and Suggestions to enhance university and/or university classrooms. From this viewpoint, taking as a guideline the social model of disability, the investigators conclude that in order to be inclusive, the University needs to commit itself to taking constructive steps to remove obstacles that do not enable the students to learn and participate completely.

A paper focused on the difficulties in educating the visually impaired and modalities for ensuring quality assurance in tertiary institutions of learning in Nigeria (Andrew, 2015). It explored the global complexities of the higher education system and made it clear that those with visual difficulties, whether partial, poor vision or complete blindness, are visually impaired, as higher education needs to be freed from the shackles of compassion and sympathy. The paper found that the educational criteria of visually disabled people are computer software, optical aids, and Braille writing tools, accessibility problems, support, library services, availability of staff and physical infrastructure facilities. Recommendations were provided to resolve the problems and difficulties.

Another study by (Nasiforo, 2015) was aimed to investigate the academic barriers faced by visually challenged students in colleges of the University of Rwanda. This study addressed the following objectives,

suitability of teaching methods used in colleges of the university of Rwanda to accommodate visually challenged students; lectures ability to adapt learning/teaching resources available in public colleges to meet the academic needs of the visually challenged students. The study employed purposive sampling technique, stratified random sampling and snowball sampling. 125 respondents participated in this study. Interview guide and questionnaire were used for data collection. Findings of this study reaffirmed that the curriculum adaptations are not done in the colleges. This study suggests that new curriculum adaptations for the visually challenged students in colleges under the university of Rwanda.

Ghulam et al. (2014) discusses various difficulties faced by Students with Visual Impairment Registered in Open and Distance Learning Programs of AIOU, Islamabad, Pakistan in their study. Only 40 visually impaired students participated in the study using the snowball sampling technique. This study identified that the students with visual disability have difficulties in academics, orientation mobility etc. The study suggested for a disability friendly library and study materials should be both in braille and soft and audio form.

In a study on Strategies and services are vital to the inclusion of students with visual impairments in physical education classes Fiorini et al., (2013) was to prepare teaching strategies and resource modifications centered on the educational integration of visually impaired students based on the activities of the Sao Paulo State Curriculum Proposal. Three measures have been outlined in the study of the proposal: 1) classify topics for each bimester; 2) evaluate the

"teacher's book" in terms of learning circumstances and their development; and 3) prepare instructional strategies and adaptations of resources. Ten teaching methods have been planned, four new resources have been identified and two teaching resources have been adapted for students. The tasks of the Program Proposal make it possible to prepare a strategy aimed at the inclusion of students with visual disabilities along with students without disabilities.

Brandt (2011) revealed that the awareness of disabled students in higher education is fragmented. Therefore it is hard to determine whether policy objectives genuinely foster improved opportunities for students with disabilities. The goal of this article is to take a closer look at the experiences of students with disabilities in Norway and to recognize barriers in the higher education system in light of policy objectives. This research is focused on qualitative data from in-depth interviews in higher education with disabled students. The results indicate that an educational change in Norwegian higher education seems to have helped to improve the learning capacity of disabled tertiary students, but during their studies, there are several crucial times when disabled students must receive the requisite adjustment.

A paper on "Perceptions of the visually impaired toward pursuing geography courses and majors in higher education" by Murr and Blanchard (2011) found that the advances in the classroom technology helps to overcome the barriers of the visually challenged students to study geography, however the number of participants is less. In this study, the investigator employed stereotype threat theory, for examine if the beliefs held by the

visually challenged affect perceptions toward completing courses and majors in visually oriented disciplines. In this study, the test group received a low level threat message that responses would be compared to sighted students, though an impact group did not. There are statistically significant differences observed between the groups. The investigators explored the results that threat messages influenced the participant's perceptions. So the researcher concluded that there is a need for additional research.

Speech Synthesis is a technique used in many different fields of computer science. Yurtay et al. (2011) enquires about this technology, will provide a solution to the reading behavior of visually disabled people due to the text of the speech conversion. Based on this issue, in this research, a system is designed to allow a visually impaired person to make use of all the library facilities at the University of Sakarya. A number of books in the library are converted to digital media through a scanner and transferred to their own server. A visually impaired person can use the device with the aid of the program's sound orientation and the user's keyboard commands. The framework will be established in conjunction with new requests. The goal of this study is therefore to find a solution to the social problem of visually disabled people.

Polat (2010) discusses the theoretical relationships between inclusion in education and social justice. Participatory action research was used for this study and the major findings of the study was that the existing condition of education is just turned to inclusive and quality education. It is in the progressive path.

Carey (2007) emphasizes that the greatest challenge for visually impaired persons is the explosion of digital static and moving images in his study on the opportunities and challenges of the digital age: A blind user's perspective. Library programmes for blind and visually disabled people (VIPs) have been inextricably connected to alternative format development, which has never surpassed 4 percent of standard text publishing. The effect of digital publishing on Braille, updated print and audio has been modest, partially due to production practices but also to protective copyright under which the rights of writers exceed the rights of user access. In this case, librarians should: claim consumer rights against copyright; request proof of piracy; work towards a global digital accessibility library; and promote a general right to information. In a global digitally converged world, VIPs will need assistance with navigation, data assessment and file migration; these needs will alter the conventional, impartial position of librarians, transforming them into facilitators, covering what has historically been defined as broadcasting and telecommunications.

'Managing disability: early experiences of university students with disabilities' By Goode (2007) argues that latest UK legislation, which has been operational since December 2006, puts an obligation on all public bodies, including higher education institutions, to vigorously promote equality of opportunity for people with disabilities. There are a variety of programs in place to improve good practice in this field at the university studied here, but how do students perceive the provision themselves? Studies on people with disabilities have often alienated them by not expressing their own views. This

research, which is specifically aimed at integrating students' voices and using interview and video data, provides some insight into students' views of aids and barriers to an inclusive learning atmosphere at one university.

The awareness of disabled students in higher education is fragmented. Therefore it is hard to determine whether policy objectives genuinely foster improved opportunities for students with disabilities. The goal of this article is to take a closer look at the experiences of students with disabilities in Norway and to recognize barriers in the higher education system in light of policy objectives. This research is focused on qualitative data from in-depth interviews in higher education with disabled students. The results indicate that an educational change in Norwegian higher education seems to have helped to improve the learning capacity of disabled tertiary students, but during their studies there are a number of crucial times where it is imperative for disabled students to receive the requisite adjustment. *From Policy to Practice in Higher Education: The experiences of disabled students in Norway.*

Conclusion

Most of the studies on visually challenged students in higher education discussed various issues such as barriers to accessing the curriculum, life skills acquisition, barriers to learning various subjects in an international context such as geography, physical education, and mathematics. In Indian studies discussing differently abled students in higher education.

Many studies used different types of materials and methods both qualitatively and quantitatively. Most of the studies were selected qualitative

studies. International studies have given greater priority to visually challenged students in higher education. Two of the Indian studies revealed the experience of visually challenged students in higher education.

A collective case study design was used for this present study as a multi-located, multiple case study is more appropriate to explore the problems faced by visually challenged students in higher education in Kerala. A number of case studies have been conducted in several places of the world which is identified from the literature review.

From a theoretical background, it is clear that principles of inclusion and students with disabilities need more attention. Developed and developing countries have formulated various policies for the upliftment of persons with disabilities. Various disability models are described here with reference to help identify the appropriate model for this study. No studies were found that identified gaps between policy and implementation. Hence the investigator chose this study to compare the existing conditions and facilities provided by the government and the reality from the field. Important dimensions were identified from this review, which is helpful in developing tools and technique for the study. Here the investigator presents the theoretical part addressing the students with disabilities. But related literature has more specifically discussed visually challenged and their different problems in higher education. Thus, the investigator found the relevance of the study and how the existence of the problems of visually challenged students can be described in the case. So a common understanding should be created about visually challenged students and how they should be treated in the society.

Chapter 3

METHODOLOGY

- *Application of Qualitative Research Approach*
- *Epistemology of the Study*
- *Collective Case Study Method*
- *Research Design*
- *Methodological Approach*
- *Participants of the Study*
- *Materials and Methods of Data Collection*
- *Data Collection Procedure*
- *Data Analysis Procedure*
- *Limitations and Delimitations*
- *Summary*

METHODOLOGY

The British Educational Research Association (BERA, 2000) guidelines suggest that educational research is conducted mainly for twin purpose, developing an understanding of an educational issue and improving educational policy and practice. In addition, it is often observed that the purpose of any educational research is to form policy, practice and further research. Using this as a research principle, current study focuses on identifying the issues and concerns of visually challenged students at higher education level in Kerala. The present study investigated the educational issues of visually challenged students within the Kerala context in order to ascertain its prevalence and suggest some actions to improve the current practice of managing these students.

Application of Qualitative Research Approach

This study employed a qualitative research approach within interpretative paradigm using a theory based on social constructivism, whether it is philosophical or theoretical. It adopted qualitative methods, including the development of a collective case study.

The general approach adopted in this study was in a qualitative nature. Many authors define qualitative research in terms of its methodological approaches, qualitative in nature, use of methods and philosophical perspectives. The description of some of these factors discussed here was considered useful for the setting up of this present study.

For example Creswell (2004), defines qualitative research as: “qualitative research is an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed view of informants and conducts the study in a natural setting”.

The research reported in this study incorporates all these factors to explain the social construction of visually challenged students in the context of higher education in Kerala. One of the important goals of the present study was to help visually challenged students in higher education to understand the perspectives of other participants who are closed to them.

There are three reasons for adopting a qualitative approach in this study. First, the study sought to identify the problems of visually challenged students in higher education in the context of Kerala where they have not yet been identified or reported. For this, it is essential to collect direct and rich information from the visually challenged student’s natural settings.

In this regard, other staff such as teachers, parents, peers, librarians and hostel wardens of visually challenged students in higher education in Kerala are considered as the best source of information for this study. Feelings of students experiencing challenges regarding their experience and perspectives, their teaching, learning and behavior were considered valuable data for this nature of research. The rationale for such an approach is that there are certain elements of human interventions that are

immeasurable or difficult to measure such as attitudes, beliefs, opinions and perspectives that are essential for forming a theory about the education of visually challenged students in higher education in Kerala. The study seeks out innumerable data collected from the participant's experiences and perceptions along with the researcher's interpretation in various settings (Safman & Sobal, 2004) to explain how visually challenged students exist in higher education in Kerala.

Second, this study aimed to suggest some practical and appropriate intervention strategies for higher education institutions to meet the needs of visually challenged students in higher education. For this purpose, the views of teachers, parents and peers were valued to suggest a better system to meet the needs of visually challenged students in the sample institutions in Kerala.

Third, qualitative research methods of in-depth interviews, observations and focus group discussions are appropriate for this study because they were able to provide rich information that is not possible through traditional research methods. The adaptation and flexibility of qualitative research methods were particularly useful whenever there was a problem with the ambiguity of research contents (Gilmore & Carson, 1996) for example, terms like inclusion, academic accommodations, accessibility issues, misunderstanding of certain concepts and differing perceptions between the participants.

Epistemology of the Study

The study employed a qualitative research approach within an interpretative paradigm using a theory founded upon social constructivism as its philosophical or theoretical underpinning. In this study, the nature of reality is what the investigator meant to identify the social construction of the visually challenged, their natural existence of the population of Persons with Disabilities and how they survived in the so-called normal society. Society much rooted in 'ableism' is not concerned about the people who suffer any physical disability and this attitude became a reason for the discrimination of those sections.

The investigator identified their ideology in life and the developments to be made in their lives through the decades in this era of inclusive education. All the students have to enjoy the education without any discrimination like caste, creed, colour, religion, gender, or disability. 'Social oppression' happens to Persons with disabilities in all walks of their life. The question remains whether society is ready to admit their abilities though they are disabled. So the investigator tries to understand their epistemological view of education of Visually Challenged students in an interpretative way. How the society perceives the Visually Challenged students and what are the changes occurring in their life even after following the norms of the so-called society?

The lived experience of the visually challenged students in higher education shows the difficulties faced by them in pursuing higher education.

What are the possible ways to overcome all these barriers in their study field? Who can take an important role to help these students in their educational field? The government authorities, institutional authorities, parents, teachers, staff and other differently abled and normal peers are the other stakeholders who had a vital role in the education of visually challenged students.

Government has some policies about people with disabilities and they have to implement them at the grass root level so the beneficiaries will get the privileges in their education. No one can change their destiny. The authorities of an institution should have a positive attitude towards the Persons with Disabilities, thus they may plan the day-to-day activities to include their active participation which will give them a new experience to face any challenge in their life. Parents are the most important persons to shape their child's life from womb to tomb. The parental awareness about Visually Challenged students will help them treat such children as normal citizens. The early identification of a child's disability during gestation has proper medication so that it can be prevented from being born as disabled. After being born disabled, it becomes the parents' primary challenge to identify the social needs of their children and help them to satisfy them. Teachers as the second parent should take care of these people and should support them to address their needs. Peer group is another factor that can be considered the most influential part of such students' life. They may act as the primary investigators as they have direct access to meet their problems and find out a solution for them.

Collective Case Study Method

The collective case study approach was very useful to identify different views from various parts of a single case. Here the investigator chose the education of visually challenged students in higher education in Kerala state as the case of this study. Different views of the same case from all the corners which discussed all the aspects of the study on the education of visually challenged students of higher education in Kerala were analyzed here. The central theme of this study was the education of the visually challenged in higher education in Kerala and how the other stakeholders could make their education to their comfort level. The investigator made an attempt to make it possible by identifying the barriers and replacing the solution to them at the institutional level and the personal sphere. The qualitative approach gave much freedom to delve deeply into the lived experiences of a such marginalized community and the investigator had the role to emancipate their problems and concerns into society through the lens of social justice

According to Creswell (2007), a case study was one of the research traditions among five qualitative research traditions; that is Grounded theory, Phenomenological Research, Narrative tradition, Ethnographic study, and Case study. The investigator select the case as the education of visually challenged students in higher education in Kerala. The present study employed a case study tradition. According to Yin (1981) “a case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not evident; and in which multiple sources of evidence are used”.

The primary purpose of undertaking a case study is to explore the particularity, uniqueness of the case, and the lived experience of particular individuals, programs, and projects. Does the case of such individuals exist in our society? What is their present condition in the higher education system? If they had met all their basic educational needs at the right time, they would have been accommodated very well in the higher education sphere. It must be addressed well in time to make them able to get through higher education instead of making them stumble.

The investigator adopted this method in order to answer the following research questions.

- ✓ What are the impediments faced by visually challenged students in pursuing their academic degrees in higher education in Kerala?
- ✓ What are the provisions and facilities available for the education of visually challenged students in higher education in Kerala?
- ✓ What are the inputs needed to make a responsive education system for visually challenged students in higher education in Kerala?

These are the main research questions that should be answered in this research. For that purpose, the investigator sets research objectives in this present study. They are

- To explore the problems of visually challenged students in higher education in Kerala
- To find out the reasons for dropouts of visually challenged students in higher education in Kerala

- To analyze the problems perceived by the teachers, peers, and parents of visually challenged students in higher education in Kerala
- To study the provisions of supporting services for the educational development of visually challenged students in higher education in Kerala
- To study the educational provisions in the governmental policies for visually challenged students in higher education.

Table 2*Connection between Research Questions and Objectives*

Research Questions	Research Objectives
What are the impediments faced by visually challenged students in pursuing their academic degrees in higher education in Kerala?	<ol style="list-style-type: none"> 1. To explore the problems of visually challenged students in higher education in Kerala 2. To find out the reasons for dropouts of visually challenged students in higher education in Kerala 3. To analyze the problems perceived by the teachers, peers, and parents of visually challenged students in higher education in Kerala
What are the provisions and facilities available for the education of visually challenged students in higher education in Kerala?	<ol style="list-style-type: none"> 1. To study the provisions of supporting services for the educational development of visually challenged students in higher education in Kerala 2. To study the educational provisions in the governmental policies for visually challenged students in higher education.
What are the inputs needed to make a responsive education system for visually challenged students in higher education in Kerala?	The outcome of the present study will lead to answering this question

Research Design

The present research is designed in two phases. In phase I, the investigator collected official documents from government websites regarding Persons with Disabilities. They are the New Education Policy (NEP, 2020), Rights of Persons with Disabilities (RPwD ACT, 2016), the State Policy on Persons with Disabilities in Kerala, 2015, and various five-year planning reports. The investigator analyzed these documents through the technique of document analysis.

In the next step, the investigator selected an expert panel including NGOs working for the empowerment of visually challenged persons in Kerala, the visually challenged teachers, the social workers, and researchers working in the same field, and interviews were conducted with them. They shared their experiences about the issues faced by visually challenged persons in higher education through this interview.

Before the pilot study, the investigator met fifteen experts in the field. They are research scholars, social workers, and visually challenged people who have higher education and a recognized position. They shared their experiences regarding the oppression that faced dealing with visually challenged and being visually challenged. It also helps the investigator to frame the materials for data collection.

Table 3*The Details Regarding the Expert Panel*

Experts from Field	Visually Challenged	Not Visually Challenged
Teachers	8	2
Research Scholars	1	1
Social workers	1	--
Ngo workers	2	--

In Phase II, with the help of the output from Phase I the investigator fixed the dimensions of tools and prepared materials, and administered them in a pilot study. After the pilot study, the tools were rearranged, and then the data collection procedure was carried out. After the data collection, the investigator carried out data analysis systematically. The codes and categories were identified and the cross-case analysis was also conducted finally, the themes emerged. Through these themes, the investigator could find out the answers to the research questions.

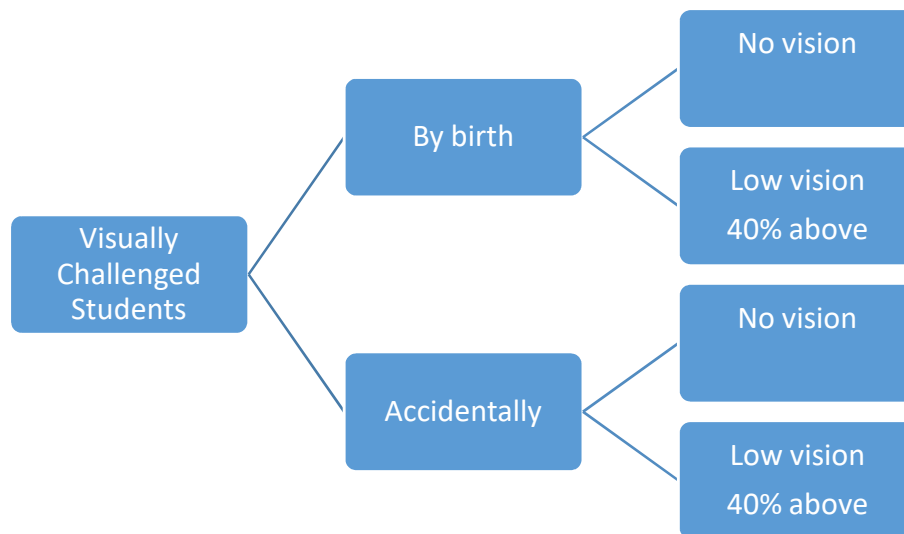
According to the census 2011, 2.21% of the population is Persons with Disabilities. They have their impairments and each case has different dimensions of problems. The primary senses are the vision. Clear vision has much importance in a person's life since it accounts for the major parts of the electrical activity of the brain. It is closely associated with learning since it fosters the growth of his mind and thoughts.

Every citizen has equal rights to live in the society without any discrimination of caste, creed, colour, religion, language, or disabilities. The constitution of India provides equality before the law and equal protection before the law but in the case of visually challenged students, they are not given equal opportunities and they are not free to educate themselves to their own needs. The emancipatory researchers want to get equal opportunity to visually challenged communities and give them equity concerning their educational needs. Social inclusion must be possible in the case of visually challenged pupils in higher education. The voice of the marginalized should be considered and given equal importance to their life. They have equal rights to be considered before the law and justice serves them better.

Methodological Approach

In the present collective case study, the investigator tries to communicate the problem of visually challenged students in higher education in a social justice approach. Now the status of Disability studies is moving forward from a charity-based approach to the right-based approach. The critical theories told about 'ableist' concepts do not match with the Person with disabilities. Society gives a negative attitude toward the Persons with Disabilities. Unfortunately, the rules and regulations which are made for empowering persons with disability remain only on paper. So the investigator tried to find out the problems faced by them through the lens of social justice

Participants of the Study



Other Stakeholders

Teachers 35	Parents 10	Peers 30	Government Authorities 6	NGO Officials 15
----------------	---------------	-------------	--------------------------------	---------------------

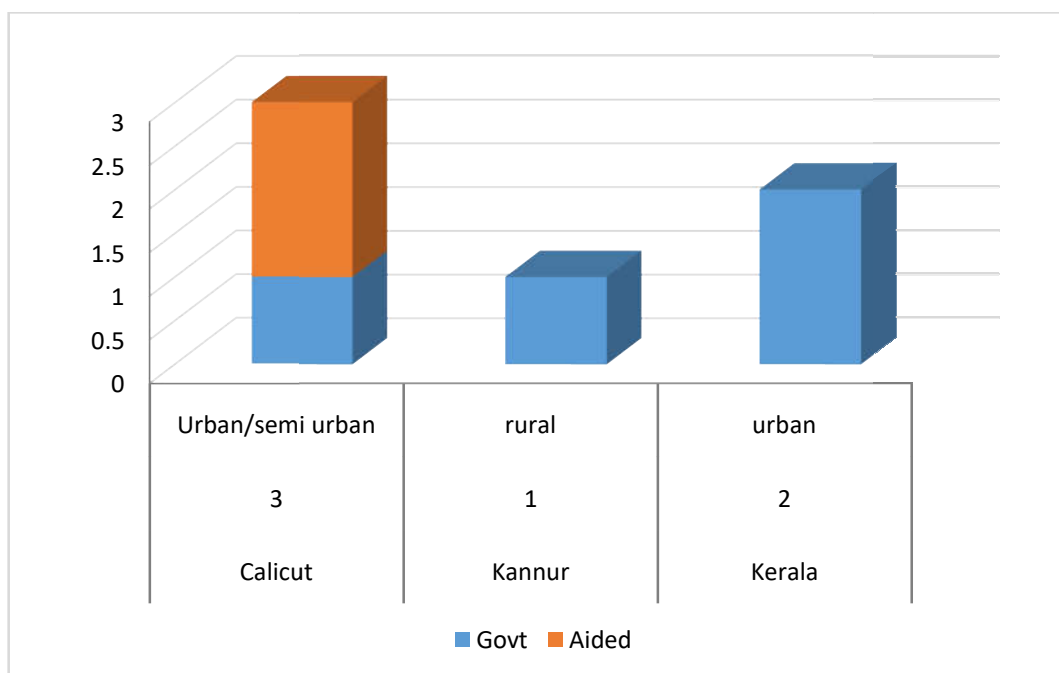
The investigator selected the visually challenged students with benchmark disabilities from the higher education level in Kerala as the participants for the study. Here the participants were two types. Their disabilities due to by birth and accidentally happened. Again it is divided into two, 'No Vision (NV) or blindness' and 'Low Vision' (LV). The investigator selected fifty visually challenged students who have above 60 % of visual problems that includes 100% disability candidates and also low vision categories. The visually challenged students in Kerala who are pursuing their undergraduate and above courses in higher education. Other stakeholders are teachers, peers, parents of visually challenged students and government and nongovernmental organizations in Kerala.

Demographic Details of the Participants

Participants of the study were selected from different higher educational institutions in Kerala. Visually Challenged Students regularly attend seven prominent higher educational institutions in Kerala. Of these, students from six institutions have been selected for the study. Institutions that have more than five visually challenged students and regularly attend such students are included in this study. Figure 1 shows the nature of higher educational institutions.

Figure 1

Nature of Higher Educational Institutions



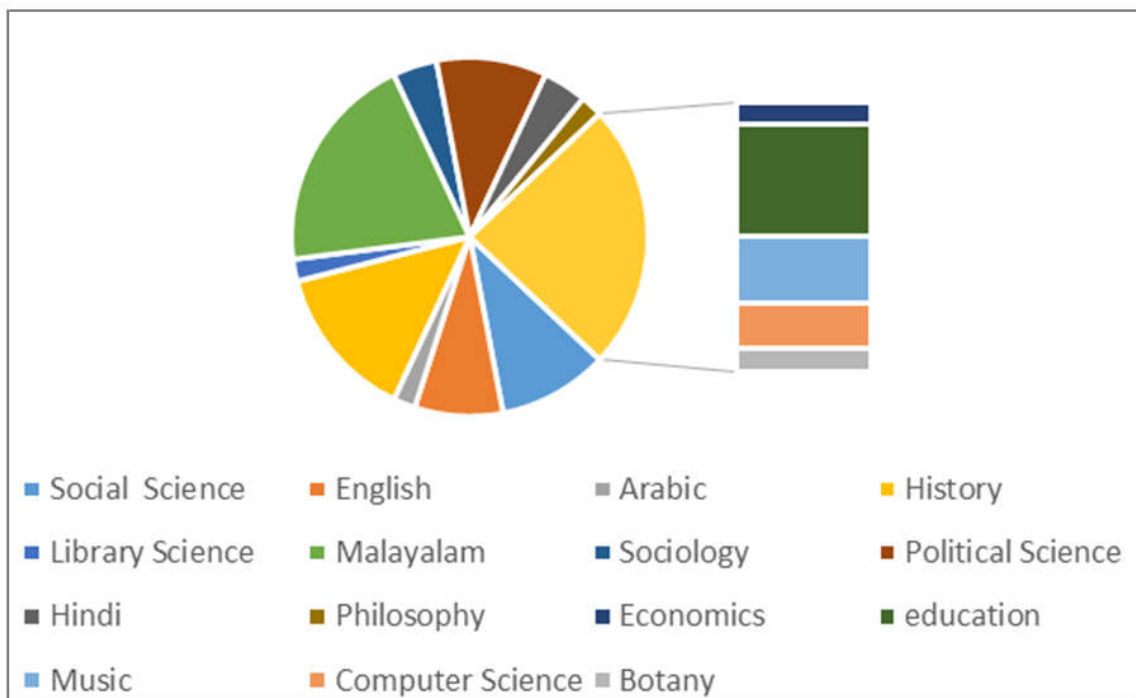
The demographic details of the participants are given below. Only 50 participants were selected from the different higher educational institutions under different universities in Kerala. Three institutions belong to the university of Calicut. One is a governmental institution and the other two were under aided management. The higher educational institutions are

situated in an urban or semi-urban areas. Only one institution from the Kannur University which is a government college. Under Kerala University, there are two higher educational institutions included in the study. They are situated in an urban area.

The investigator visited the higher educational institutions at various universities in Kerala. The participants were selected through snowball sampling and from the preliminary phase, the teachers with visually challenged suggested that there are seven prestigious colleges in Kerala at different universities the number of visually challenged students are studied. The investigator collected data from January 2019 to January 2020 from these institutions.

Figure 2

Academic Degrees Pursued by Visually Challenged Students in Higher Education in Kerala



The investigator found that there is a limited number of subjects that are selected by the visually challenged students in Kerala due to their disability. They particularly select some arts subjects like language studies, history, political science, sociology, philosophy, education, music, library science, and science. In language studies, most of participants from Malayalam, English, Hindi, and Arabic. Here Hindi and Sanskrit are the new attempt made by those visually challenged students. But in the case of history, most visually challenged students interested to study history and Islamic history. The investigator visited a JRF holder. It is the first time that a visually challenged student got JRF in Islamic history in Kerala. In the science group, only three students were found in botany and computer science. Another favorite subject is music for visually challenged students.

Table 4*Gender-wise Representation of Visually Challenged Students*

	Low vision	No vision	Total
Male	13	13	26
Female	11	13	24

The investigator selected fifty students from higher education who are visually challenged. There are 24 women and 26 men were included in the study. The population of Persons with Disabilities in higher education is not above one percent (NCEPDP, 2005). The ratio of men and women in higher educational institutions is not the same. But in this study, the sample is very

small and so the investigator could make the ratio of boys and girls almost equal. The researcher adopted deviant sampling, so that any particular nature of the participant can also be noted. Examples like an outstanding chess player, multi-talented student, a brilliant user of technical devices, and outstanding performance in academics and students with multiple disabilities.

Table 5

Economic and Educational Status of Parents of Visually Challenged Students

Parents	Educational Qualification	Job	APL/BPL
Mother	LLB	Advocate	APL
Father	Illiterate	coolie	BPL
Father	SSLC	coolie	BPL
Mother	Pre-degree	housewife	BPL
Mother	BA	private job	APL
Mother	SSLC	saleswoman	APL
Mother	SSLC	coolie	BPL
Mother	Illiterate	coolie	BPL
Mother	BA	Private job	APL
Father	SSLC	coolie	BPL

BPL-Below Poverty Line

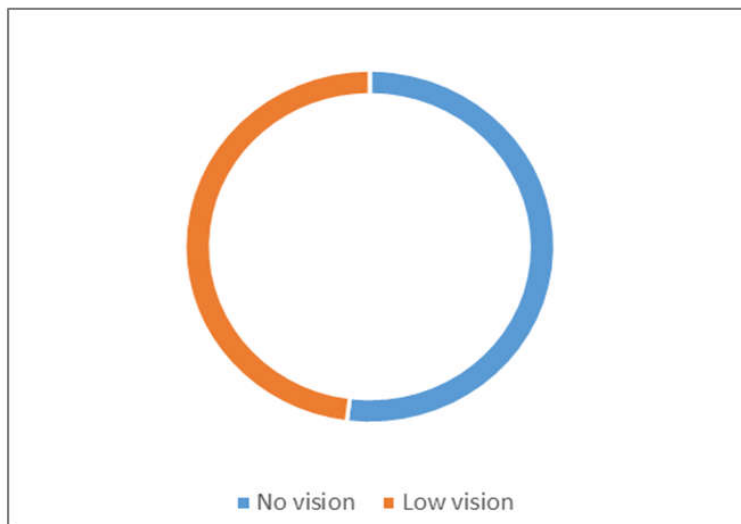
APL-Above Poverty Line

Most of the parents of the participants are not well educated. The participants come from low-income families. Only 10 parents responded in the unstructured interview. Only four were economically well and others are in

BPL (Below poverty line) category. The interviews with parents were conducted in the Parents Teachers Meeting Hall and also over the phone. They responded with sensitive comments about their son/daughter. The experience parents shared their emotional thoughts about their visually challenged son/daughter.

Figure 3

Types of Disability



Participants have two categories, one is total blindness/ no vision and low vision. Some of them have not visual acuteness by birth and others have after birth.

Students with recently acquired vision loss participated in this study. It seems that vision loss is unpredictable. Due to many reasons, they have lost their vision. Some of them are nerve deterioration, retinopathy diabetics, glaucoma, some prenatal injuries, accidents, side effects from some medicine, and myopia

Sampling Technique

Table 6

Details of Sampling Techniques used for the Study

Snowball sampling	The first participant helped to find another visually challenged student
Purposeful sampling	For selecting the students in each institution
Convenient sampling	For selecting the other stakeholders
Deviant sampling	Participants having a peculiar character

The investigator employed different sampling techniques in this study and first of all the investigator used snowball sampling for identifying the participants from higher education in Kerala. Purposeful sampling is used for selecting the participants in each institution. The selection of stakeholders was done by a convenient sampling technique. The investigator tried to find out the normal variant sampling. The sample identification is a herculean task. Every sample contributed their most prized experiences for this present study.

The admission departments of universities have not codified the details of admission of visually challenged students. Instead, entries are made under an umbrella term Persons with Disabilities (PwD) who belong to SC, ST, and OBC categories. It is one of the important factors that should be taken care of the policy administrators.

So the investigator tried another way to locate the visually challenged students; taking the help of non-governmental organizations (NGO). The major part of those students is registered in the one and only famous NGO in Kerala. Although there are many NGOs, the investigator felt that it is the most active one. They have almost ten institutions for the visually challenged. The investigator sought consent to get information regarding the visually challenged

students in higher education. The researcher met one district officer to get the records of visually challenged students but he informed them that they were not keeping any of such records. But he mentioned that the students' forum of an NGO would collect the data of the visually challenged students from plus two courses and he agreed to transfer the data to the investigator. After two or three months, the president of the student's forum called the investigator and said they could only collect the students' details up to the 12th level and some data of students studying undergraduate courses in Kerala and outside Kerala could also be given. The investigator again met some experts who the investigator had met in the first phase of the present study. The teachers were visually challenged, and the students of social work and research scholars were also helped to find the student's samples from different universities in Kerala by their contacts. The visually challenged teachers suggest that there are seven colleges in Kerala that the visually challenged students preferred more compared to other institutions. Thus the researcher finally got some visually challenged teachers, and students and contacted each person, and found the samples from each institution. Finally, the investigator recruited the participants from six colleges and also selected the other stakeholders i.e. teachers, parents, and peers too.

Pilot Study

The investigator conducted a pilot study with ten visually impaired undergraduate and graduate students from various universities, two of them were from the Indian Institute of Technology. They discussed their life experiences and how advanced institutions could assist them in completing their higher education.

After reviewing the literature the investigator identified the research gap and found out the different dimensions of the tools that were used for data collection. The experts' interviews helped to fix the dimensions and the present condition of the visually challenged students in higher education. Their current needs and concerns in the field of higher education are the focus area of the present study.

Materials and Methods of Data Collection

Interview for	
Visually challenged	for identifying the challenges that they faced in their higher education
Dropouts	for identifying the reasons for dropouts from higher education.
Teachers	for identifying the perception regarding their visually challenged students in higher education
Parents	for collecting the perception of parents about their visually challenged son/daughter
Govt. and NGO officials	for identifying the present status of visually challenged students educational provisions in Kerala
Questionnaire	for finding the facilities for visually challenged students in higher education
Observation	for identifying the supporting services for visually challenged students in higher education
Focus group discussions	For identifying the perceptions of peers about visually challenged students
Document Scrutiny	For analyzing the provisions and facilities for visually challenged students in higher education

The investigator developed different tools for data collection. They are

Interview with Visually Challenged Students

The interview technique was used to identify the various problems faced by visually challenged students in higher education. The dimensions were fixed by reviewing the literature and thorough discussions with experts in the same field. The identified dimensions were academic problems, social problems, technological problems, and employability problems. These dimensions cover all the areas of the problems faced by visually challenged students in higher education in Kerala.

An interview schedule was developed for finding the reasons for dropouts of visually challenged students from higher education. Since the enrollment ratio of visually challenged students was not satisfactory in higher education and their dropout rate was minimal, the investigator tried maximum for the hearing/seeking their voice/experience they wanted to disclose with the society.

Interview with Teachers

Teachers are the most important data source in the study. The investigator planned to take focus group discussions but there only once they're getting a chance to conduct focus group discussions from one institution. Other teachers were interviewed with a semi-structured interview schedule. The main focus of the interview was to realize the perception of the teachers about their visually challenged students and suggestions regarding the education of their special students.

Interview with Parents

Parents of visually challenged students are rarely obtained as a sample in this study. Only 10 parents were interviewed for this study with unstructured interview schedule. The investigator collected the data from the parents under two dimensions they are the problems of visually challenged within and outside the classrooms. Within the classroom experience, positive and negative feedback was collected. Out of the classroom support to the academic activities from the institution and difficulties faced by the visually challenged students to access the campus and study materials.

Questionnaire

The questionnaire was used for collecting data regarding the facilities of educational institutions. They are filled by the office staff/grievance redressal officer. He gave the details regarding the policies and programs for visually challenged students in their institutions. The facilities like removal of Physical barriers, academic support from teachers, accessibility of campus and study materials, and equal opportunity cell were mainly selected for the items in the questionnaire.

Non participant Observation

Non Participant observation was used to observe how the supporting services for the educational empowerment of visually challenged students in Kerala. Govt. and NGO level supporting services like computer training, vocational training, and skill enhancement programs were conducted in selected

centers. The investigator identified the following dimensions availability of resources for the training program, assistive devices used, participation of visually challenged students, classroom management, and cooperation between the instructor and authorities were selected for observation.

Focus Group Discussions

Focus group discussion was another technique used for data gathering and it was for identifying the perception of the peers of visually challenged students in higher education. Focus group discussions are mainly expected to reach more clear evidence of the given topic. Various dimensions are generated from the discussions. The characteristics of the visually challenged students, where the help needs, and the supporting system within the institution were selected as the focus area. Recorder helped the investigator to record each moment of the discussion.

Document Scrutiny

Firstly the investigator analyzed the documents related to Persons with disabilities. The document analysis method is used to analyze various policies of central and state governments for Persons with disabilities in India. The investigator analyzed the recent policies namely the Rights of Persons with Disabilities Act (RPWD, 2016), UGC guidelines of Persons with Disabilities, New Education Policy 2020, and the Disability policies 2015 in Kerala. The investigator fixed four dimensions for policy analysis. They are the Educational rights of PwD, Education, Empowerment, and Employment. The

investigator analyzed this data from the government document through document analysis and also conducted focus group discussions with the elder beneficiaries of this policy to triangulate the data.

Case Study Method

The case study method was employed for this study. This method was suitable to identify the problems regarding visually challenged students in higher education in Kerala. Six major higher educational institutions are frequently the visually challenged students pursuing their higher education. Out of seven prestigious higher educational institutions six were selected as collective cases. Each case was studied in detail and then all of them were cross-cased. According to Yin (2002), the case study method was used as a qualitative research method to examine the real-life situations of the research object.

Data Collection Procedure

Interview

The purpose of the interview was to uncover the difficulties and reasons for dropouts faced by visually challenged students in Kerala's higher education system. The interview method was employed for collecting data from the participants. The interviews were conducted in different sites like classrooms, staff rooms, library hall, and corner of the courtyard for the convenience of smooth running of it. They were ready to share their experience. They took 20 minutes to one hour for the interview. Some

telephonic interviews were also conducted with parents. Some of them actively participated but a few were reluctant to share their views regarding their son/daughter.

The interview was conducted to know the present status or provision of support from the government side and NGO levels. It was also used for collecting data from the parents of visually challenged students because the investigator could not conduct focus group discussions due to the lack of a sufficient number of parents. From the first phase of the investigation starting from reviewing the literature, the investigator identified the research gap and found out the different dimensions of the tools that were used for data collection.

Then the investigator visited a few visually challenged college teachers and one headmaster from a government school for visually challenged, the teachers in a teacher's training college were met by the investigator to identify real problems in the field. After that, some contact details were collected from those experts. The investigator also met the research scholars and students of social work. Different institutions for visually challenged people were also visited. Data were collected from the experts in the vocational training institutions for visually challenged students under different non-governmental organizations in Kerala, a teacher training institute for visually challenged students, district office of NGOs, social justice department, social security mission, disability study center, and six major colleges which are under government and aided colleges in Kerala.

The investigator visited these institutions and sought permission for getting the sample to collect data. After getting the preliminary ideas regarding the visually challenged people from the field, the investigator tried to fix the dimension of tools and again went to the field to meet the visually challenged students in higher education.

First of all, the investigator contacted the prestigious aided college in Kozhikode district under Calicut University. The investigator approached the principal and sought permission for data collection from this college. He permitted the condition that without disturbing their academic activities data could be collected. He directed to meet one visually challenged teacher, who was the coordinator of the Students of Disability Group in that college. The investigator met that teacher from his department staff room he was busy with his classes and after that, he gave permission to talk with the investigator. He talked about the visually challenged students and it was revealed that most of the students with disabilities were visually challenged students in this college. The investigator was directed to see the students after their class. The teacher gave details of the student coordinator and the investigator waited to see the student on the very next day.

The investigator was given details about visually challenged students studying in that college with students' mobile numbers, subjects, etc. Another task was to interview them after college time from their campus itself. The investigator called each student using their phone and tried to interview each of

the students when they had break time in the college or after college time. Most of the students were interviewed from the campus and some were from the hostel. Peers also helped to collect the students' details from the scribe bank and they were interested to enquire what kind of questions the investigator asked about them. They raised their voice with their independent views about their visually challenged friends in their class or college.

Interview with Visually Challenged Students

First of all, the investigator collected the details from the teacher coordinator about visually challenged students and their classes. Then a list was prepared with name, subject, class, mobile number, etc. After that, they were contacted over the phone. The student coordinator helped to distribute each student according to their convenient time for interview. Some active members cooperated with the investigator by giving apt information even after the regular time of the college.

Interviews were conducted with each student separately after seeking consent. Each interview was targeted to complete within 40-45 minutes. But some interviews lasted for one hour and more. Each participant was given oral permission to conduct this interview. The investigator gave an introduction to the investigator and the researched in a few minutes and created a good rapport with the students. Each student participated in the interview with patience. Sometimes the interview was taken from their

classrooms, outside the classroom/ verandah, or the comfortable spaces inside the campus. The investigator gave the freedom to choose their place of comfort to conduct the interview. Some of the students were not interested to talk with the investigator so they were not compelled to attend this interview. The interview was recorded by using a voice recorder which helped the investigator to transcribe the data easily after the interview.

The participants were interested to share their views regarding their studies. Some of them were courageous enough to raise their voice against the system. Some of them were found obedient and satisfactory with their facilities. All the verbal cues and some facial expressions and feelings were recorded by the investigator. After the interview, participants thanked the investigator for selecting such a topic which gave them a chance for revealing something regarding their life. The investigator also thanked me reciprocally.

Interview with Dropouts

The investigator faced many difficulties to reach the dropouts. While collecting data from the field, some students and teachers helped the investigator by giving contact numbers of some dropouts. In this context, the investigator remembered the helping hands of some peers and that of some students who are studying outside Kerala. A telephonic interview was conducted by the investigator with each of the dropout students from their higher studies. They participated wholeheartedly and the conversation was

also recorded with their informed consent. Of these, one of them was the investigator's classmate for her M.Ed. course. All the participants were really happy in conveying their problems.

Interview with Parents

In this phase of the study, the investigator had to face some difficulties. Locating the parents of visually challenged students was a real problem. Some parents were not educated and they are coolie workers, some of them were not interested to participate. But some of the parents were willing to participate in the interview. Two of them were interviewed from the college itself and it was reported that the mother always helped her son in every academic and personal matter. After the parents meeting the investigator met another parent who was also from the same college. She talked about their son and his life and future education; the investigator used an unstructured interview with them. Some of the parents were interviewed over the phone. Parents revealed their true expressions in those interviews. Sometimes long silence, tears, expectations and anxieties were revealed. Some parents were not educated so they didn't attend to the researcher's questions but they always worried about their son/daughter's future.

Focus Group Discussion with Teachers

The investigator tried to seek information from teachers and enquired what their perceptions regarding their visually challenged

students were. The majority of visually challenged students were from arts subjects. So the investigator tried to conduct focus group discussions with teachers of visually challenged students in each department. The convenient sampling technique was used to select the teachers of visually challenged students. According to the availability and willingness, the teachers were selected for the focus group discussions. The classroom activities and academic problems related to visually challenged students were discussed. Teachers from history, political science, and English actively participated in the focus group discussions and teachers from each department participated separately in these focus group discussions. But in some departments teachers were not ready for focus group discussion so the investigator was forced to take personal interviews with such teachers. They were conducted in the classrooms or at the teacher's cabin. Focus group discussions took 30 minutes and they discussed a lot of issues regarding their visually challenged students/people with disability. Personal interviews were taken 30 minutes and above. Only one Head of the department was reluctant to participate in this interview. Focus group discussions were recorded on recording devices and interviews were also recorded. Some teachers didn't give consent to record their interviews and the investigator tried to make field notes about the interview. Then wrote the interview notes which helped the investigator transcribe the data as early as possible.

Focus Group Discussions with Peers

Peers are the most influential persons for visually challenged students in higher educational institutions. The peers were selected by the investigator who had at least one time experience as a scribe or the member of the equal opportunity cell or roommate or classmate of visually challenged students. After college time, those students were gathered in the campus or in their classrooms. Investigator conducted focus group discussions. All the participants actively participated in the discussions. The duration of the focus group discussions were almost 30 minutes. Total number of participants in each focus group discussion was 5 or 6. Almost 7 focus groups discussions were conducted.

Focus group discussions started with the introduction of investigator and the need for conducting this focus group discussions. Investigator created a discussion platform for the peers about visually challenged students' issues and concerns in an educational context. Each participant critically commented on this topic. Sometimes group members were helped to take video for the focus group discussions. But rarely was it done. Most often the investigator recorded the data in a device and prepared a field note.

Non Participant Observation

In the first phase of data collection the investigator collected the NGOs list from the website of the Social Justice Department, Kerala and identified the list of programs and activities for the education and empowerment of visually challenged students. The investigator visited the

social security mission and social justice department Kozhikode and interviewed the director. The investigator got information regarding different programs and schemes for visually challenged students and they explained the current need and status of the Persons with Disabilities in Kerala. They gave information regarding Kerala State Centre for Assistive Technology (KSCAT) - technologies for barrier free world and other governmental institutions for Persons with Disabilities. Government aided institutions and non-governmental institutions are actively working for visually challenged people.

The supporting services provided by Government and NGO were enquired by the investigator. The investigator also tried to find out the students who were making use of these supporting services. After one month's search, at last the investigator found out there was only one institution for computer training courses especially for visually challenged students in Kozhikode under the Government of Kerala. Other three or four institutions for visually challenged people were started by NGOs. All such courses included computer training, communicative English, skill development.

The supporting services for visually challenged were situated in Malappuram, Ernakulum, Kozhikode district. Audio libraries were working under some of these institutions and they also rendered student support. The investigator visited such institutions and sought permission for an interview with the director of the institution. They gave information regarding the institution

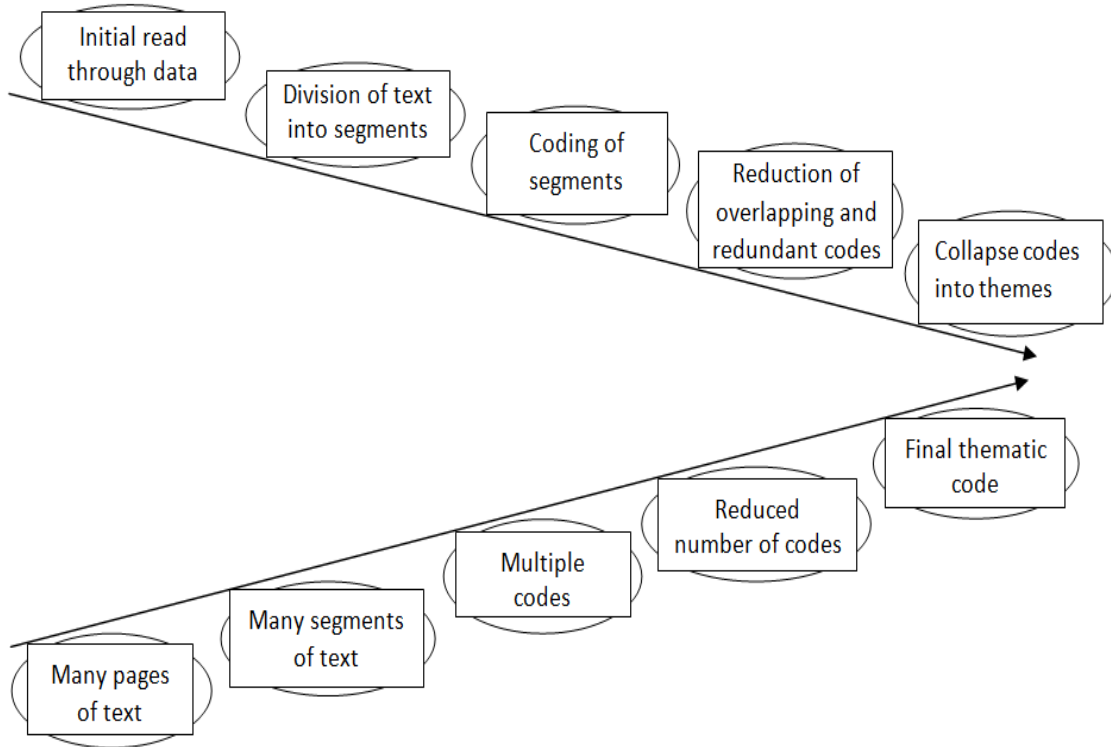
such as the starting of the institution, nature of the courses, type of teachers and the services offered for visually challenged students. Then the investigator was given permission to observe their classes. Observation schedule was used for collecting the data and it had dimensions like facilities, tutor experiences and student participation. The tutor allowed 30 minutes for observation.

Questionnaire for the Educational Facilities for Visually Challenged

The investigator prepared a questionnaire for identifying the educational facilities provided for visually challenged students in the institution. Questionnaire was filled by the teacher coordinator of students with disabilities or the office superintendent. It was filled within 20 minutes. The questionnaire deals with educational facilities for visually challenged students. The items were developed under different dimensions. They are hostel facilities, library facilities, transportation facilities etc. and the superintendent or teacher coordinator of the concerned institutions filled the questionnaire completely.

Data Analysis Procedure

In qualitative research, the analysis of data can be undertaken in multiple ways. The investigator adopted Creswell's (2008) Visual model of the coding process in qualitative research.

Figure 4*Creswell's (2008) Visual Model of the Coding Process*

The data were collected using different qualitative techniques like interview, observation, focus group discussions and questionnaire. The collected data were recorded in the recording devices and they were transcribed to the text. The transcription work was another time consuming process. A 20 minutes interview might have to be transcribed in a minimum of 3 hours. Then the investigator read the transcriptions repeatedly and found the segments which related to the research questions. These segments were identified from the observations, conversations and documents. These were converted into different codes. From one interview 20-30 codes were identified. After coding the transcribed data the investigator tried to find out the different

categories. These categories were refined and reduced to different parts. At last from these the new themes were developed. Themes were generated from the data after this process. These themes were helped to answer the research questions.

Addressing Validity and Reliability Issues

Qualitative researchers are always concerned about the quality of work and it will help the data mining from the raw data. The investigator collected data from the field i.e., raw data. The data were organized and processed and the findings of the data analysis were given in the next chapter. Investigator wanted to ensure the reliability and validity of the collected data. So the investigator assured the trustworthiness of the data.

To increase the trustworthiness of the study's findings, the investigator employed strategies suggested by Lincoln and Guba (1985). The investigator decreased threats to credibility (internal validity) by triangulating data. To increase dependability (reliability) the investigator provided an audit trail by describing in detail how data was collected, how categories were derived, and how decisions were made throughout the inquiry (Merriam, 1998). The investigator used rich and thick description, thus enabling other researchers to make decisions about transferability (External validity or generalizability). To increase conformability (Objectivity), the investigator attempted to control for bias by constantly comparing data,

searching the literature, obtaining multiple viewpoints (Strauss & Corbin, 1998), searching for negative instances of the phenomenon, and checking and rechecking data (Marshall & Rossman, 1989). The investigator used different approaches to triangulate the data for the verification of data and securing findings. Data triangulation and source triangulation are employed for this study. Multiple methods were used in this study and more sources were opted for triangulating the data (Patton, 2001). Through this, the investigator assured trustworthiness.

Ethical Considerations

Qualitative researchers faced a lot of issues related to the research. The investigator selected it as a case of visually challenged students at higher education. According to the Rights of Persons with Disability (RPwD, 2016), The Social Security Mission is providing immediate action regarding the protection of laws of Persons with Disability groups. These vulnerable groups are very sensitive people who have not reached the mainstreams of the society. So the investigator tried to connect with those people and communicated politely and their voice of experiences was taken with consent. The lived experience of the visually challenged students was taken as the most important data from the field and participants had been given full freedom to raise or withdraw their voices at any time during data collection. The investigator encouraged them to give true and honest words and also

convinced them that it should be valid and they would be considered as confidential and it was only taken for research purposes. The personal profile of each participant is used in this study with utmost care and caution. The investigator informed them that reciprocal clarification of collected facts may be required sometimes. Thus the reciprocity is ensured by the investigator. The investigator sought permission to take interview, observation, administration of questionnaire and focus group discussions by giving consent form which contains the details of the investigator and the researched. Thus the investigator got permission – oral/written. First of all the investigator tried to get permission from the gatekeepers such as institutional heads, government authorities and NGO officials. Then only took the data from the participants with their consent. All the participants are happy to attend this academic activity.

Role of Researcher

In qualitative research, the researcher is the primary research instrument. What the researcher brings to the investigation from his/her own background and identity, should be treated as his or her bias (Maxwell, 2005). Since qualitative research is interpretative in nature researcher biases, beliefs, and assumptions can intrude into the analysis of data (Strauss & Corbin, 1998). Social researchers should attempt to neutralize their biases through full disclosure (Altheide & Johnson, 1994; Locke et al., 1987). The researcher

does the in vivo codes which are the actual words of the participants from the field and the interpretations are made by the investigator through a social justice view.

For the present study, the investigator acknowledged that personal views and beliefs could influence the interpretation of data. As a teacher educator, the investigator keenly observed that the visually challenged students must be prepared for a good profession and to become a productive member of the society. So it is hoped that investigator can find out new paths for teaching them and to understand their diverse needs.

To minimize any personal bias on the results of the study, member checks were used during and after interviews to increase the credibility, validity and transferability of the study results (Lincoln & Guba, 1985). The researcher included ample and relevant quotes from participants to substantiate the findings of the study (Maxwell, 2005).

The researcher ensures the credibility of the present study by using multiple methods of triangulation. The method triangulation, source triangulation and member checks were frequently used. Transferability was ensured through rich and thick description and cross case analysis was also done. The procedure of data collection and management was properly described through the detailed documentation. The audit trail ensured the dependability of the present study. Multiple investigators showed consistent findings.

Limitations of the Study

The limitations of the present study are:

- Results are limited by how participants interpreted the interview questions.
- Though the investigator wanted to collect data from the whole state, due to many reasons she could do it from selected institutions only.

Delimitations of the Study

The delimitations of the present study are:

- Number of participants is small in this study.
- Data collected only from the visually challenged students who were studying degree and above courses in limited subjects like Languages, History, Political Science, and Education.
- Study focuses on Kerala but the representation of each district is very small.

Summary

In this chapter the investigator describes how the methods and materials fit the present study. The qualitative approach was suitable for identifying the problems and concerns of visually challenged students in

pursuing their higher education in Kerala. The different materials and methods were employed for data collection. The participants and other stakeholders were identified by different techniques and the reliable information was collected with their consent. The rights and individualities of each participant were protected and they voluntarily participated in this present study.

Chapter 4

ANALYSIS & INTERPRETATIONS

- *Description of Data Analysis*

ANALYSIS AND INTERPRETATIONS

This chapter deals with the data analysis and the emerging themes of the investigation. The investigator tried to answer the following research questions through the themes generated from the data analysis. The main data is from the interview transcripts, observation, focus group discussions, and questionnaires through the visual model of the coding process. Through this process, identified themes were answered about the impediments faced by visually challenged students in pursuing their academic degrees in higher education in Kerala. The second research question is what are the provisions and facilities available for the education of visually challenged students in higher education? Data were collected from the document scrutiny and interviews and observation. Here the themes were preset because the documents used to identify the provisions for education, employment, and empowerment are tested from the first research question. Through the document analysis, the investigator tried to locate the gaps in the policy and implementation. The third research question is a new suggestion for making a responsive system for visually challenged students in higher education in Kerala

Description of Data Analysis

The majority of data collected for this study were qualitative, including interview transcripts, texts from document analysis, and rich data from focus group discussions, questionnaires, and observations. The multiple-method

approach was seen as important in ensuring the reliability of the data. The data collected were purely in qualitative nature. In this study, triangulation was used for the verification of data, which ensures a high level of confidence in the data. In a study quoted by Jament (2006), “The qualitative nature of this data is typical of that collected through a process in which people are encouraged to express their subjective experiences and attitudes”.

Investigator focused on hearing the voices and experiences of visually challenged students in higher education as well as the experience of their teachers, parents, and peers. Data were collected through interviews, observation records, field notes, and document analysis. Each of these indicated participant’s perspectives, concerns, experiences, and practices. Qualitative data analysis procedures were adopted for this study.

Three phases of data analysis were used in this study. In the first phase of data analysis, categorizations of different codes were established in an open coding strategy with a content analysis procedure adopted, and it was followed by case analysis using Creswell’s (2008) Visual Coding Process. This is followed by a cross case analysis using a combination of deductive and inductive approaches (Patton, 1990; Miles & Huberman, 1994).

Stage 1 - Establishing Codes and Categories from Each Single Case

Here the investigator read through the data obtained from different data collection methods. Initial read-through data, line-by-line reading makes to identify the codes or segments. Then reducing codes into different categories.

These categories will lead to the themes by using Creswell's (2008) Visual Coding Process. The document analysis is done through pre-determined codes because it is used for data verification. A large number of data will be reduced to codes and themes using a qualitative data analysis procedure so it can be more refined. It is a systematic procedure that is followed by the investigator.

Stage 2- Case Analysis

The investigator identified six different cases for this study. Each case stands different features. Six higher educational institutions are the prestigious institutions where visually challenged students study in Kerala. A database is established for case analysis. For example,

Table 7

Example of Case Analysis

Case	Context	Description
Case 1	Aided College (NV= 7 LV=4)	Most frequently selected institution Scribe bank Unofficial supporting group Digital library with screen reader software
Case 2	Govt. college (N V =5 LV=3)	Grievance Redressal Officer Student coordinator No scribe bank Low library facility
Case 3		
⋮		
Case 6		

Case 1

One of the most prestigious higher educational institutions in Kerala under aided management. It is an affiliated institution of Calicut University under a reputed aided management where visually challenged students have been studying for years. Visually challenged students are a regular presence in different arts subjects and teacher education Centre. A large number of visually challenged students are studying in this institution on a merit and reservation basis.

English, sociology, Arabic, history, library science, and education are the subjects chosen mostly by visually challenged students. Many of them are studying undergraduate and postgraduate courses. There are eleven visually challenged students from different subjects were selected for the present study. Only 4 Low Vision (LV) and 7 No Vision (NV) students were included in this study.

Case 2

It is one of the best campuses with a vivid culture-based community and it aims to provide quality education to the youth from all sections of society, especially the deprived and disadvantaged, and to mould them into responsible citizens capable of contributing to the nation's progress enlightening education for a broader and brighter tomorrow.

8 visually challenged students are engaged in this study wholeheartedly. There is a grievance and redressal officer and student coordinator of an equal opportunity cell named 'Prajyothi'. It is in the initial

stage. The programmes were arranged under this cell. The teacher coordinator itself has low vision. Here is also some visually challenged students who take brave attempts to select computer science and economics-like subjects. at the same time, the usual subjects were selected for the other visually challenged students like Malayalam, English, and history.

Case 3

It is another important higher education institution with a semi-residential campus that offer 8 postgraduate courses and 16 undergraduate programmes. It is under-aided management situated in the urban area. Eleven visually challenged students actively participated in this research. There is an equal opportunity cell working for students with disabilities. Visually challenged students have been given more facilities like scribe bank facilities and audio recording of study materials by NSS volunteers. Public Servant Examination Coaching, Communicative English, Arts and Sports performance of visually challenged students also well in this institution. Blind Cricket is encouraged by the institutional authorities. Different programs were arranged. Braille book collection in the main library is an attraction of this institution. But less adapted library facilities there. One low-vision student is studying botany at this institution. He is very emotional about the selection of his interesting subject to study.

Case 4

It is one of the premier institutions of higher education in the state of Kerala. Although there are no facilities to mention, this institution has had the

presence of visually challenged students for years. Visually challenged students selected the subjects like Malayalam, English, Hindi, History, and Political science. Hindi teachers commented that two visually challenged students chose this subject first time in this institution. Earlier there was an association for visually challenged students which conduct different programs for their empowerment. But it is not working during this academic year. There is only 8 visually challenged students participated. All are brilliant students who have the vision to overcome their challenges.

There is no adapted library facility for visually challenged students in this institution. Architectural barriers are seen. Adequate Hostel facilities for visually challenged students. No equal opportunity cell working here.

Case 5

It is one of the oldest and most prestigious institutions of higher education in India. Offering 18 UG, 21 PG, 13 M.Phil, and 18 Ph.D. programmes, the college is undoubtedly vibrant academically. It is affiliated with the University of Kerala.

Visually challenged students regularly study various subjects in this higher education institution and perform well in their studies. Only 4 participants were selected from this institution through purposive sampling. Only 1 in the no vision category and 3 in the low vision category. Only 6 teachers were interviewed. One of them is a visually challenged teacher and head of the department. There is no grievance redressal officer in this

institution regarding persons with disability. There is no hostel facility provided by the institution. Visually challenged students stayed in the women's hostel outside the institution. No library helps visually challenged students. Transportation facilities are good. Library facilities are not friendly for visually challenged students. One or more unofficial groups through social media are helped for finding the scribe and recording the study materials privately.

Case 6

It is one of the oldest women's colleges at the University of Kerala. Here 6 students who have no vision and 3 low vision students participated in this study. More than ten students with disability are studying here. A visually challenged student was seen in the Malayalam department. This is the first time that so many visually challenged students studying here. In the past visually challenged students only selected subjects like music and history. But nowadays such students are seen in Economics, Philosophy, Malayalam, and History. The first step to improving the facilities for students with disabilities was to start an enabling unit named 'Praptha'. A Grievance Redressal Officer has been appointed as directed by the UGC. Transportation facilities are adequate. No hostel facilities. Nearby private hostel facilities are used by visually challenged students. There is no audio library in this institution. There are no facilities for accessing study materials for visually challenged students. One research scholar with no vision has been given good remarks by her supervising teacher and other teachers also. She is a brilliant student and scholar who have strong family support for her academic performance. Eight

teachers of Visually Challenged students were interviewed from here and the new models were reformed from the minds of executive members of 'Praptha'.

Stage 3- Cross Case Analysis

The first two stages of the analysis process have focused on developing a general understanding of the rich data and identifying the characteristics of visually challenged students in each of the institutions in Kerala. In the final stage of analysis, an attempt was made to compare each case. Through this approach, the investigator used a combination of deductive and inductive analysis techniques to identify the problems faced by visually challenged students in higher education in Kerala from a large set of data. In this process, the investigator looks for patterns, themes, and categories derived from the data.

The following are the main research question that should be answered by the data analysis done by the investigator.

- ✓ What are the impediments faced by visually challenged students in pursuing their academic degree in higher education in Kerala
- ✓ What are the provisions and facilities available for the education of visually challenged students in higher education in Kerala
- ✓ What are the inputs needed to make a responsive education system for visually challenged students in higher education in Kerala

When investigators inquired about the challenges faced by visually impaired students in higher education in Kerala, it was found that they were not fully provided with proper academic facilities. Quality education is possible only

when policymakers, authorities, the teaching community, and parents share their responsibilities with those students. Here the investigator explains the challenges faced by visually challenged students in higher education in Kerala through the themes of equity matters, accessibility issues, inclusive mindset, and lack of awareness.

Table 8

Major Themes Related to Research Question 1

Major Themes	Sub Themes
Equity matters	Academic Accommodations i. Admission, ii. Examination, iii. Evaluation, iv. Facilities v. Employability issues
Accessibility issues	i Campus environments ii Assistive devices iii Study materials
Inclusive Mind set up	Inclusive minds of i. Role of Teachers ii. Role of Parents iii. Role of Peers and iv. Role of Authorities Inclusive Curriculum Inclusive management
Lack of Awareness	Lack of Awareness of teachers Lack of Awareness from Peers Lack of Awareness of legal provisions Lack of Awareness of inclusive management

The Impediments Faced by Visually Challenged Students in Pursuing their Academic Degree in Higher Education in Kerala

The major impediments faced by visually challenged students in higher education in Kerala are equity matters, accessibility issues, inclusive mindset, and lack of awareness which are discussed below with the evidence obtained from the data analysis of interview transcripts, focus group discussions, questionnaire, observations, and document scrutiny.

Equity Matters

How can a citizen be treated fairly by society? In the case of visually challenged students, they are not given any equal opportunities in their everyday situations. The visually challenged students have to provide equal opportunities ensured by the RPWD Act. It gave full support to their upliftment through education. Global initiatives on disabled students should give equality in every sense. To achieve this aim is to build positive attitudes in society towards visually challenged students. In the case of teachers, peers and authorities should show positive attitudes towards those visually challenged students. Then only they are treated as equal citizens in society. One student shares her experience, in the examination days the peer groups gave warm wishes to their scribes only but they were not given any good wishes for her studies and the efforts that she made for her examination. This is an example of unfair treatment from the immediate circle of the student. Friends/peers sometimes do not know how their visually challenged friends put their effort into their studies. It cannot be counted or evaluated. So the teachers and peers

have some opinions about their visually challenged students/friends that they have only treated with a sympathetic view. They are only protected by their rights given by the law but they cannot provide any upliftment in their student life. An academic accommodation is possible when visually challenged students are treated as equal citizens in society. They should be given equal opportunity to choose a course in an institution. In the case of Kerala, the number of colleges/institutions where visually challenged students pursue their higher education is limited. From the demographic details, it is clear that Kerala has a limited number of subjects or courses chosen by those students.

Selection of Course /Subject/ Institution

Most students reported that they do not get the interested/applied course. They are not ready to accept the vacant seat that they are not interested in choosing. They are not willing to accept this, so they dropped out of their studies. The reason for quitting the course during the major one is that uninterested courses are selected so they cannot perform well in those subjects. So they dropped out of higher education. It is another reason for the dropout of visually challenged students in higher education in Kerala.

There is a choice for students to apply only for arts subjects and applied science. But most of the participants chose arts subjects like language, education, sociology, history, and philosophy. A few of them are identified in the science stream, especially in Computer Science and Botany. One second-year B.Sc. Botany student shared his experience:

I am interested in studying English. But there is no seat available. So I have to select the next vacancy in Malayalam. The admission procedure is different. So I am compelled to take this course or I will decide to quit my studies.

Another student's experience:

I would like to study the subject that I like. I am not responsible for my defect. Even then how can I study a subject that I do not like?

The choice of educational institutions is also limited. In the context of Kerala, most students studied only in selected institutions. There are important things found by the investigator that visually challenged students choose the colleges where their friends had studied and decided to go there knowing their experiences. The interesting subject will lead them to a good career. But in the context of higher education in Kerala, there is no provision for career-oriented education for visually challenged students. Alumni of visually challenged students advised the juniors to choose colleges and gave an introduction about the facilities of the college/institution. So they wanted to join the undergraduate courses in the suggested colleges in Kerala.

Equal Opportunities

Most of the participants expressed their gratitude to their teachers for their helping minds. Teachers consider them as a student but teachers didn't

know their whereabouts in detail. Many of the participants are first-generation students. They feel their teachers only lectured them and did not give any consideration to them. So they feel distant from the teachers. The teacher is not a facilitator to those students who need more academic accommodations from their teachers like the medium of writing their assignments and finding the scribe for examinations. Loving more and more and always extending a helping hand to enlighten their future. A teacher can motivate those students and help to build self-confidence in them.

Teachers asked me to take my internal exams through viva or with the help of a scribe. I want to attend the exam in viva mode. I am a new student in that institution. I couldn't find any scribe from the institution.

Another Participant:

A teacher gave me some topics to select and write an assignment on. I selected a topic to write an assignment and with the help of my friends I collected the materials and heard the same in audio form and wrote a paper with the help of a friend (scribe) and submitted it.

But another student shares a new experience with his teacher:

In my class, the teacher tells me to write the assignments in my language, which is in braille. I tried my level best.

Most of the participants said that their teachers did not compel them to write the exam, assignments, and seminars. They do not speak to them. They feel that when their abilities are recognized they get more satisfaction.

This is not fair because the teacher should give more equal opportunities to their visually challenged students in the learning process. More learning activities are adapted for visually challenged students and they have to include their curricular activities. Facilities should be provided for visually challenged students to write assignments in their script. Some of them have good IT skills, they have to identify and allow them to type, print, and mail the assignments.

Problems in Examinations

In the case of examinations, visually challenged students have faced a lot of problems. They have preferably two modes of exams. One way is to choose to write an exam with the help of a scribe. Another one is in the viva voce exams. RPWD Act and New Education Policy (2020) suggest that persons with disabilities are considered to give reasonable accommodations to them for their educational enhancement. How to provide reasonable accommodations to visually challenged students in higher education. They have not been given their requirements for appearing in the examinations. One teacher shares their opinion about a first-year BA student who has low vision.

She is not ready to write an exam with the help of the scribe in their first-semester exam. Up to her plus two classes, she alone

writes her exam with the help of an enlarged print of the question paper. But in graduation classes, there is no provision to enlarge the question paper before the examination takes place. The student began to cry but the principal and other examiner were compelled to write an exam with the scribe. If the examiner or principal has awareness about the assistive devices for the low vision student the scene might be changed.

The student has been restricted to disclose the truth and she cannot be given fair treatment in that case. It hurts that their impairments will count as their disabilities, not their abilities. Different situations are seen from the field. The unfair treatment of the stakeholders will affect the empowerment of visually challenged students in higher education.

Most of the students like to get individual attention from the teachers. They try to attempt to clear the examination independently. They have different opinions on the external examinations which are using the scribe facilities. Different students with various subjects have different views about the pattern of writing examinations, marks, and evaluations. So they doubted the credibility of such examinations in the real sense.

One participant from MA Malayalam tells about his experience:

I have got one scribe for my degree final year examination. She is acquainted with me and my parents two days before the examinations she introduced herself well. I have prepared for the exam very thoroughly. On the examination day, she is full of

worries and fear when she writes my exam when I dictate it very perfectly. But suddenly she just stopped writing and quit the exam on time. I was perplexed in that situation. I feel bad that this dependency reduces my self-confidence and dignity. In my schooling, I have got first in every class. All the time I got inspired and it is my responsibility to take hard work for achieving the next one. But this time my hard work is not achieved because of my dependency. It has affected me very badly. I know she had some problems with her personal life but what can I do? I suffer and have such feelings that negatively affect my studies.

Discussion

It is evident that the students take responsibility to give their maximum potential but it is not always true. This dependency kills the real spirit that the examiner can just verify the written document to evaluate the student's performance. But visually challenged student can try their intellectual or cognitive skills through their examination but there is some problem that cannot be identified thoroughly yet. So the scribe facility is not a good choice to perform well. The reality of a visually challenged student is different. So be careful to reform the method adopted for their full capacity elicited by their medium. The “othering” is not always a good decision for their performance; it has many limitations.

Admission Related Problems

In the case of the admission process, differently-abled students in higher education are another factor that is the inequality in the selection procedure. Different universities choose different rules to admit differently-abled students. Every student has an equal right to apply to the course but the probability of acquiring the interesting course/subjects and also the college of a visually challenged student is not having seats up to 5%. There are 21 different types of disabilities included in the RPwD Act 2016 and visually challenged students got seats according to the rotation. The meritorious seats are also not filled in the colleges. The applicants mostly selected some colleges only. From the common pool, the students are restricted to select the courses provided by the university. Each university has different rules to admit a visually challenged student to higher education.

Career Education.

It involves the transition from student to an employee for all visually challenged students and non-visually challenged students, there are several skills needed. The awareness of internal or external abilities, interests, values, increased confidence, self-control, career decision making, planning and problem solving, job variations, and access to those areas. Most of the participants opined that teaching is the profession that they are most interested in. They don't know any other jobs suitable for them. So career education is

an important area for the empowerment of visually challenged students in higher education in Kerala.

Job reservation is a great thing that ensures the representation of the marginalized community. It helps them to show their talents which are useful to society.

To become a productive member of society, a visually challenged student should achieve their aim. After getting higher education they should be placed in the workplace. They should be served the nation.

Extracurricular Activities

Most of the visually challenged students revealed their different aptitudes in different subjects. Most commonly they like music. Someone interested in sports like cricket, and chess. Equal opportunities should give to them for growing their extra abilities. Every institution must encourage the different abilities of the students. They are ready to play cricket with an adapted ball. But all the visually challenged students did not get a chance to play on the ground. NGO-based cricket association gave them chances to be interested ones.

The visually challenged students are interested in some extracurricular activities in higher education. They are mainly music lovers. Most of the participants can sing. Few of them studying post-graduation in music.

Some other students can use and concentrate all their senses properly. They are interested in cricket and chess. Chess champions and best cricket players are participating in this study.

Blind cricket associations are NGO-based associations that are working in India. Visually challenged students should be encouraged in their recreational activities. But there is no provision here to pursue their sports spirit in higher education institutions. All universities need to take the necessary steps to collaborate with these talented students to enhance their skills.

Evaluation.

Many of the participants reported that they have a different opinion about the evaluation procedure. Their examinations are conducted in two ways, that is an examination with the help of a scribe and another one is viva voce examination. In the viva voce examination, they have to present their way. But in the case of written examination,

Even if I study well, I got marks according to the scribe's writing. My answers are correctly written or not by the scribe. I have a lot of tension till the date of announcement of result.

In the teacher's view, they revealed that liberal valuation is done in the case of examination with a scribe. There is no clarity about the scribe's written examination rules, how to evaluate the examination paper, or which type of

disabled student attended this examination. So teachers expressed their doubts in the case of evaluation of the visually challenged student.

In the focus group discussions, the peer group also quoted these experiences as scribes. One of the students from political science shared her experience as a scribe. She said that some of the visually challenged students are brilliant. They answered each question very clearly and the flow of the answers often couldn't manage timely. The extra time was also used very well.

Another scribe shared his experience,

The first time I wrote an exam for a visually challenged with mental illness, but he is not answering the question. I was perplexed in that situation. He did not communicate with me and at last, I copied the question paper to the examination paper.

Discussion

The evaluation of a visually challenged student is more complex. The examiners did not identify the abilities of a visually challenged student through an examination paper. For those students who want to write exams themselves, it was encouraged. The Viva-voce exam is the best method to analyze them correctly. But it is a time-consuming process. Even if the students are familiar with IT skills then they have to be encouraged to do

exams on their writing. Alternative methods should find out for proper evaluation of visually challenged students.

Accessibility Issues

Technical support is needed for visually challenged students because they have to face society without fear. Otherwise, they have to overcome the difficulty of sightlessness through technological advancements. Technology is developed for the empowerment of human beings. So in the case of visually challenged students also have different technology and other technical support given by the so-called society. The new inventors are searching for the technological support that is needed in higher education for visually challenged students. For reading the texts and identifying the obstacles in their walking path, their daily activities, and mobility issues (to overcome) in real life. Different assistive devices are designed for visually challenged students to build tactile maps, location identifiers, talking calculators, braille, and others. All of these are helping them to ease their daily activities. Screen reading software and recorders are used by visually challenged students in higher education.

Inability to use Reading Software

Most of the participants used smartphones but a few of them had no such devices due to their financial insecurity. Reading software ORCA for Ubuntu, NVDA for windows, and Kurzweil for android are in-built screen

reader software. Here ORCA is free software that can be used on laptops or personal computers.

I don't know about screen reading software. I have only one recorder that is used for recording my classes and friends read the texts for me and record them. But sometimes it is very hard to find the readers. I couldn't search for the same.

Another participant said:

I have got one laptop from panchayath. But I didn't know how to operate it for my studies. I couldn't get any training and awareness about these facilities.

Discussion

Here the investigator found that each student has different abilities. Some of them are very smart to catch the new technology. They use technology and use it for entertainment only. But for academic purposes, they are not using it properly. A few of them have thorough knowledge about the new technology and they know how it can be used properly. A research scholar who had vision loss after her birth, she had adjusted to the situation with the help of her family, especially her mother's help throughout her path.

New trends in inclusive education gave importance to accessible technology. So the screen reading software is now updated with its features.

Most of the students used ORCA screen reading software for Linux and free of cost. Visually challenged students who are studying at a government residential school for visually challenged students are trained to use this screen reader. They use it very well. But some of them do not have laptops or computers. So they cannot use the screen reader properly. Recently blind students also opined that some difficulties in using this software. There is another solution for this problem NVDA, JAWS, and SUPERNOVA screen readers are user friendly but they are not affordable for the visually challenged students who belong to the uneconomic background

The Accessible India campaign is a new attempt from Government of India which says that Indians are also the companion of the global initiatives on universal design. This is a great achievement to consider all human beings irrespective of their challenges or impairments. It shows that the shared responsibility of society should address the diversity of human beings.

Architectural Barriers

The present study reveals that visually challenged students in higher education faced different accessibility issues. Those issues can be in the physical barriers or architectural barriers presently seen in higher education in Kerala. The upstairs is inaccessible for those students with multiple disabilities. They suggest that the lift system is very easy to access for other challenged students also.

From the teacher's view, the accessibility issues are mainly architectural barriers. There is no ramp and rail system introduced on the campuses. The minimum facilities are arranged now. Not considering this is an important matter because these are in the case of a minority group like the visually challenged community.

Multiple Disabilities

Out of six dropout cases, one of the cases reported that she is a visually challenged student with a locomotor disability. So she cannot continue her studies because of the multiple injuries to her legs. In the first semester, she was injured three times while walking through the staircases. In those hospital days, she knew the real challenges in her studies. Not at all the family and friends are not with her for inspiring her to complete her studies, otherwise, they give negative feedback that she is always a burden to others. At that point, she rethought why she should suffer all these problems.

In the case of those students who always depend on peers for recording their classes and assignments, everything is understood from the words of the peer groups that share their time and space for those visually challenged students in higher education in Kerala.

Inaccessibility of Gadgets

Different mobile applications are available for visually challenged students to learn their day-to-day needs which are easily accessible now. But

most of the students do not know about these applications and how to use them for their daily living. It is better to know them in the early stages of their education. It might ensure the quality of education and also improves the quality of life. But these applications are available on android phones and iPhones and windows. The paid versions are perfectly suitable for acquainting the circumstances.

Lack of Sufficient Financial Support

Most of the students are coming from uneconomical backgrounds so they cannot access advanced technologies. So more research is done in this field and outputs are cheap. So third-world countries also access it everywhere. The universal design is made for them to be easily accessible for all.

The majority of students are completely blind coming from low-income families. They do not know about their technological advancement in education. They only know Braille, they attend classes/lectures and take notes in Braille. They do not have any kind of recorder or smartphone to record classes. These gadgets are too expensive to access. So they cannot afford it, so their financial insecurity becomes a big challenge.

MA Malayalam student from a government college describes her academic experience:

I am attending classes regularly and take notes in braille. Only I have a stylus and braille slate. I just write notes on old

newspapers in braille script. I have no recorder. I have no phone or any other facilities. My mother and father are coolie workers. They have no financial ability to buy such things for me.

In the same college, another one from M A history says that:

I am the only son of my parents. My mother is a coolie worker. She always supports me. But I wish to complete my studies and get a job to help my family. I do not have enough money to spend on assistive devices like recorders and other devices. My teachers sponsored a recorder for me to record the notes and it helped me in my studies.

Inaccessible Library Facilities

The investigator visited libraries in each institution and took data about library facilities through the questionnaire and unstructured interviews were conducted with the librarians. It is for data verification or triangulation purposes. Most of the participants reported that they cannot access the libraries due to two main reasons. The first one is due to inaccessibility to physical access in the building and the other one is to the inaccessibility of the study materials through their medium. In this digital era, information is very large and should be open to everyone. Library sources are now at your fingertips and they should be accessible to all.

Most of the participants reveal that they are not accessing the library facilities because of the inaccessibility of study materials according to their syllabus and authentic platforms for e-resources are unaware by the students. Most of the participants depend on their peers or family members to read the class notes and record them and repeatedly hear them many times. Then they have got an understanding of the classes/lectures from their class. But they have no opportunity to refer to library books according to their needs. Most of the participants reported in Malayalam that available materials are scarce in an audio form they cannot study well. They only depend on their peer group, those who are willing to share their time with them.

There is currently no Malayalam reading software that can be used effectively. It comes with a machine language. Technology does not help students learn Malayalam because the pronunciation is not correct. According to the visually challenged students, if the pronunciation of Malayalam is not correct, there are many spelling mistakes and they are not able to express their linguistic skills properly.

B. A. Hindi third-year participant says that:

I do not use the library facilities. My classmates help to take notes in audio form and I usually search on YouTube for subject-related classes. A few classes were got but not in full syllabus oriented. So I have not accessed the digital library.

B.A. Malayalam third-year participant opens up his opinion:

The library is not useful for me. For general reading, there are braille books but not syllabus-oriented books are not available in braille. Only pdf documents are scanned for reading. But most of the materials are not available online. So I have to depend on others to read the books for me and record their voice and then I repeatedly hear this and thus they are understood up to my level. Not many have to read the materials or knowledge in my subject. But only for exam-oriented notes prepared by my friends in audio forms.

Discussion

The investigator found that there is a gap between the available sources and the needy students. Unawareness and accessibility are the main problems in this regard. Government or concerned institutional authority can take action against this difficulty for the students. Universal design should be set up to overcome accessibility barriers. Government initiatives on digital campaigns are strongly executed in every corner of society. Then only everyone should get the opportunity to access the information it is open to all.

Inaccessible Study Materials

Most parents feel that libraries are always not accessible for visually challenged students. The parents helped their son/daughter access the libraries

for the study materials. The peers also helped those visually challenged students to take the books and read for them and also the important points were discussed among them and also record for their visually challenged friends for their studies. But in the case of parents, it is a herculean task for identifying those books according to the syllabus and sharing the notes and records for their son and daughter. Better time and space are given to their diverse students to lead the light in their path. Materials are rarely seen in audio formats so they have a lot of issues accessing their study materials according to their syllabus.

The provision of facilities such as ramps and lifts in academic institutions not only enables students with physical disabilities but also supports the elderly. Audio archives also help to create good backups of recorded lectures that are useful not only for visually impaired students but also for everyone in an academic setting.

Inclusive Mindset

Many of the participants discussed the inclusion of visually challenged students in higher education. Visually challenged students themselves gave evidence for exclusion from 'others'. The non-disabled students sometimes exclude them from their classroom discussions. Another example, one of the participants shared that the others always give best wishes to our scribes but do not give any appreciation or best wishes for them. Another one shares his experience that other students do not directly communicate with the

participants of the present research. But the visually challenged friends in the classroom and the hostel of their immediate circle always know how they perceive their feelings. So this means so far society had an attitudinal problem towards visually challenged students. An inclusive mindset should be developed for everyone. It is important how society perceives visually challenged students. Sometimes the visually challenged students pull back from society. Others have a major role in such situations. It would be better to accept diverse needs of them. All are unique people so acceptance of different abilities, not disabilities. It is the shared responsibility of all stakeholders to take part in the development of visually challenged students.

Role of Authorities

Authorities mean Government or non-government authorities and institutions. These are the higher authorities who can make Inclusive policies according to the needs and administer them well. When the authority welcomed such policies and gave priority to the needs of challenged students at the institution level. Programs should be arranged for inculcating inclusive values.

Enabling Units and Equal Opportunity Cells to work in only two of the six higher education institutions selected by visually challenged students over the years in Kerala. The rest are getting ready to set it up.

Through such units, the authorities can provide several programs to equip the visually challenged for further study. Most of the participants and

stakeholders reported that different programmes should be provided by the institution through the enabling units or equal opportunity cells for visually challenged students in higher education institutions. Chief among them are

- Skill development classes for different types of jobs,
- Organizing motivation classes,
- Activating reading groups with the help of National Service Scheme (NSS) volunteers,
- Scribe bank systems should be considered a compulsory service in undergraduate classes,
- Enhancing communication skills,
- Interactive spaces should be created.
- News reading corners should be created.
- Audio materials according to the syllabus can be collected and used as an audio library as a part of the main library
- Include them in the recreational activities and
- Giving orientation mobility classes.

Such services reach the visually challenged only in a very small way. Here see the indifference of the policymakers and implementers.

Role of Teachers

In the academic process, the teacher-pupil relationship is very important. A teacher/lecturer faces a large number of students in a class,

especially in language classes. It is difficult to provide individual attention to visually challenged students in their classes. Even if the number of students with special needs is less but teachers should address their needs because the teacher's role is not only a facilitator but also a mentor. So they show a positive attitude towards their visually challenged students.

- Teachers should give equal opportunity to their students in their classrooms.
- They are responsible people for delivering their teaching according to their students' needs.
- They have to adopt multiple teaching strategies.
- Collaborative teaching strategies should be used to learn a visually challenged student.
- An adaptable curriculum should make for visually challenged students.
- It can be properly managed by the teachers who have an interest in inclusive values.
- Teachers should give proper inclusive management training and periodically upgrade their knowledge about it.
- Teachers should know about the various activities that can engage a visually challenged student's learning process.
- Disability management should be included as a topic in the capacity-building programmes for teachers.

Role of Parents

Parents are an inevitable part of the education of visually challenged students. They have to educate how a visually challenged son/daughter may be treated. They don't know their rights and values. So they should know about the impairment and the strength and weaknesses of visually challenged persons. The first teacher is the parents of that student. They should have developed an inclusive mindset then only their children will achieve their future. Parental involvement is a positive remark in the education of visually challenged students in higher education.

- Parents should be involved in the development of visually challenged students in higher education also.
- They should motivate their visually challenged daughter/son to train in orientation and mobility.
- They should encourage their daughter/son to live independently.

Role of Peers

Peers are important persons for visually challenged students in higher education and from this immediate circle, some of them realize that inclusive values and their self-advocacy skills are developed through helping their visually challenged friends.

The peer group is always with visually challenged students. But not only will those who study in their class, but also those who share hostel rooms have their peers to read the lessons and help them to write the exam.

The peer group can do a lot of things. Teachers and co-students are responsible for the admission and scholarships of the visually challenged. The activities of the Peer Group often help to develop communication skills. Most of the peer groups help them with assignments and seminars. The Peer Group is working hard to become a Scribe and find Scribe. Thus the Peer Group helps visually challenged students to some extent in developing social skills. All the stakeholders have equal responsibility to build an inclusive mindset in the society.

Peer-mediated social skills help visually challenged students not only with their education but also with their future aspirations.

Inclusive or Adaptive Curriculum

Visually challenged students are treated in their primary classes in special education school through adaptive curriculum or plus curriculum. It covers the normal concepts but in a different manner. The medium is different. Braille is common. Some of them brilliantly use Braille notes, but some don't know the basics of Braille because they accidentally lose their vision.

In higher education, teachers do not follow the adaptive curriculum because they agree that they don't know the curricular adaptations for their visually challenged students. Most of the teachers said that they always omitted those questions which cannot be answered by visually challenged students.

Teachers should know the expanded curriculum for visually challenged students. This curriculum is not only for the school level but also for higher education. Inclusion is possible when teachers can address their visually challenged students in their classrooms.

In the adaptive/expanded curriculum, different modes of communication are possible for visually challenged students. Braille, tactile skills, handwriting computer use, keyboard skills, augmentative and alternative communications, and listening skills. These can be adapted for visually challenged students in higher education.

Daily Living Skills

They should be familiar with social skills. It helped them to interact with each other, socially acceptable behavior, and increase their self-esteem, self-confidence, and self-advocacy. Recreation and leisure activities and interpersonal skills also should be developed.

Orientation and mobility skills must be acquired by visually challenged students. It is a positive sign of independence. They should know the formal strategies for travel, environmental considerations, and usage of mobility devices like white cane and smart cane.

A visually challenged student in higher education must be shown the daily living skills which are useful in their future also. An adaptable

curriculum should furnish these opportunities for self-care, time management, decision-making, vocation, and career advocacy. Awareness and access to community resources, independence, interdependence, and money management skills should be developed and encouraged to do so.

Lack of Awareness

This is another important theme generated from the data, here also participants and other stakeholders have different problems in the education of visually challenged students in higher education because of lack of awareness.

Lack of Awareness of Teachers

Disability management is poor in higher education in Kerala. The teachers did not get any orientation classes for disability management. Teachers should know disabled students, especially visually challenged students. A teacher shall be a role model for his/her students in their mannerisms or affection. A positive attitude towards visually challenged students is the most important thing.

The medium of the teaching-learning process is different for visually challenged students. Only lecturing, through oral and concrete concepts through tactile objects, is possible. They depend on recordings of lectures and peers helping to make summary notes of the classes. The audio was recorded and kept for note-making in Braille.

The teachers are not flexible, they are not keeping in mind their visually challenged student is there in the classroom while they are showing the PowerPoint presentation. Only the words spelled out are the source to learn the concepts in the classroom in different ways one can introduce a concept in a classroom.

Teachers do not know about the new technological advances for visually challenged students. The assistive devices were developed for understanding the concept. The tactile materials helped them to identify the three-dimensional figures.

Lack of Awareness of Peer Group

Peer group is the most favorable for visually challenged students because they can read their abilities and strengths and weaknesses. Peer group is the first and most important helping hand of visually challenged students in higher education. They are involved in their day-to-day activities like admission procedure, examination process like application, scribe facility, study materials in audio form, continue the peer group often does not have to be students of the same class. Sometimes they are the ones sharing the hostel room. They may be students in some other class. Or they may be students in a circle of friends. Or it could be coming as seniors. In any case, the visually challenged will always have friends to support them. It depends on how visually challenged students to interact with others.

Lack of Awareness of Legal and Educational Provisions

The visually challenged students themselves didn't know about the educational provisions in higher education. They have to get awareness about legal rights and provisions from the media and also from educational institutions. It helps them to orient their studies fruitfully. The teachers also didn't get any awareness about disability and inclusion. Most of the teachers reported that they couldn't get any orientation classes about the management of their visually challenged students.

Lack of Awareness of Inclusive Management

Most of the participants and stakeholders revealed the difficulties faced in their classroom and the lack of awareness about inclusive management. The teachers reported that fewer students are visually challenged. So they couldn't give any kind of special consideration to their visually challenged students in a classroom. Teachers could not get any orientation classes on the topic of inclusive management in higher education. So teacher education programmes should be included inclusive management is an important topic. There is no proper direction about how to manage visually challenged students in higher education. Curriculum designers should take necessary action to make the extended/adapted curriculum for visually challenged students in higher education.

Lack of Awareness of Career Education and Job Opportunities

Most of the participants reported that, in addressing the diversity of higher education, the career/vocational education of visually challenged

students is given the least consideration. Every person who leaves after higher education will have acquired the skills to look for a job that suits him/her. However, there are very limited opportunities in the field of higher education for visually challenged students to find suitable occupations and develop the skills to enable them. Career guidance classes are usually addressed to normal students, but visually challenged students do not have a clear idea of what types of jobs are available in the open market. The government and private sectors have different job opportunities for visually challenged students but they couldn't reach the proper understanding of the jobs suitable for them.

Here NGOs can be involved to solve such problems. Career orientation classes can be organized for this community. They should give awareness about different job opportunities in different sectors. Reservation policies and reserved posts are identified and give an outline for educated visually challenged members in the community. Skill development programme is mandatory for visually challenged students

Lack of Awareness of Developments in the Field of Disability

Teachers and their visually challenged students revealed that they are less aware of the new developments in the field of higher learning. Teachers are struggling because they do not know exactly what new teaching methods or technological advances will help their visually challenged students. Higher educational institutions can make sure of the recent trends in inclusive education by conducting seminars, and colloquia annually.

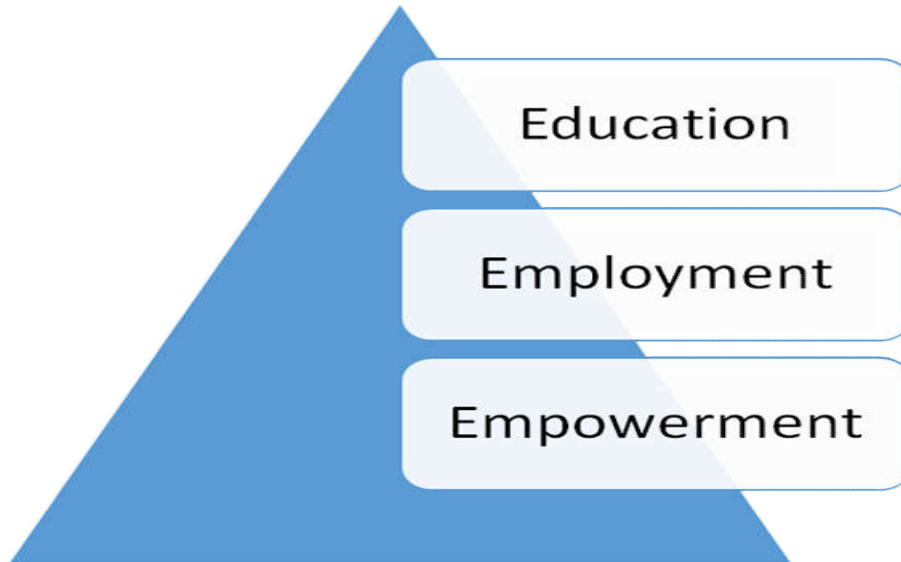
Multinational companies do campus recruitment of candidates who demonstrate excellent skills from students who are in higher education. But there are few platforms for visually challenged students in Kerala to showcase their talents. Campus placements are not done for them by multinational companies, NGOs and Government. If there is a collective effort, new job opportunities will also be available to them. That way, they will also become partners in the country's economy. They can also stand higher in the open market.

The Educational Provisions and Facilities for Visually Challenged Students in Higher Education in Kerala

The investigator identified the educational provisions and facilities for visually challenged students in higher education. Through document scrutiny, governmental provisions are discussed here. A lot of programs are started for education, employment, and empowerment. They are how far attained by the visually challenged students in higher education in Kerala. Also, the investigator identified various educational provisions provided by NGOs working for visually challenged people in Kerala. The investigator selected documents are the RPwD ACT 2016, the New Education Policy 2020, and The State Policy on Persons with Disabilities, Kerala, and UGC Guidelines for Persons with Disabilities, 12th Plan, and information regarding higher educational provisions for visually challenged students from government websites, newspapers, NGO publications.

Figure 5

List of Main Themes Regarding the Research Question Number 2

**Education**

New Education Policy (NEP) 2020 envisioned education in achieving an equitable and just society. According to goal 4 of the 2030 Agenda for Sustainable Development, India also seeks to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all".

The signing of the UNCRPD (2007) was a huge responsibility for a third-world country like India. PWD Act 1995 enacted a comprehensive law to protect the rights of Persons with Disabilities. Since then, the RPwD Act 2016 came into force. This time it covers a very detailed code of conduct for the upliftment of the differently-abled. Chapter 3 of the RPWD Act provides for legal protection that guarantees their rights and helps improve the quality of education.

The law stipulates that a child with a disability must receive a free and compulsory education between the ages of six and eighteen. Similarly, in higher education, it is stipulated that at least five percent of seats should be reserved for such students in each course.

It is the responsibility of the institution to create accessible campus environments to enable higher education for children with disabilities. Higher education institutions need to be able to reasonably accommodate such students.

The policies also stipulate that special transport facilities should be provided for persons with disabilities who require high support needs.

According to the RPWD Act, higher education institutions have a responsibility to meet the educational needs of every student with disabilities who pursue higher education. Every effort must be made to implement inclusive education.

The RPWD Act mainly deals with the education of students with disabilities. In it, we will see what provisions have been made for the education of visually challenged students. The eyes are one of the most important senses. The learning medium of the visually challenged is different from that of normal children. The law, therefore, stipulates that adaptations may be used for such students for general curriculum transactions.

Central and State Policies suggest that special attention be paid to ensuring the full participation of visually challenged students in academic activities and extracurricular activities in the field of higher education. The day-to-day interactions on campus need to be given their place.

UGC proposes to provide financial assistance for B.Ed and MEd courses in Disability subjects under the Teacher Preparation in Special Education Scheme.

Provisions are made by the Central and State Governments to promote Inclusive Education. Another provision is the designated number of teacher training institutes as well as the training of teachers and the recruitment of disabled teachers.

Discussion

The educational facilities of visually challenged students in higher education was not enough. Teacher training courses in the field of inclusive education were promoted by the policy. But in the case of visually challenged students, there is no adequate number of teacher training courses in special education. There are few trained faculties for visually challenged students in higher education in Kerala. The visually challenged teachers should have some aids provided by the UGC. The new technological developments are not used for the different needs of the visually challenged. Curriculum adaptations were not apt for the higher education of visually challenged students. Need more curriculum adaptations for different subjects for them.

Accessibility issues are not addressed here. Policy statements are not properly implemented.

Employment

According to the new education policy, job reservations should be less than 5 percent for differently-abled people. In the government-aided sector too, reservation has been given to teachers of different abilities.

Various posts are reserved for the differently abled in the public and private sectors. In an interview with Investigator, a visually challenged educator who is a trainer in the NGO's skills development classes revealed that more opportunities have been reserved for the visually challenged in the banking sector.

Central and State government are conducting skill development programmes for visually challenged students. Such programmes are also organized under the leadership of NGOs. They mainly provide computer training courses. These classes are organized according to the same syllabus. They also teach things like introducing screen reading software, sending emails, online purchasing etc. Also communication skills and personality development are practiced as part of this course.

Special Provisions for Visually Challenged Teachers

According to the University Grants Commission's (UGC) Guidelines for Persons with Disabilities, Teacher Preparation in Special Education and

Higher Education for Persons with Special Needs are two schemes designed for people with disabilities. It also provide special facilities for visually challenged teachers.

The purpose of the Teacher Preparation in Special Education Scheme is to mold teachers to teach children with disabilities. The scheme prepares teachers for special schools and inclusive classes. The special purpose of this scheme is to encourage universities to start M Ed. special education courses. Thus the goal is to create teacher educators who will prepare special education teachers.

The UGC's Higher Education for Persons with Special Needs (HEPSN) project is designed to enrich the higher education of students with disabilities. One of the main objectives of this scheme is to provide equal educational opportunities to children of different abilities studying in higher education institutions as well as create awareness about the higher education functionaries. Enable access to facilities in higher education institutions for people with disabilities. Provide assistive devices to differently-abled people in need. In addition to this, the objectives of the scheme are to monitor activities at the implementation level and revamp future laws and policies to suit the needs addressed by differently-abled people.

Special provisions are given to visually impaired teachers under the UGC scheme. There is a provision for visually impaired teachers working in universities to keep readers for teaching and research purposes and to

pay their allowances. Funds provided for the purchase of teaching and learning aids, Braille books and recorded materials.

Discussion

The reservation of seats in government jobs is a great decision. The visually challenged students need more training in the field of information technology. But the empowerment programmes were less in the case of visually challenged students. NGOs making efforts to satisfy the different issues regarding the employment of the visually challenged. Governmental institutions also start skill development programmes. But the beneficiaries are not available and understand it properly. There is a gap identified that the enrolments of disabled students in higher education are increased but the number of visually challenged in the workplace is not appropriate. So the educated visually challenged should have contributed to the nation and they should be enriched with competencies for acquiring employment. The labour market is searching for the talents that may pick up from the campus. Authorities should encourage the campus placement for visually challenged students in higher education.

Empowerment

The RPWD Act of 2016 defines the principles for the empowerment of differently-abled persons very broadly. They are as follows

- a. "Respect for inherent dignity, individual autonomy including the freedom to make one's own choices and independence of persons

- b. Non-discrimination
- c. Full and effective participation and inclusion in society
- d. Respect for difference and acceptance of persons with disabilities as a part of human diversity and humanity
- e. Equality of opportunity
- f. Accessibility
- g. Equality between men and women
- h. Respect for the evolving capacities of children with disabilities and respect for the rights of children with disabilities to preserve their identities".

The law states that higher education should be provided to visually challenged students also based on these principles. UGC's Higher Education for Persons with Disabilities scheme stipulates that enabling units should be opened in higher education institutions for all, including the visually challenged. These units are said to provide guidance and counseling on admission matters. The objectives of this unit are to educate the visually challenged according to their needs and to help them to get better career opportunities.

Another provision made by UGC was providing access to differently-abled people during the 12th plan. Under this scheme, the universities were expected to address the accessibility issues. The institutions should create special facilities such as ramps, rails, and

special toilets and make other necessary arrangements suited to the special needs of Persons with Disabilities.

Under this scheme, there are provisions for special equipment to augment educational services for visually challenged students also. Such assistive devices are currently used by visually challenged students such as recording devices, smartphones or laptops with screen reading software, and other equipment for low vision such as tactile graphs, brailers, magnifiers, and lenses.

The provisions and facilities provided by the Central and State Governments for the empowerment of visually challenged students through document scrutiny have been described so far.

NGO-based Programmes for the Education, Employment, and Empowerment of Visually Challenged Students in Higher Education in Kerala

There are various NGO associations in Kerala working for the upliftment of the visually challenged. About ten institutions are operating in Kerala, under one of the leading NGOs for the rights of the visually challenged among them are schools, vocational training centers, and orphanages for the visually challenged.

Computer Training Course

NGOs mainly run computer training courses for visually challenged students seeking higher education. Its coordinators said such inputs would

help in developing IT skills and preparing for IT-related jobs. The class is given to children who have passed graduate courses. But those who are studying for a degree also get computer training.

This course is offered for 25 visually challenged students who have passed an undergraduate course in any subject. There are 10 computers with screen reading software and headphones. Two batches of students studying in this class. The instructor is also a visually challenged who passed teacher training in a computer course from a Bangalore-based NGO. They give the syllabus for this course. This syllabus is followed by all computer training courses for visually challenged in Kerala.

There are some criteria for admitting a student in this course. They are the students should know the basics of computers and English. The students were allowed to enhance their communicative English skills through this six-month course. Computer applications for office management and email, talking calculators, and location finding applications that are useful products for visually challenged students.

Orientation and mobility training classes given results that each student has the confidence to walk along with busy roads and buses, and train without fear. This course also enhances communication skills. Group discussions, mock interviews, written examinations, and practicums are included in the course content. Outreach programmes are also conducted for refreshment and also have inspiration for their future life. Such training will help the visually

challenged to get job opportunities in multinational companies. Campus placements are offered through this course.

The investigator again saw the participants, one of them became a computer training teacher to other visually challenged students and gave online classes for them during the covid 19 pandemic. Some of them work in multinational companies' data entry jobs, clerical jobs, and information officers.

Reading Groups

Another important thing is the reading groups. Visually challenged\ students find it difficult to find a recorded version of their lessons because their peers do not have enough time to read the lessons. It will be too late to get it. So their study was in crisis. The reading group started to avoid that. But most of these groups are for general reading. Visually impaired children point out that it would be better if they could read and write according to the syllabus.

Two or three NGO groups were conducting what's app groups to connect the visually challenged people who have given help according to their needs. Voice donation campaigns were conducted in different districts and organized an audio library with the help of the district panchayath.

An NGO runs a Diploma in Elementary Education (D El. Ed.) Course for the visually challenged. Such a course does not even exist at the

government level. It is the only institution that moulds teachers for the visually challenged in Kerala. This is an RCI-accredited course.

The NGOs work for the empowerment of visually challenged students. They collaborate with government programmes. Cooperative movements should reach success.

Discussions

The information gathered by the investigator revisiting the Government policy documents and non-governmental organizations to examine what programmes have been done to empower visually challenged students is presented here. Computer training is one of the most important empowerment programmes for undergraduate students.

Accessibility campaigns are one of the empowerment programmes adopted globally. Among them, assistive aids help to overcome vision limitation to some extent. It would be good to try at the government level to increase their participation through partnerships.

The Inputs Needed to Make a Responsive Education System for Visually Challenged Students in Higher Education in Kerala

The investigator set the third research question based on the above two research questions that found the existing gap between the policy and practice. Then what is the next step to fill the gap? So the investigator suggests a new strategy to follow every higher educational institution in Kerala for the visually

challenged students pursuing their higher education. It is important to plan for a socially just campus for visually challenged students in higher education. There should be minimum requirements with full support and committed teamwork behind every institutions should give positive remarks about the empowerment of visually challenged students. The investigator presented the new campus environment with new responsibilities. They are

1. Institutionally guided action
2. and accountable faculties
3. Information, resources, and technology
4. Responsive environment

Institutionally Guided Action

Several things are needed to be taken care of to organize the higher education of the visually challenged. Now it is essential that each institution follows the policy of the country and understands the basic needs of the visually challenged students there on its own and has a policy accordingly. As the number of visually challenged people increases, so do their needs. All educational institutions should always be ready to welcome them. The policy should be able to change every year in a way that can be loosened up. Flexible design should be promoted.

When formulating such plans, it is important to consider whether they are truly inclusive, welcoming, and conducive to creating an equitable learning environment. Their Academic Requirement and Campus Activities.

Accessibility issues need to be addressed. Such a regulation based on the principle of social justice would be empowering such visually challenged people.

- Each institution should make a policy regarding visually challenged students in higher education.
- Plan different programmes for the development of visually challenged students in higher education.
- An institution must constitute an equal opportunity cell for the empowerment of visually challenged students in higher education.
- Different programmes should be included in the functioning of an equal opportunity cell that should address the needs of visually challenged students in higher educational institutions.

Trained and Accountable Faculties

Higher education institutions must be able to mould learners in a way that enhances their human resources. Therefore, visually challenged students need to be nurtured to ensure that they are part of this community.

Therefore, the visionary approach to higher education needs to be guided and help them to choose future careers and become more responsible young people. Such students can excel if they have responsible teachers, other staff, and authorities who are trained accordingly.

Responsible teachers and other staff can determine the day-to-day learning needs have visually challenged students in higher education.

Policies can be formulated and implemented in a way that meets their basic needs.

If higher education administrators, staff, and faculty want to implement social justice on their campuses, they can only do so if they understand that all members of their community are unique and essential. (Evince et al., 2017)

They need to recognize that the interplay of people's abilities, strengths, and sophistication strengthens their ability to promote the development, integration, and application of knowledge in the service of a larger community. Visually challenged people are also an integral part of this larger community.

Collaborative programs will have to include on many campuses and community members should enable the visually challenged students through the programs which deal with accessibility issues. By arranging such programs, the authorities can do more justice.

Thus such accountable faculties can help the authorities to formulate a policy for a particularly focused visually challenged community.

Teachers and other staff should report to authorities to address the different needs of visually challenged students. The diverse needs of visually challenged students in terms of their academic pursuits, interaction

problems, access to information, skill development, and employability issues.

A teacher coordinator and student coordinator must be included in the executive committee of an equal opportunity cell. As a part of an equal opportunity cell, there should be a team that includes a counselor, a special educator for visually challenged students, and a trained faculty in disability management.

A collaborative approach should be accepted for the well-being of visually challenged students in higher education. Collaborate with National Service Scheme and student's forum in the higher educational institutions in Kerala. Collaborative teaching strategies should be encouraged.

Information, Resources, and Technology

The cognitive methods of visually challenged students are quite different from those of normal people. They perceive the information available to them through hearing. When there is a lack of correct pronunciation in hearing, the first lesson for a visually challenged student will go wrong. Therefore, we have the right to know the real information from the real source itself (RTE, 2005).

Information is collected from a variety of sources related to the subject matter. By bringing the concept of universal design, it seeks to make information available through any interface in a way that is accessible to all,

just as Braille brought the medium to help visually challenged students around the world.

Teachers who teach visually challenged students need to know what kind of teaching methods are appropriate and what technological advances are around for their education. The big solution is to understand how visually challenged people around the world are treated, and to provide such capacity-building classes to teachers and other staff. But they can only then become better citizens.

An institution must constitute an audio library for visually challenged students with the main library.

Computer systems with screen reading software and headphones must be provided for a visually challenged student. Use QWERTY keyboards or ORBIT keyboards that had braille embossed keys. It helped the visually challenged students to easily type the matters on a computer.

Different e-resources like Sugamya Pusthakalaya, an audio library for visually challenged students are a part of Book Share Company and should be in corporate with the higher education of visually challenged students. Sugamya Pustathakalaya is a collaboration between TCS, Daisy Forum of India, and NIEPVD (National Institute for Empowerment of Persons with Visual Disabilities). On this platform, access books in different languages from different libraries in India. They have partnered with International Agencies such as Bookshare and the Accessible Books Consortium to provide accessible books worldwide.

Responsive Environment

For example, the construction of special roads for such students on campuses will enable them to navigate freely through the campus and enjoy the campus. The campus environment should be friendly for visually challenged students. They have great spatial intelligence if they have been taught daily living skills at an earlier stage. Then they are given orientation and mobility classes. They have to maintain a separate path that is suitable to use with a smart or white cane. Even if the authorities make such a decision it will benefit not only the visually challenged students but also the other disabled students and other stakeholders also.

A special path should be created for visually challenged students who can use to walk with a white cane/smart cane through this path. Obstacles should be found easily and followed the path fearlessly.

The ramp and rail system should be very helpful for those visually challenged students in higher education.

It is essential to conduct orientation and mobility classes for the new visually challenged students in higher educational institutions. Different tactile diagrams should be pasted on the entrance of the classrooms, library, hostel, and toilets.

Reading corners should be set inside the library and library catalogs should be in braille or online catalog.

Audio libraries with special requirements should be needed for visually challenged students.

The universally designed campus environment, based on the social justice approach, enables visually challenged students to easily interact with the community. Institutions should focus on campus-wide commitment to accessibility and inclusion. Make sure they have a physical space in their classroom or library that suits their needs. Creates fully accessible physical environments that are completely reasonable for visually challenged students. Ensure that students from all backgrounds, including visually challenged students, are educated, aware and receptive to higher education institutions.

Chapter 5

FINDINGS & DISCUSSIONS

- *Restatement of the Problem*
- *Objectives of the Study*
- *Research Questions*
- *Methodology*
- *Design of the Study*
- *Participants of the Study*
- *Materials and Methods used for the Study*
- *Data Analysis*
- *Major Findings*
- *Discussions*
- *Conclusion of the Study*

FINDINGS AND DISCUSSIONS

This chapter briefly revisits the study presenting the various aspects of the study like research questions, objectives and methodology. The study has been designed to develop a new strategy for the education of visually challenged students in higher education in Kerala based on the review of related literature and from the suggestions and opinions of visually challenged students and other stakeholders. This chapter also presents a summary of the findings that emerged from the study and discussions on the major findings.

Restatement of the Problem

“ANALYSIS OF GOVERNMENTAL POLICIES AND THE PROBLEMS FACED BY VISUALLY CHALLENGED STUDENTS AT HIGHER EDUCATION LEVEL IN KERALA”

Objectives of the Study

Following are the objectives of the present study

- To explore the problems of visually challenged students in higher education in Kerala
- To find out the reasons for dropouts of visually challenged students in higher education in Kerala
- To analyze the problems perceived by the teachers, peers and parents of visually challenged students in higher education in Kerala
- To study the provisions of supporting services for the educational development of visually challenged students in higher education in Kerala

- To study the educational provisions in the governmental policies for visually challenged students in higher education.

Research Questions

- What are the impediments faced by visually challenged students in pursuing their academic degree in higher education in Kerala
- What are the provisions and facilities available for the education of visually challenged students in higher education in Kerala
- What are the inputs needed to make a responsive education system for visually challenged students in higher education in Kerala

Methodology

This study was completed in two phases. In phase 1, the investigator identified the problem for this study and also interviewed some experts from the same field. It helped to fix the dimensions of the problem. The pilot study was conducted. Then in phase 2, the investigator analyzes different governmental documents regarding the education of visually challenged students in higher education and finds out the problems faced by visually challenged students in higher education in Kerala. The present study followed the collective case study method.

Design of the Study

This study employed a collective case study design. It is an application of qualitative research traditions.

Participants of the Study

Visually challenged students who have no vision and low vision are the main participants of the study. Only 50 visually challenged students who have benchmark disabilities were the participants in the study. The teachers, parents and peers of visually challenged students were the other stakeholders of the study.

Materials and Methods used for the Study

1. Interview method for
 - Visually challenged students
 - Parents
 - Teachers
 - GOVT. and NGO Officials
2. Questionnaire
3. Focus group discussions
4. Observation
5. Document scrutiny
6. Case study method

Semi structured interview schedules, observation schedules, questionnaire, and schedules for focus group discussions, questionnaire were the main materials used for this study.

Data Analysis

For the present study, different qualitative data analysis techniques were employed. They are

- Document analysis
- Case analysis
- Cross case analysis
- Creswell's visual coding process

Major Findings

Disability is an umbrella term that carries many meanings. Sometimes disability is considered “the curse of the god” in ancient times. This attitude is changed into medical aspects of disability which consider it is an impairment that causes unhealthy issues. Nowadays it is turned into a right based issue of the disabled movements.

The social theory treats disability as an unequal relationship within a society in which the needs of people with disabilities are often underestimated or ignored. It focuses on barriers that prevent them from gaining equal access to information, education, employment, public transportation, housing, and social or recreational opportunities. In the social justice view, everyone is treated as equal there is no discrimination in terms of their ability or disability. From this study, the findings and discussions are made with the social justice view.

Educations of Visually challenged students in higher education in Kerala are the case of the study. This particular group existed in society with minimal consideration of their needs. This study hopes that the educational aspirations of visually challenged students in higher education should be considered with equal priorities with normal students.

The major findings of the study, the problems faced by visually challenged students in higher education in Kerala are equity matters, accessibility issues, inclusive mindset and lack of awareness. These are identified on different occasions of the event.

Equity Matters

- Equity matters are the main problem that visually challenged students to need more consideration in their academic accommodation. Visually challenged students didn't get an opportunity to select their interested subject or course in a particular college or university. That is from the selection of course or subject to the future aspirations like placements in the workplace. Fair treatment should be provide for such students who are passionate about their education.
- Equal opportunity cells are not active in many institutions where visually challenged students are studying.
- There are only two universities that make their policies regarding visually challenged students. The rest of them are just accepting the RPWD Act. They must follow it and make necessary changes according to the need to have visually challenged students in that institution.
- Curricular reforms are needed in every subject that visually challenged students studying those subjects.
- External examinations are conducted by using the scribe facility. Internal exams were conducted in viva voce exams or written in braille.

- Evaluation of a visually challenged student through the present examination system is not apt. Alternative measures should be taken. Policy Permits these alternatives. Not at the implementation level.
- Visually challenged students did not get any career guidance classes in their higher studies. Job oriented skills developing programmes are not providing for visually challenged students in higher education. Collaboration with multinational companies and placement cells is not effective in the case of visually challenged students.
- Visually challenged students will quit higher education due to the uninterested course/subject/institution.
- Curricular adaptations for visually challenged students are not properly done in higher education. In the B Ed classrooms, practicums and teaching strategies, assessment and evaluation criteria for visually challenged students are not mentioned.
- The admission procedures for the visually challenged are different in different institutions. The rotation of each disabled student was not ensuring an equal chance in every subject.
- New education policy ensures not less than five percent of seat reservations in admission in higher education institutions for persons with disabilities. The first seat is reserved for visually challenged students.
- Visually challenged students are most interested in extracurricular activities like music, cricket, and chess. There is no provision for

elaborating the sports skills like blind cricket, and chess in higher educational institutions in Kerala. Collaborations with other states or associations in this field is helped to enhance their skills.

- Policy accepts the identity of visually challenged students' needs in higher education. So administrators should take necessary action to take examinations at the convenience of visually challenged students. They need to reform the scribe examination pattern. They need to independently attempt the examination in their comfort medium.
- Curricular modifications are needed in all arts and science subjects related to visually challenged students.
- Inclusive management should be included in the B.Ed. Curriculum in detail. Special education for the visually challenged is preferred.
- The curriculum committee should include new learning outcomes for proper employment after higher education. Skill enhancement programs are less in number.
- Government schemes for the empowerment of the visually challenged are to provide fellowships, stipends, pensions, and assistive devices that exist but are not adequate. The economic liabilities pull back the visually challenged students.
- Hostel facilities are not at an adequate level. Adapted toilets, over protected nature of the warden and not treated as a common man.
- Parents have an important role in their life. Generally, parents of a noneconomic background are not involved in their educational

activities but educated and economically well parents are used to taking the whole responsibility of their son/ daughter themselves.

Accessibility Issues

- Everyone knows reading is the primary challenge of a visually challenged student, but nowadays technology helps to overcome this reading challenge. Accept universal design in all aspects of technological advancement, enabling visually challenged students to access such devices.
- Accessibility issues cause dropout of visually challenged students from higher education in Kerala.
- Syllabus oriented study materials or textbooks are not available in the medium for visually challenged students in higher education in Kerala. The study materials in the audio form are less in number.
- Non Visual Desktop Access (NVDA), Job Access with Speech (JAWS), and ORCA screen reader software are the reading software that helps to read the text for visually challenged students.
- Smartphones, laptops, computers, and recording devices like angel player, and plectalk, are the electronic devices that helped those students in their studies.
- Malayalam reading software is not efficient for visually challenged students. Innovative attempts should be encouraged.

- Library facilities are not adequate. A few books in Braille are therein the library. But it is not used for study purposes. Similarly, audio libraries are not properly working in the library. Not any update and not interested persons are less in number to create it.

Inclusive Mindset

- Friends/peers are the most interested group in helping those students in their classroom and out of the classroom.
- They recorded their notes, classes, and study materials in audio form and sent them to their visually challenged friends through social media.
- Most of the teachers were permitted to record their classes. But a few of them are not permitted.
- No trained faculties for the visually challenged in higher education in Kerala.
- Most teachers are not aware of these types of students in their classrooms and do not know how to manage them.
- Most of the visually challenged students are first-generation students of their families.
- The government, NGOs, parents, teachers, and peers all are linked like a chain. They have created awareness of their shared responsibility.
- The visually challenged students are too much dependent on their friends/peers.

- Physical barriers are there. The wholehearted implementation of policy is lagging. The physical barriers couldn't be removed completely in higher educational institutions.
- The attitudinal barrier is a big problem. The approach of society towards visually challenged students is not correct. They are not considered visually challenged ones, not unique. They are only dependent. The 'other' is always helping them.

Lack of Awareness

- Teachers are not aware of the employment opportunities for visually challenged students. So they couldn't give proper mentoring.
- Teachers do not know about the assistive devices used for their visually challenged students.
- Teachers do not know disability management. Urgently need inclusive management programmes and capacity-building classes for helping the inclusion of visually challenged students in higher education.
- Teachers do not know about orientation/ demonstration classes for visually challenged students in higher education in Kerala.
- NGOs have an important role. They have to give awareness about policy and right based classes for the visually challenged students/ community.

- Policy implementation is not effective. There is a big gap identified between policy and implementation. Gaps spotted in the study are mainly curricular adaptations in every subject not done in a proper manner. Job reservation is given to visually challenged students but the ratio of the visually challenged in the workplace is not adequate.
- Social inclusion is the only way to overcome all these barriers. Great efforts should be given by the administrators to plan for inclusion at the grass root level.
- A prominent NGO is working for the empowerment of visually challenged persons in Kerala which started different vocational training for visually challenged students.
- NGOs are working for the empowerment of visually challenged students in higher education. Most of the programmes are umbrella making, chalk making, and paper pen making. A Small number of NGOs started computer training programmes for visually challenged students and teachers. It is an essential programme for visually challenged students in their learning and for developing IT skills to compete with the public.
- Central government initiatives on the skill development of persons with disabilities are a good program. Deen Dayal Grameen Kausal Yojana started skill enhancement programmes for visually challenged students. But those students do not know about these programmes in Kerala.

- Training for computer, communicative English, and employability skills are developed through the NGO programmes effectively done in Kerala.

Discussions

The present study aimed to identify the problems faced by visually challenged students in higher education in Kerala. This study has taken into consideration the findings of the participants and other stakeholders. The results of this study compared with national and international studies.

Here the investigator identified the major problems of visually challenged students in higher education in Kerala. They are equity matters, accessibility issues, inclusive mindset and lack of awareness.

Equity refers to the fair treatment of a person in a society. In the higher education context, visually challenged students face many impediments in the terms of equity matters. Selection of a course/subject/institution is restricted for a visually challenged student in higher education. This restriction means “internal oppression” of disabled students (Palan, 2016).

Many studies found that accessibility issues cause hindrance to the education of a visually challenged students in higher education (Jameel, 2012).

The research will be conducted in the fields of science and technology, library and information science, by developing new methods, models, tools, and technologies to help information seekers i.e., visually challenged students

and information providers add value to the small existing literature related to the issues.

If the inclusive mindset never builds with a human mind they couldn't understand the disabled community and their problems. So the study shows that attitudinal barriers will be a negative factor in the development of a visually challenged student.

“A social justice approach requires recognition of both environmental conditions that create inaccessible college campuses and internal beliefs and attitudes that exclude and demean individuals with disabilities” (Evans, 2008; Lindburg, 2012). The present study identifies similar reasons for the oppression of a visually challenged students in higher education. So it is better to form a campus environment welcoming diversity.

This is the last theme generated from the analysis of the study. It is an inevitable part of the life of visually challenged students, lack of awareness of teachers, disability management issues, and new developments in the area of education for the disabled community. Various studies reported from the Indian context identify this lack of awareness as a major concern of the movement toward the quality education for all (Jament, 2007; Wilcox, 2000)

Conclusion of the Study

The present study identified the different problems faced by visually challenged students in higher education. Legal rights do not always solve inequality. From a social justice perspective, it is important to understand

that law is an imperfect method of social change, and equality cannot be achieved through legal measures alone (Spade, 2011).The major problems are discussed in terms of equity matters, accessibility issues, inclusive mindset and lack of awareness. The investigator suggests a better educational institution with a guided action plan and dedicated and accountable faculties, resources, technology and responsive environment should be a better socially just campus for visually challenged students in higher education.

Chapter 6

RECOMMENDATIONS OF THE STUDY

- *Educational Implications of the Study*
- *Suggestions for Further Research*

RECOMMENDATIONS OF THE STUDY

Based on the findings of the study, the investigator recommended the educational implications and suggested further research for the development of visually challenged students in higher education.

Educational Implications of the Study

Equity matters, accessibility issues, inclusive mindset, and lack of awareness are the major issues faced by visually challenged students in higher education in Kerala. These are some critical issues faced by visually challenged students in higher education in Kerala. These problems can be solved only by making some changes in the required areas. The first and foremost thing is that needs to change the attitude of the society. The right attitude is important not only to initiate but also to implement other measures needed to improve access to information for visually challenged students.

Government authorities should take necessary steps to address the various needs of visually challenged students in higher education. Policy objectives should be fulfilled by their proper implementation. Academic institutions should identify the special characteristics of visually challenged students, understand ways to meet their needs, formulate guidelines, educate faculty and staff and establish centers with the necessary assistive technology.

The following educational implications

- It is better to have a web portal that is accessible for visually challenged students in each university. It is the most welcomed suggestion by the students who have got study materials according to the syllabus of each university.
- It is necessary to build a visually challenged friendly campus. The facilities like road, rail, and ramp, will be made according to the student's needs. It is the responsibility of the educational institutions according to RPWD Act 2016.
- It is mandatory for constituting an equal opportunity cell for differently-abled in higher educational institutions. It can be a more powerful and permanent system on campus that helps those students in their academics and other activities.
- According to UGC directions, these enabling units are working for the differently-abled students on the campus. It should be aimed to empower those students in every aspect and helps them to become independent in their future life.
- Computers with screen readers should be maintained in each library in higher educational institutions
- Audio libraries should be kept as a part of the main library
- There should be a provision to express the visually challenged students in the field of sports and arts like cricket, chess, music, and other extracurricular activities.

- An adaptable curriculum should be designed for them. Different strategies for teaching and learning for visually challenged students should be included in the plus curriculum. Every possible outcome for developing the competencies of a visually challenged student should be there.
- There should be an opportunity to select an interesting subject or course. According to their capacity, they have to get the freedom to select their choice. They should also be treated as equal citizens in this society.
- Teacher training courses for visually challenged students should be constituted. More trained faculties should be made in higher educational institutions.
- Teachers and other staff should be given the training to meet the demands of their visually challenged students in their classrooms/ institutions. It helps them to overcome the academic and social impediments of those students.
- Curriculum designers should take consideration to take necessary action to revamp the curriculum according to the needs of visually challenged students.
- An expanded curriculum should be developed for visually challenged students in higher education. Especially for teacher training curriculum should be modified.

- Curricular activities should be helped to enhance the knowledge of the subject. So more opportunities should give to visually challenged students in higher educational institutions.
- Career guidance, new opportunities, new interventions, policy-related matters, global challenges, etc., for visually challenged students, are the different subjects that should be considered as empowerment programs for them in higher education. So it is better to conduct a seminar, workshops, and colloquia in higher educational institutions. The term equity is meaningful for conducting these types of activities.

Suggestions for Further Research

The following are suggestions for further research for the upliftment of visually challenged students in higher education.

- Research should be done to find disability accommodations in higher education that meet individual needs.
- This study can be conducted in a large sample or a normative survey.
- There should be a chance for researching the challenges faced by other disability groups in higher education.
- Particular case studies are required to identify each of these marginalized disability groups and find out their needs related to their education.

- Parental involvement of the visually challenged students in each stage of their life.
- The role of NGOs in the education of differently-abled students is another important topic of the study.
- This is inevitable to study the government initiatives on disability for addressing the needs of 21 disabilities according to RPWD 2016.
- Teacher preparation for inclusive education especially for visually challenged students.
- New curriculum adaptations for visually challenged students in each subject in higher education.
- Equity matters should be considered for achieving sustainable goal development.
- The developments and innovations of assistive devices for visually challenged students in higher education.
- Developing instructional strategies for the teachers of visually challenged students.
- Different techniques for adaptation of materials and methods for the daily life of visually challenged students
- Employment opportunities for visually challenged students in every sector may be selected for further study.

- This study recommended that it is essential to study the employability skills enhancing programmes for visually challenged students in higher education.

REFERENCES

REFERENCES

- Abberley, P. (1987). The concept of oppression and the development of a social theory of disability. *Disability, Handicap & Society*, 2(1), 5-19
- Adaptive Technology Center for the Blind [web site]. (www3.sympatico.ca/tamru/ accessed, accessed 30 January 2017).
- Agarwal, P. (2009). *Indian Higher Education: Envisioning the Future*, Sage Publications, New Delhi.
- Agarwal, R. (2016). *A study of assistive technologies for inclusive library & information services for students with special needs*. National Conference on Library and Information services for all: Reaching the unreached in the digital era (p. 36-41).
- Ahmad, W. (2016). Higher education for person with disabilities in India challenges and concerns. *Journal of Disability Management and Rehabilitation*. <http://www.researchgate.net/publication/325619579>
- Ainscow, M. (2003). Using teacher development to foster inclusive classroom practices. In T. Booth, K. Nes & M. Stromstad (Eds.), *Developing inclusive teacher education*. Routledge Falmer.
- Ajuwon, P. M., Sarraj, H., Griffin-Shirley, N., Lechtenberger, D., & Zhou, L. (2015). Including students who are visually impaired in the classroom: Attitudes of preservice teachers. *Journal of Visual Impairment & Blindness*, 131-140.
- Amin, A.S., Sar, N., Akhir, N.M., & Marzians. (2021). Main challenges of students with visual impairment at higher education institutions. *International Journal of Academic Research in Progressive Education and Development* 10(1) <https://doi.org/10.6007/IJARPED/v10-i1/9682>
- Andrew, O.A. (2015). The challenges of educating the visually impaired and quality assurance in tertiary institutions of learning in Nigeria. *International Journal of Educational Administration and Policy Studies*, 7(7), 129-133. <https://doi.org/10.5897/IJEAPS2015.0407>
- Antonelli, K., Steverson, A., & O'mally, J. (2018). College graduates with visual impairments: A report on seeking and finding employment. *Journal of Visual Impairment and Blindness*.
- Arndt, K. (2010). College students who are deaf blind: Perceptions of adjustments and academic supports. *Winter*, 3(1).
- Bansal, S. (2016). Teacher education programmes preparing teachers for inclusive classrooms: A North India context. *Journal of Disability Management and Rehabilitation*, 2(2), 83-90.
- Barnes, C. (1991). *Disabled people in Britain and discrimination*. Hurst.
- Bassegy, M. (1999). *Case study research in educational settings*. Open University.
- Begeny, J.C., & Martens, B.K. (2007). Inclusionary education in Italy: A literature review and call for more empirical research. *Remedial and Special Education*, 28, 80-94. <https://doi.org/10.1177/07419325070280020701>

- Biggeri, M., Dimasi, D., & Bellacicco, R. (2019). Disability and higher education: Assessing students capabilities in two Italian universities using structured focus group discussions. *Studies in Higher Education*. <http://doi.org/10.1080/03075079.2019.1654448>
- Blanck et al. (2004). *Disability civil rights law and policy*. Thomson/West,
- Bloch, F.S., & Prins, R. (Eds.) (2001). *Who returns to work and why? A six-country study on work incapacity and reintegration*. Geneva, International Social Security Association.
- Boersma, F.J., & Chapman, J.W. (1982). Teachers' and mothers' academic achievement expectations for learning disabled children. *Journal of School Psychology, 20*, 216-221. [https://doi.org/10.1016/0022-4405\(82\)90051-6](https://doi.org/10.1016/0022-4405(82)90051-6)
- Bonn. (2008). Accessibility to ICT products and services by disabled and elderly people: Towards a framework for further development of UE legislation or other coordination measures on eAccessibility. European Commission.
- Brandt, S. (2011). From policy to practice in higher education: The experiences of disabled children in Norway. *International Journal of Disability, Development and Education, 58*(2), 107-120. <https://doi.org/10.1080/1034912x.2011.270494>
- Brown, K., Broido, E., Stapleton, L., Evans, N., & Pena, E. (2016). *Disability research: Frameworks for qualitative inquiry*. Paper presented at the association of the study of Higher Education Conference, Columbus, OH.
- Buckup, S. (2009). *The price of exclusion: The economic consequences of excluding people with disabilities from the world of work*. Geneva, International Labour Organization.
- Campbell, F. K. (2009). *Contours of ableism: The production of disability and abledness*. Palgrave MacMillan.
- Castaneda, C., Hopkins, L.E., & Peters, M.L. (2013). Ableism: Introduction. In M. Adams, W.J. Blumenfield, C. Castaneda, H. W. Hackman, M.L. Peters, & X. Zuniga (Eds.), *Readings for diversity and social justice* (3rd ed., pp. 461-468). Routledge.
- Chander, S. (2011). *Developing a framework for teaching science to visually challenged learners in an inclusive classroom* [Doctoral thesis, Department of Education, University of Delhi]. <http://hdl.handle.net/10603/388648>
- Columna, L., Lepore, M., L.W.K.D., S. E., & Kavanagh. (n.d.). *Effective education for families of children with Visual Impairments and Blindness in physical activity environment: A workshop model with a focus on orientation and mobility skills*. <http://doi.org/10.1177/0264619617689903>
- Corker, M. (1998). Disability discourse in a postmodern world. In T. Shakespeare (Ed.), *The disability reader: Social science perspectives* (pp. 221-233). Cassell.
- Cosier, M., & Pearson, H. (2016). *Can we talk? The underdeveloped dialogue between teacher education and disability studies*. <http://doi.org/10.1177/2158244015626766>
- Creswell, J.W. (2003). *Research design—qualitative, quantitative, and mixed-method approaches* (2nd ed.). Sage Publications.

- Creswell, J.W. (2007). *Qualitative enquiry and research design: Choosing among five approaches*. Sage Publications.
- Creswell, W. (2007). *Qualitative enquiry and research design: Choosing among five approaches*. Sage Publications.
- Creswell, W., & Plano-Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed.). Sage Publications.
- Danermark, B. (2002). Interdisciplinary research and critical realism: The example of disability research. *Alethia*, 5(1), 56-64.
- Davidson, C.M., & Santorelli M.J., (2009). *The impact of broadband on people with disabilities*. United States Chamber of Commerce.
- Davis, L. (2002). *Bending over backwards: Disability, dismodernism and other difficult positions*. New York University Press.
- Drum, C. E. (2009). Models and approaches to disability. In C. E Drum, G.L. Krahn, & H. Bersani Jr. (Eds.), *Disability and public health*(pp. 27-44).
- Dupoux, E., Wolman, C., & Estrada, E. (2005). Teachers' attitudes toward integration of students with disabilities in Haiti and the United States. *International Journal of Disability Development and Education*, 52, 43-58. <https://doi.org/10.1080/10349120500071894>
- EADSNE. (2010). *Special needs education: Country data 2010*. European Agency for Development in Special Needs Education.
- Elwan, A. (1999). *Poverty and disability (Background paper)*. The World Bank.
- Engelen, J. (2009). E Accessibility standardization. In C. Stephanidis (Ed.), *The universal access handbook*. Taylor and Francis.
- European Agency for Development in Special Needs Education. (2007). *Young people's views on inclusive education: Lisbon declaration*. Odense.
- Farquahar, J.D. (2012). *Case study research for business*. Sage Publications.
- Fatima, G. (2019). *Empowerment of visually challenged students through education: A sociological study* [Doctoral thesis, Department of Sociology and Social work]. <http://hdl.handle.net/10603/353610>
- Fatima, G., Bashir, R., Malik, M., Safder, M., & Dur-e-Nayab. (2014). Difficulties faced by students with visual impairment registered in open and distance learning programs of AIOU, Islamabad, Pakistan. *Academic Research International*, 5(3).
- Ferguson, D.L. (2008). International trends in inclusive education: the continuing challenge to teach one and everyone. *European Journal of Special Needs Education*, 23, 109-120. <https://doi.org/10.1080/08856250801946236>
- Fine, M., & Asch, A. (2000). Disability beyond stigma: Social interaction, discrimination, and activism. In M. Adams, W. J. Blumenfield, C. Castaneda, H. W. Hackman, M.L. Peters, & X. Zuniga (Eds.), *Readings for diversity and social justice* (3rd ed., pp. 330-339). Routledge.
- Fisher, K., & Jing, L. (2008). Chinese disability independent living policy. *Disability & Society*, 23, 171-185. <https://doi.org/10.1080/09687590701841216>

- Florian, L., & Rouse, M. (2009). The inclusive practice project in Scotland: Teacher education for inclusive education. *Teaching and Teacher Education*, 25 (4), 594-601.
- Forlin, C., Loreman, T., Sharma, U., & Earle, C. (2009). Demographic differences in changing preservice teachers' attitudes, sentiments and concerns about inclusive education. *International Journal of Inclusive Education*, 13(2), 195–209.
- Forster, N. (1994). The analysis of company documentation. In C. Cassell & G. Symon (Eds.), *Qualitative methods in organizational research* (pp. 147–166). Sage Publications.
- Frank, H., Mclinden, M., & Douglar, G. (2019). *Accessing curriculum: University based learning experiences of visually impaired physiotherapy students nurse education in practice*. Elsevier Ltd. <http://doi.org/10.1016/j.nepr.2019.102620>
- Frank, H., Mclinden, M., & Douglar, G. (2019). Accessing curriculum: University based learning experiences of visually impaired Physiotherapy Students. *Nurse Education in Practice- NEPR*, 42. <http://doi.org/10.1016/j.nepr.2019.102620>
- Frederic, F. (2018). Disability in higher education: A social justice approach. *Disability & Society*, 33, 8, 1377-1379. <https://doi.org/10.1080/09687599.2018.1492779>
- Fuller, M., Healey, M., Bradley, A., & Hall, T. (2004). Barriers to learning: A systemic study of the experience of disabled students in one university. *Studies in Higher Education*, 29(3), 303-318.
- G.G., Y. (2015). *Towards more inclusive university curricula: The learning experiences of visually impaired students in higher education institutions of Ethiopia* [Doctoral Dissertation, University of South Africa].
- Ghai, A. (2001). Marginalization and disability: Experiences from the third world. In M. Priestly (Ed.), *Disability and the life course: Global perspective* (pp.26-37). Cambridge University Press.
- Gillham, B. (2005). *Research interviewing: The range of techniques*. Open University.
- Gomm, R., Hammersley, M., & Foster, P. (Eds.) (2000). *Case study methods*. Sage Publications.
- Goode, E. (1996). The ethics of deception in social research: A case study. *Qualitative Sociology*, 19 (1), pp. 11–33.
- Government of India. (2016). *New Education Policy-2016*. Ministry of Human Resource Development, Government of India. <http://mhrd.gov.in/nep-new>
- Griffin, P., Peters, M. L., & Smith, R. M. (2007). Ableism curricular design. In M. Adams, L. A. Bell, & P. Griffin (Eds.), *Teaching for diversity and social justice* (2nd ed., pp. 335-358). Routledge.
- Guillemin, M., & Gillam, L. (2004). Ethics, reflexivity, and ethically important moments in research. *Qualitative Inquiry*, 10 (2), 261–280.
- Hardiman, R., Jackson, B., & Griffin, P. (2007). Conceptual foundations for social justice education. In M. Adams, L. A. Bell, & P. Griffin (Eds.), *Teaching for diversity and social justice* (2nd ed., pp. 35-66). Routledge.

- Haveman, R., & Wolfe, B. (1990). The economic well being of the disabled: 1962–1984. *The Journal of Human Resources*, 25, 32-54. <https://doi.org/10.2307/145726>
- Hegarty, S. (2001). Inclusive education: A case to answer. *Journal of Moral Education*, 30(3), 243-249.
- Hoogeveen, J.G. (2005). Measuring welfare for small but vulnerable groups: poverty and disability in Uganda. *Journal of African Economies*, 14, 603-631. <https://doi.org/10.1093/jae/eji020>
- Human Rights Commission. (2009). *Disabled children's right to education*. Auckland University Press.
- Hutcheon, E.J., & Wolbring, G. (2012). Voices of “disabled” post-secondary students: Examining higher education “disability” policy using an ableism lens. *Journal of Diversity in Higher Education*, 5(1), 39-49.
- Imrie, R. (1997). Rethinking the relationships between disability, rehabilitation, and society. *Disability and rehabilitation*, 19(7), 263-271.
- Ingram, E., Dorsett, P., & Macfarlane, K. (2019). Exploring the lived experience of acquiring life skills with congenital total blindness: An interpretive phenomenological analysis. *British Journal of Visual Impairment*. <http://doi.org/10.1177/0264619619856649>
- Ingstad, B., & Whyte, S.R. (Eds.) (1995). *Disability and culture*. University of California Press.
- Inter-Agency Network on Education in Emergencies. (2009). *Education in emergencies: including everyone. INEE pocket guide to inclusive education*. Geneva.
- International Labour Organization. (2002). *Managing disability in the workplace: ILO code of practice*. Geneva.
- Jorgensen, et al. (2009). The providers' profile of the disability support workforce in New Zealand. *Health & Social Care in the Community*, 17, 396-405 <https://doi.org/10.1111/j.1365-2524.2008.00839.x> PMID:19220491
- Karellou, J. (2020). Filling the gap: Students with disabilities and their perceptions about higher education accommodations in Greece. *Journal of Disability Studies*, 6(1), 3-12. <http://pubs.iscience.in/>
- Keates, S. (2009). Motor impairments and universal access. In C. Stephanidis (Ed.), *The universal access handbook*. Taylor and Francis.
- King, N. (1994). *The qualitative research interview*. In C. Cassell & G. Symon (Eds.), *Qualitative methods in organizational research* (pp. 14–36). Sage Publications.
- Kinzel, E., & Jackoo, J.A. (2009). Sensory impairments. In C. Stephanidis (Ed.), *The universal access handbook*. Taylor and Francis.
- Kothari, J. (2010). The UN Convention on Rights of Persons with Disabilities: An engine for law reform in India. *Economic & Political Weekly*, XLV (18), 65–72.
- Kvale, S. (1996) *Interviews: An introduction to qualitative research interviewing*. Thousand Oaks, CA: Sage Publications.

- Lee, T.W. (1999). *Using qualitative methods in organizational research*. Sage Publications.
- Llewellyn, A., & Hogan, K. (2000). The use and abuse of models of disability. *Disability & Society*, 15(1), 157-165.
- Longmore, P. K. (2003). *Why I burned my book and other essays on disability*. Temple University Press.
- Longmore, P. K., & Umansky, L. (2001). Disability history: From the margins to the mainstream. In P. K. Umansky (Eds.), *The new disability history: Americans perspectives* (pp. 1-29). University Press.
- Lutz, B. J., & Bowers, B. J. (2007). Understanding how disability is defined and conceptualized in the literature. In A.E. Dell-Orto & P.W. Power (Eds.), *Psychological and social impact of Illness and disability* (5th ed., pp. 11-21). Springer.
- Mamiseishvili, K., & Koch, L.C. (2012). Students with disabilities at 2-year institutions in the United States: Factors related to success. *Community College Review*, 40(4), 320-339.
- Manocha, D. (2007). Critical issues for developing countries in implementing the convention on the rights of persons with disabilities. In *The accessibility imperative*. New York, Global Initiative for Inclusive Information and Communication Technologies, 198–204.
- Mason, J. (1996). *Qualitative researching*. Sage.
- Maya, K. (2008). Equality, quality and quantity: challenges in inclusive education policy and service provision in India. *International Journal of Inclusive Education*, 12(3), 243-262, DOI:10.1080/13603110601103162
- McGregor, G., & Vogelsberg, R.T. (1998). *Inclusive schooling practices: pedagogical and research foundations. A synthesis of the literature that informs best practices about inclusive schooling*. Paul H Brookes.
- Meekosha, H. (2004). Drifting down the gulf stream: Navigating the cultures of disability studies. *Disability & Society*, 19 (7). 721–33.
- Meekosha, H., & Shuttleworth, R. (2009). What’s so “critical” about critical disability studies? *Australian Journal of Human Rights*, 15(1), 47-75.
- Michele, M., Sarah, B., & Maelzer, J. (1998). *Researching disability issues*. Open University Press.
- Miller, E.J., & Gwynne, G.V. (1972). *A life apart: a pilot study for residential institutions for the physically handicapped and the youngchronic sick*. Tavistock.
- Mingus, M. (2011). *Changing the framework: Disability justice. How communities can move beyond access to wholeness*. <https://leavingevidence.wordpress.com/>
- Ministry of Social Justice and Empowerment. (2016). *The Rights of Persons with Disabilities Act 2016*. Government of India.

- Mitra, S., & Sambamoorthi, U. (2006). Government programmes to promote employment among persons with disabilities in India. *Indian Journal of Social Development*, 6, 195-213.
- Moore, M., Beazley, S., & Maelzer, J. (1998) *Researching disability issues*. Open University Press.
- Morgan, D.L. (1996). Focus groups. *Annual Review of Sociology*, 22 (1), 129–152.
- Mukhopadhyay, S. (Ed.) (2003). *National seminar on partnership of government and nongovernment organization for inclusive education report*. National Institute of Educational Planning and Administration, New Delhi..
- Myreddi, V., & Narayan, J. (2000). Preparation of special education teachers: Present status and future trends. *Asia Pacific Disability Rehabilitation Journal*, 10(1), 1-8.
- NCERT. (2006). *National Focus Group on Education of Children with Special Needs*. NCERT.
- Nocella, A.J., Jr. (2009). Disabling disability: Re-building inclusive into social justice. *Theory in Action*, 2(1), 140-157. <https://doi.org/10.3798/tia.1937-0237.08033>
- NSSO (National Sample Survey Organization). (2003). *Disabled persons in India, NSSO 58th Round (July-December 2002)*. NSSO.
- NSSO (National Sample Survey Organization). (2003). *Disabled Persons in India*. NSS 58th Round (July – December 2002). NSSO.
- Olkin, R. (1999). *What psychotherapists should know about disability*. Guilford Press.
- Omede, A. (2015). The challenges of educating the visually impaired and quality assurance in tertiary institutions of learning in Nigeria. *International Journal of Educational Administration and Policy Studies*, 129-133. <http://doi.org/10.5897/IJEAPS2015.07> <http://www.academicjournals.org/IJAPS>
- Organisation for Economic Co-operation and Development. (1999). *Inclusive education at work: students with disabilities in mainstream schools*. Paris
- Organisation for Economic Co-operation and Development. (2006). *Accessibility program and school restoration in Lisbon*. Paris.
- Palan, R. (2020). “I seriously wanted to opt for science, but they said no”: Visual impairment and higher education in India. *Disability & Society*, 36(2), 202-225. <http://doi.org/10.1080/09687599.2020.1739624>
- Patton, M. Q. (2002). *Qualitative evaluation and research methods* (3rd ed.). Sage Publications, Inc.
- Peiyun, S., & Livermore, G. (2008). Long-term poverty and disability among working age adults. *Journal of Disability Policy Studies*, 19, 244-256. <https://doi.org/10.1177/1044207308314954>
- Pena, E. V. (2014). Marginalization of published scholarship on students with disabilities in higher education journals. *Journal of College Student Development*, 55, 30-40.

- Piling, D., Barrett, P., & Floyd, M. (2004). *Disabled people and the Internet: Experiences, barriers and opportunities*. Joseph Rowntree Foundation,
- Porter, G.L. (2001). *Disability and inclusive education*. Paper prepared for the Inter-American Development Bank seminar, Inclusion and Disability, Santiago. [http://www.disabilityworld.org/05-06_01/children/inclusived.shtml](http://www.disabilityworld.org/05-06_01/children/inclusived.html), accessed 1 May 2018).
- Prior, L. (2008). Repositioning documents in social research. *Sociology*, 42 (5). 821-836.
- Rao, A.N. (2012). *Students with disabilities in higher educational institutions in Andhra Pradesh*. Tata Institute of Social Sciences. <http://hdl.handle.net/10603/4418>
- Rao, G.J. (2018). *Effectiveness of adapted instructional materials of teaching science for children with visual impairment in inclusive education programme* [Doctoral thesis, Department of Education, Andhra University]. <http://hdl.handle.net/10603/377679>
- Saetermoe, C., Gomez, J., Bamaca, M., & Gallardo, C. (2004). A qualitative enquiry of caregivers of adolescents with severe disabilities in Guatemala City. *Disability and Rehabilitation*, 26, 1032-1047. <https://doi.org/10.1080/09638280410001703512> PMID:15371040
- Saguy, A.C. (2013). *What's wrong with fat?* Oxford University Press.
- Salmen, J. P. S. (2011). Universal design for academic facilities. In W.S. Harbour & J.W. Madaus (Eds.), *Disability services and campus dynamics* (New Directions for Student Services, no.134, pp.13-20). Jossey-Bass. <https://doi.org/10.1002/ss.391>
- Scambler, G., & Scambler, S. (2010). Introduction- The sociology of chronic and disabling conditions: Assaults on the lifeworld. In G. Scambler & S. J. Scambler (Eds.), *New directions in the sociology of chronic and disabling condition* (pp. 1-7). Palgrave MacMillan.
- Seeman, L. (2002). *Inclusion of cognitive disabilities in the web accessibility movement*. Presentation at the 11th International World Wide Web Conference, Honolulu, HI, 7-11 May 2002.
- Seidman, I.E. (2006). *Interviewing as qualitative research: A guide for researchers in education and the social sciences* (3rd ed.). Teacher College Press.
- Shakespeare, T. (2014). *Disability rights and wrongs revisited* (2nd ed.). Routledge.
- Shildrick, M. (2012). Critical disability studies: Rethinking the conventions for the age of post modernity. In N. Watson, A. Roulstone, & C. Thomas (Eds.), *Routledge Handbook of Disability Studies* (pp.30-41). Routledge.
- Silverstein, J. (2002). *Framework for understanding IDEA in general and the discipline provisions in particular*. Center for Study and Advancement of Disability Policy.
- Simkiss, P. (2005). Work matters: Visual impairment, disabling barriers and employment options. In C. Barnes & A. Roulstone (Eds.) (2005). *Working futures: Disabled people, policy and social inclusion*. Policy Press,
- Singal, N. (2010). Doing disability research in a Southern context: Challenges and possibilities. *Disability & Society*, 25 (4). 415-426.

- Stake, R. (1995). *The art of case study research*. Sage Publications
- Stephanidis, C. (2009). Universal access and design for all in the evolving information society. In C. Stephanidis (ed.) *The universal access handbook*. Taylor and Francis, 1–10.
- Stover, M. (2010). These scales tell us that there is something wrong with you: How fat students are systemically denied access to fair and equal education and what we can do to stop this. *Southern California Law Review*, 83, 933-983.
- Snyder, R.F. (1999). Inclusion: A qualitative study of In-service general education teacher's attitudes and concerns. *Education*, 120, 173-181.
- Thayer. (2001). *Handbook of social work research method*. Sage Publications.
- Thorat, S. (2006). *Higher education in India emerging issues related to access, inclusiveness and quality*. University Grants Commission.
- Turmusani, M. (2003). *Disabled people and economic needs in the developing world: A political perspective from Jordan*. Aldershot, United Kingdom, Ashgate Publishing.
- UNESCO. (1994). *The Salamanca statement and framework for action on special needs education*. UNESCO.
- UNESCO. (1999). *Inclusive schools and community support programmes: First phase*. UNESCO.
- UNESCO. (2000). *The Dakar Framework for action: Education for All: Meeting our collective commitments*. Adopted by the World Education Forum, Dakar, United Nations Educational, Scientific and Cultural Organization, 26–28 April 2000. Paris.
- UNESCO. (2001.) *Understanding and responding to children's needs in inclusive classrooms*. United Nations Educational, Scientific and Cultural Organization. <http://unesdoc.unesco.org/images/0012/001243/124394e.pdf>
- Unger, D. (2002). Employers' attitudes toward persons with disabilities in the workforce: myths or realities? *Focus on Autism and Other Developmental Disabilities*, 17, 2-10. <https://doi.org/10.1177/108835760201700101>
- United Nations (2009). *Information Economy Report 2009: Trends and outlook in turbulent times*. United Nations Conference on Trade and Development.
- United Nations Educational, Scientific and Cultural Organization. (1994). *Education for All: Salamanca framework for action*. UN.
- United Nations. (2006). *Convention on the rights of persons with disabilities*. United Nations.
- University Grants Commission. (2012). *Guidelines for persons with disabilities scheme in colleges XII Plan (2012–2017)*. UGC. https://www.ugc.ac.in/pdfnews/5471032_person-with-disabilities.pdf
- Vaijyanthi, R. (2021). *Learning medium for students with visual impairment*. Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore.
- Vohra, R. (2018). Legislative boost to disability rights. *Disabilities and Impairments- Journal of Visual Impairment and Blindness*, 37-44.

- Watson et al. (1998). *Life as a disabled child: Research report*. University of Edinburgh.
- World Bank. (2004). *World Development Report: Making services work for poor people*. World Bank.
- World Bank. (2009). *People with disabilities in India: From commitments to outcomes*. World Bank.
- World Health Organization. (2011). *World Report on Disability*. WHO Press
- Yin, R. (2009). *Case study research: Design and methods* (4th ed.). Sage Publications.
- Yurtay, N., Bicil, Y., & Celebi, S. (2011). Library automation design for visually impaired. *Turkish Online Journal of Educational Technology*, 255-260.
- Zinkin P, & McConachie H, (Eds.) (1995). *Disabled children and developing countries*. MacKeith Press.

APPENDICES

Appendix I

Personal Profile for Visually Challenged Students

Name :

Address :

.....

.....

Mobile no :

Email id :

Gender : Male/Female/Transgender:

Date of birth & Age :

Religion & Caste :

Type of disability & percentage :

%:.....

Name of institution :

Course & subject :

Educational qualifications of

Father :

Mother :

Siblings :

Occupation of

Father :

Mother :

Siblings :

Annual income :

Place :

Date :

Appendix II

Interview Schedule for Visually Challenged Students in Higher Education in Kerala

- I. What are the main academic impediments that you faced in pursuing your academic degree in higher education in Kerala?
 - Favorite Topics Can you choose courses?
 - What do you think about the current exam pattern?
 - Do you think higher education is too expensive and out of reach?
 - Are you able to actively participate in learning activities?
 - How are you involved in academic activities?
 - What methods do you use to solve reading problems? Can you elaborate on the new assistive devices?
 - Where do you get information about scholarships? Are they received on time?
 - Do you know that after the enactment of RPWD Act, reservation in higher education has been proportionately increased?
 - Are you the first person from your family to pursue higher studies?
 - Is there any particular reason for choosing this college?
- II. What are the social problems that you faced in your higher education?
 - Do your classmates get along well with you academically and otherwise?
 - Do you get help from your friends in your studies?
 - Can you explain the role of classmates in facilitating the learning environment?
 - Do classmates help with things like mobility?
 - How much help do you get from teachers in academic matters?
 - How do teachers treat you outside the classroom?
 - How do teachers treat you outside the classroom?
 - How effectively do you think assignments, seminars, and exams can be done?
 - Are you able to maintain a good relationship with your teachers?
 - How are the non-teachers' approach towards you? Have you faced any problems?

- Are you able to use the library effectively?
- Do parents get attention and help in matters related to study?
- Do you get in touch with the volunteers in the Equal Opportunity Cell to meet your needs in college?
- Have NGOs helped you in creating social value?
- Have special facilities been arranged in the institutions for people like you?
- What changes still need to be made? Can you suggest

III. What are the issues and concerns of your technological needs in your higher education?

- Can you tell us about the software's, assistive devices and applications used for learning?
- Are you active on social media?
- Are assistive devices available to enhance learning activities? Have you bought them yourself?
- Are online classes useful?
- Have you had any difficulty managing technology on your own?
- Do you receive training in the use of assistive devices?
- Are such trainings available in higher education institutions or not?
- To what extent has technology helped you to overcome visual limitations?

IV. What are the issues faced related to employability?

- What are your plans to develop your career skills in higher education?
- Is it possible to find job fields by yourself?
- Which fields are you interested in choosing for employment?
- Have you received career guidance classes?
- Do you know about job reservation?
- For those of you who are looking for higher education, do you have the availability of Jobs to improve your quality of life?
- Along with increasing the living facilities, any activities for the welfare of people like you, Govt. How much is being done at the NGO level?

Appendix III

Interview Schedule for Drop Outs (Visually Challenged) in Higher Education

1. What are the main reasons for quitting your course/studies?
2. Are you planning to join other courses?
3. Have you got any support from your teachers?
4. Do you have any experience regarding discrimination?
5. Can you explain the major constraints that you faced in higher education

Appendix IV

Interview Schedule for Teachers of Visually Challenged Students

1. What kind of approach should a teacher take towards visually challenged students?
2. What is being done to help them in their studies?
3. Are new learning methods prepared for them?
4. Are study aids specifically provided for these types of students?
5. What will be the approach to the visually impaired students while evaluating the academic performance of the children?
6. What do you think about the test methods for the visually impaired?
7. Is it possible to develop creative skills of visually impaired students?
8. Is it possible to identify their talents in extracurricular subjects?
9. Are the conditions necessary for such students who reach higher education to develop their work skills exist today?

Appendix V

Interview Schedule for Parents of Visually Challenged Students

1. As a parent of a visually challenged student, how do you intervene in their efforts for their improvement?
2. What are the challenges faced in daily life?
3. What is your position regarding their education?
4. Are you aware of the benefits available at the government level and more? Where is the information available?
5. What do you think about the facilities for your son/daughter seeking higher education?
6. In your opinion, what actions are taken from the authorities to empower the visually challenged students in higher education in Kerala?

Appendix VI

Interview Schedule for Government Authorities

1. What are the educational provisions for visually challenged students in higher education in Kerala?
2. What supporting services are provided for visually challenged students in higher education in Kerala?
3. Could you please explain about the future plan for empowerment programmes of visually challenged students in higher education in Kerala
4. Explain recent developments in educational programmes for visually challenged students in higher education in Kerala

Appendix VII

Interview Schedule for NGO Officials

1. What are the empowerment programmes conducted for visually challenged students in higher education in Kerala?
2. What are the educational programmes that you assisted for visually challenged students in higher education conducted by government agencies?
3. What are the innovative programmes viz., Audio Library, Reading Groups, etc. for the upliftment of visually challenged students in higher education in Kerala?

Appendix IX

Questionnaire on Facilities for Visually Challenged Students at Higher Education

1. Removal of the physical barriers
 - a) Rail and ramp facilities in
 - Hostel
 - Library
 - Departments
 - Toilets
 - Canteen
2. Is there any equal opportunity cell/disabled support Centre
3. For visually challenged students
 - a. Personal computer/digital note book/DAISY notebook
 - b. books related their core subject in braille
 - c. study materials in audio form
4. Is there any outreach programme /extension programmes for this community
 - a. College /university level coordinator
 - b. Any programme for school /community member
5. How many rupees /budget provided by college or university
6. Academic support from teachers
7. Extra time for examinations/scribe systems/any alternatives
8. Extend bus facility /transport
9. Lift facility
10. Assistive devices

Appendix X

Focus Group Discussion Schedule for Perception of Peers

1. How do you approach a visually challenged classmate?
2. Have they been able to identify their academic strengths and limitations?
3. Is it possible to intervene without discrimination?
4. Can they be included in university-level arts programs?
5. For what academic and non-academic matters do they approach you?
6. Are you able to behave in a way that raises their expectations?
7. Do they join you in academic discussions?
8. In what ways do these interactions with students help you?
9. Do you feel that visually challenged students are not getting equal treatment?