AGAINST ALL ODDS

Achievements of Visually Impaired Children Studying in Mainstream Schools

Prof. Anil K. Aneja & Dr. Swati Sanyal

About AICB

All India Confederation of the Blind (AICB) is a 43-year-old premier self-help national organization of the blind, having 21 affiliates across the country. Its areas of work for the visually impaired include education, vocational training, employment, women empowerment, advocacy, community-based rehabilitation in rural areas and research. AICB has received the National Award from the Ministry of Social Justice and Empowerment, Government of India three times- 2006, 2009 and 2012.

About CBM

CBM is an international development and humanitarian organization dedicated to improving the quality of life of persons with disabilities in the world's poorest countries. With an estimated 1.3 billion people with significant disabilities worldwide, the need for inclusive development is more critical than ever. Nearly 80% of these persons live in low- and middle-income countries, where access to basic services and opportunities is often limited. CBM strives to create an inclusive world where all persons with disabilities can enjoy their human rights and reach their full potential.

AGAINST ALL ODDS

Achievements of Visually Impaired Children Studying in Mainstream Schools

Prof. Anil K. Aneja
&
Dr. Swati Sanyal

A Research Study conducted by
All India Confederation of the Blind

Sponsored by
Christoffel-Blindenmission

Published by
All India Confederation of the Blind
Braille Bhawan, Near Rajiv Gandhi Cancer Hospital,
Sector-5, Rohini, Delhi-110085

First Published 2024

TABLE OF CONTENTS

1 Acknowledgements

2 List of Abbreviations

3 Introduction

4 Shaping Inclusive Education in India – A Journey Through Policy, Progress, and the Need for Deeper Study

5 Crafting the Blueprint – Research Strategy and Methodology

6 Analysis and Interpretation of Results

7 Subject Specific Performance

8 Challenges and Limitations

9 Key Findings, Conclusion, and Recommendations for Future Work

10 References

11 Appendix

ACKNOWLEDGEMENTS

As we bring this research study to our readers, we wish to express our deepest gratitude to the numerous organizations and individuals who have provided unwavering support throughout these two years-long journeys.

Our foremost appreciation goes to the Christoffel-Blindenmission for recognizing the significance of this work and offering the financial support that made the work possible.

We are also profoundly grateful to Padma Shri J.L. Kaul, Secretary-General of AICB, for entrusting us with this responsibility and supporting us patiently through the challenges we encountered along the way.

Our gratitude extends to the field investigators Indu (Uttar Pradesh), Sivkumar (TamilNadu), Rehana (Rajasthan), Parida (Odisha), Vasudha (Madhya Pradesh), Biju (Kerala), Srimalli (Gujarat) and Sanjay (Bihar), whose collaboration in engaging with the research tools and sharing essential information immensely facilitated our work.

A special mention is owed to our exceptional research team, whose dedication and hard work brought this study to completion. We are particularly thankful to Dr. Aishwarya Jha for her invaluable contributions to the research process and Ms. Geetanjali Sachdeva, the Project Coordinator, who oversaw the day-to-day work of field workers and managed research administration.

Finally, we would like to thank Ms. Chayanika Changkakati for secretarial assistance during the initial phase of this work and to the AICB office staff for their timely support in meeting our informational needs, which helped streamline our efforts.

Prof. Anil Kumar Aneja
Principal Investigator & President
All India Confederation of the Blind.

LIST OF ABBREVIATIONS

ADL	Activities of Daily Living
AICB	All India Confederation of the Blind
CRPD	Convention on the Rights of Persons with Disabilities
CwD	Children with disabilities
DDE	Deputy Director of Education
ECC	Expanded Core Curriculum
EVS	Environmental Studies
EWS	Economically Weaker Section
IEDC	Integrated Education of Disabled Children
IEDSS	Inclusive Education for the Disabled at Secondary Stage
MBC	Most Backward Classes
MHRD	Ministry of Human Resource Development
MSJE	Ministry of Social Justice and Empowerment
NA	Not Available
NCERT	National Council of Educational Research and Training
NGO	Non-Governmental Organization.
NPE	National Policy on Education
O&M	Orientation and Mobility
OBC	Other Backward Classes
OSD	Officer on Special Duty
PC	Personal Computer
POA	Programme of Action

PwD	Persons with Disabilities
RMSA	Rashtriya Madhyamik Shiksha Abhiyan
RPwD Act	Rights of Persons with Disabilities Act 2016
RTE	Right to Education
RTE Act	Right to Education Act
SC	Scheduled Caste
SDG	Sustainable Development Goals
SMSA	Samagra Shiksha Abhiyan
SSA	Sarva Shiksha Abhiyan
ST	Scheduled Tribe
TE	Teacher Education
UDL	Universal Design for Learning
UNCRC	United Nations Convention on the Rights of the Child
UNCRPD	United Nations Convention on the Rights of Persons with Disabilities
VI	Visually Impaired

INTRODUCTION

This book stems from our research study, exploring the academic outcomes and challenges faced by visually impaired children integrated into mainstream educational settings. The study is part of an ongoing initiative led by the All-India Confederation of the Blind (AICB) and aims to assess the achievements of these children in various subjects, evaluate their proficiency in Braille literacy, and examine the effectiveness of the educational system in meeting their needs.

India has made considerable progress in promoting inclusive education, especially for children with disabilities. However, despite policy reforms such as the Right to Education Act (RTE) 2009, which mandates free education for children with disabilities, significant gaps remain in the quality of education provided to children with visual impairments. These children often face barriers such as inadequate infrastructure, insufficient access to Braille and other assistive learning tools, and a lack of teacher training to address their specific educational needs. Moreover, societal attitudes often contribute to social exclusion, making it difficult for visually impaired children to fully participate in academic and extracurricular activities.

Though recent statistics are not yet available, according to the 2011 census, India has a disabled population of over 26.8 million, with visual impairments consisting of a significant portion of this group. Despite numerous legal provisions for inclusive education, visually impaired children continue to face

challenges in mainstream schools. These include inadequate accommodations, limited access to learning materials in accessible formats, and a lack of qualified educators skilled in working with children with visual impairments.

This book addresses these challenges by assessing the academic achievements of visually impaired children enrolled in classes 5 and 8. Through this research, we have tried to understand the extent to which such children are able to meet the educational milestones and whether their academic performance differs from that of their sighted peers.

The study was originally aimed to be conducted in 10 states of India. But as complete data was not available from 2 states – Karnataka and Odisha, the study was eventually conducted in 8 states namely, Bihar, Delhi, Gujarat, Kerala, Madhya Pradesh, Rajasthan, Tamil Nadu and Uttar Pradesh. These states represent all the four regions of the country. The book captures a comprehensive picture of how inclusive education is implemented across the country and identify successful practices as well as areas requiring improvement.

The primary objectives of the research were to assess the academic performance of visually impaired children in various subjects, including mathematics, languages, social science, EVS and science. To evaluate their progress, standardized assessments were developed, focusing on their ability to read, write, and comprehend in Braille and print. Additionally, the study compares the academic performance of visually impaired children to their sighted peers, providing a

benchmark to understand the challenges these students face in the classroom.

As Braille remains essential for the academic success of visually impaired children, it is an important area of focus. Braille allows them to access textbooks, complete assignments, and engage in classroom activities, but many schools lack the necessary resources to teach and provide Braille materials. This study examines the level of Braille literacy among students and the support systems in place to enhance their proficiency.

The study also investigates the availability of supportive infrastructure in schools, such as accessible learning materials, assistive technologies, and the preparedness of teachers to support visually impaired students. While the Indian government has introduced policies to facilitate the inclusion of children with disabilities in mainstream schools, many schools still struggle to provide the necessary accommodations. There is a shortage of trained teachers who can effectively teach visually impaired students, and this lack of expertise further hinders their learning experiences.

Additionally, the book examines the differences in educational provisions for visually impaired children across different states. By comparing the availability of resources and support across regions, the research aims to identify successful models of inclusive education that can be replicated in other areas. The disparities in educational support across states highlight the need for better resource allocation, teacher training, and the development of a more consistent approach to inclusive

education.

To gather data for the purpose of the study, the research uses a combination of surveys, interviews, and classroom observations. Field investigators, experienced in working with children with disabilities, were trained to administer assessments and conduct interviews with students, teachers, and school administrators. The data collected offers a comprehensive understanding of the challenges faced by visually impaired children and provides insights into how their educational experiences can be improved.

Additionally, the course of the study itself faced several logistical and practical challenges during the data collection. Traveling to remote locations, particularly in states like Gujarat, posed significant difficulties for field investigators, affecting the time taken in data collection. Obtaining necessary permissions from government schools was another bottleneck, often delayed by bureaucratic processes, which hindered the smooth progress of the study in some regions. A key obstacle was the limited Braille literacy among the visually impaired children, which restricted the ability to assess their reading and writing skills as planned. This gap in Braille proficiency underscores broader educational limitations faced by these students in inclusive educational settings. Moreover, the scarcity of qualified special educators in many schools made it challenging to gather detailed insights into the availability of appropriate support and teaching methods for visually impaired students. Given these and other financial and

logistical constraints, the study was limited to a sample size of 15 students per state. Though the overall sample of 127 students, representing diverse regions, remains sufficient for drawing meaningful conclusions.

The findings of the study, as presented in this book, are expected to offer valuable insights into the current state of inclusive education for visually impaired children in India. The work highlights the academic gaps between visually impaired students and their sighted peers, identify the barriers that hinder their progress, and suggests solutions to address these challenges. By shedding light on the shortcomings of the current systems and the impact of these gaps on students' academic success, this volume aims to inform policy recommendations that will lead to improvements in the education system.

Chapter-1

Shaping Inclusive Education in India – A Journey Through Policies, Progress, and the Need for Deeper Study Overview of Inclusive Education in India

India covers 2.4% of the world's geographical area and accounts for 18% of its total population. According to the 2011 Census of India, the total population was approximately 1.21 billion, with over 26.8 million people living with some form of disability. Among the major types of disabilities surveyed, visual impairment accounted for 19% of reported cases, making it one of the most prevalent disability types. Despite being the second most populous country in the world, India is rich in human capital. Over the years, the country has implemented significant reforms to improve human capital, including among persons with disabilities, through critical advances in literacy and the provision of free and compulsory education for all children between the ages of 6 and 14 years. The upper age limit for education has been extended to 18 years for children with disabilities. However, significant challenges remain in ensuring quality educational outcomes. Poor teaching and learning practices have been identified as key challenges, exacerbated by issues of inaccessibility, as well as negative attitudes and practices toward disability, particularly for vulnerable groups such as children with disabilities. Despite these challenges, India remains committed to upholding the rights of all children to quality education, including those with disabilities.

POLICY AND LEGISLATIVE FRAMEWORK:

The Constitution of India guarantees education for all children aged 6 to 14 years (Article 21A). Although it prohibits discrimination "on grounds only of religion, race, caste, language or any of them" (Article 29.2) in access to state or state-supported educational institutions, it does not explicitly address anti-discrimination measures for persons with disabilities in educational institutions. However, domestic laws enacted after the ratification of the CRPD in 2007 support inclusive education to varying degrees.

It is worth noting that even before these legislative actions, persons with disabilities had access to education and rehabilitation through special schools, which were segregated from mainstream schools. The first education commission of India, commonly known as the Kothari Commission, advocated for making the education of disabled students an integral part of the general education system. The National Education Policy (1968) followed the commission's recommendations, emphasizing the expansion of educational opportunities for children with physical and mental disabilities. The policy recommended developing integrated programs to enable these children to study in regular schools. In 1974, the Ministry of Welfare introduced the Integrated Education of Disabled Children Scheme (IEDC), which provided financial support for books, school uniforms, transportation, special equipment, and aids to facilitate the inclusion of children with disabilities in mainstream

classrooms. Although intended for nationwide implementation, the scheme was only applied in 10 states.

Twenty years later, the National Policy on Education (1986) proposed significant measures for the education of disabled children, aiming to achieve the objective of education for equality. The 1992 Programme of Action (POA) for implementing the NPE (1986) stated, "a child who can be educated in the general school should not be in a special school." This policy and the subsequent POA included provisions for integrating children with disabilities into general schools.

The MHRD Programme of Action (1992) promoted integrated education and suggested a pragmatic placement principle for children with special educational needs. It proposed that learners with disabilities who can be educated in general schools should be placed there, and those in special schools should transition to general schools once ready. Unfortunately, there was no legal framework establishing norms and standards for these provisions regarding children with disabilities.

In 1995, the Indian Parliament enacted The Persons with Disabilities (Equal Opportunities, Protection of Rights, and Full Participation) Act to implement the proclamation on the full participation and equality of persons with disabilities in the Asian and Pacific region. The PwD Act, 1995 addressed key aspects of the education sector for learners with disabilities. It emphasized free and compulsory education, equal

opportunities, and the removal of architectural barriers in schools and other institutions. The act also provided financial incentives to enable children with disabilities to pursue education and called for the restructuring of curricula, including suitable modifications in examinations. This policy had a positive impact on persons with disabilities in many ways.

Another significant piece of legislation, The National Trust Act, was enacted in 1999 to address the needs of persons with autism, cerebral palsy, mental retardation, and multiple disabilities.

Sarva Shiksha Abhiyan (SSA), a comprehensive and integrated flagship programme of the Government of India, in partnership with state and local governments, was launched in 2001-2002 to achieve Universal Elementary Education. Inclusive education for children with disabilities has been one of the key interventions of SSA. The programme adopted a broad and expansive understanding of inclusion, implementing a multi-option model for educating children with special needs.

The Right of Children to Free and Compulsory Education Act, 2009, was the next major legislation emphasizing free and compulsory education for all children, including those with disabilities, in neighborhood schools. Section 3(2) of the act specifically highlights the importance of elementary education for children with disabilities. An amendment in 2012 allowed children with multiple and/or severe disabilities the option of

home-based education.

The RTE Act includes all categories of children with disabilities covered by existing disability-related legislation. Additional provisions in state RTE Rules include free transportation, with only few states making provisions for reasonable accommodation. Only some states include the participation of parents of children with disabilities in School Management Committees and have their own State Policies on education or incorporate education dimensions in their policies for persons with disabilities. Allocations for the education of children with disabilities remain low, accounting for less than 1% of the SSA budget. However, there are inter-state variations in financial allocations under RMSA towards Inclusive Education. (Taneja, A.)

The Rights of Persons with Disabilities (RPwD) Act, 2016, is the latest legislation for persons with disabilities. The act defines inclusive education as a "system of education wherein students with and without disabilities learn together, with the teaching and learning methods suitably adapted to meet the needs of different types of students with disabilities." The act promotes inclusion but provides multiple pathways, allowing children with benchmark disabilities the choice between regular or special schooling. Home-based education remains an option for children with severe and profound disabilities. Consequently, special schools, special classes in integrated schools, inclusive schools, and home-based education are all part of the accepted policy for children with disabilities.

According to the 2011 Census of India, only 61% of children with disabilities (CWDs) aged 5 to 19 were attending an educational institution, while 27% had never attended any educational institution. Specific programmatic provisions to increase school enrollment through inclusive education are part of the Samagra Shiksha Abhiyan (SMSA), India's national flagship scheme for school education, supplemented by state-specific schemes. Samagra Shiksha is an overarching programme covering pre-school to class 12. It recognizes equity as a key approach, defining it as not only equal opportunity but also the creation of conditions for disadvantaged groups—such as children from SC, ST, Muslim minority, landless agricultural workers, children with special needs, and transgender children—to access education in an inclusive, discrimination-free environment. SMSA subsumes the Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA), and Teacher Education (TE) schemes and was launched in 2018.

The NEP 2020, directs efforts to enable children with disabilities to "fully participate in the regular schooling process from the foundational stage to higher education." The policy provides guidelines for creating disability-inclusive learning environments. Additionally, many children with disabilities access the Open School system and take their examinations through the National Institute of Open Schooling.

International Mandate

India has ratified the following international treaties, declarations and political commitments related to the right to

education of children with disabilities:

a) United Nations Convention on the Rights of the Child, 1989 (ratified on 11 December,1992)

b) United Nations Convention on Rights of Persons with Disabilities (ratified on 1 October, 2007)

c) United Nations Sustainable Development Goals (2015)

d) Education 2030: Incheon Declaration and Framework for Action (2015)

The UNCRC is one of the most widely ratified treaties globally, addressing various rights of children regardless of their race, religion, or abilities. Articles 2, 23, and 28 are particularly relevant to providing non-discriminatory and equitable educational opportunities for all children, including those with disabilities.

The UNCRPD is a groundbreaking international treaty that marks a paradigm shift in attitudes and approaches towards disability. Article 24 of the UNCRPD recognizes the right to education, emphasizing inclusive education at all levels, free and quality primary and secondary education, as well as reasonable accommodations and support within the general education system.

Additionally, among the 17 Sustainable Development Goals, SDG 4 is particularly relevant to the education of children with disabilities. Two of its targets—'ensuring inclusive and quality education for all' and 'promoting lifelong learning'—explicitly reference disability.

The Incheon Declaration, on the other hand, acknowledges the critical role of education as a driver of development. It calls for necessary changes in educational policies to ensure that no one is left behind. Paragraph 21 specifically highlights the significant challenges faced by persons with disabilities in accessing quality education opportunities and the lack of data to support effective interventions. It also stresses the need for targeted efforts to ensure access to quality education and learning outcomes for children, youth, and adults with disabilities.

Need for the present study

While most national and international policies advocate for the inclusion of children with disabilities, there is a lack of research-based evidence regarding the quality of learning outcomes for these children in inclusive settings. Achieving universal education requires not only ensuring enrolment and retention but also monitoring the quality of education provided to children with disabilities in inclusive schools. Although inclusive education has successfully increased enrolment, the quality of education offered still requires thorough examination. Research has shown that children with disabilities may develop better communication, social, and behavioral skills in inclusive classrooms, however, comprehensive studies on their academic outcomes in such settings remain limited. This underscores the need for focused research to evaluate the educational outcomes of children with disabilities in inclusive environments.

Chapter - 2

Crafting the Blueprint – Research Strategy and Methodology

Research Design

Research design is a crucial component of any study, providing a clear framework for understanding the 'what' and 'how' of the research process. A well-structured research design serves as a road map, guiding the study towards its objectives.

The present research project has been carried out over a period of 24 months through carefully worked out strategies of planning, preliminary activities, investigation and analysis. For this project, a descriptive survey research design has been carefully developed to align with the nature and objectives of the study, ensuring that the research problem is addressed effectively. An outline of the adopted research design is provided below:

- Defining the problem
- Limitations of the study
- Selection of research strategy
- Sample selection
- Preparation of tools
- Data collection
- Data processing (organization & tabulation)
- Analysis
- Interpretation of data
- Educational implications and suggestions

Statement of the Study

Subject-specific learning achievements of visually impaired children studying in class 5 and 8 in government or government-aided inclusive schools.

Objectives of the study

The study has the following objectives:

- To find out the level of achievement of children with visual impairment in different school subjects.
- To find out reading and writing ability in Braille.
- To compare the achievements of learners with visual impairment with their sighted counterparts.
- To obtain an overall picture of the facilities provided in the schools for education of children with visual impairment.
- To identify state-wise difference if any, in the subject-specific achievements and educational provisions meted out to these learners.

Limitations of the study

The study is limited in the following respects-

- The study focuses exclusively on visually impaired learners. This limitation is justified by the unique requirement for these learners to use Braille and assistive devices as part of an expanded curriculum. Teaching these skills is crucial. Some inclusive schools are reluctant to admit visually impaired children due to a lack of adequate human and physical resources. Consequently, this study aims to examine the current state of education provided to visually impaired

learners in inclusive schools.

- The present study is also limited in sample selection. Visually impaired students studying in classes 5 and 8 have been chosen through a random sampling method.
- Due to limited human and financial resources, and for ease and authenticity, the study is conducted only in few states of India where we have the presence of AICB affiliates. In fact, most field investigators were selected with the help of AICB affiliates.

Selection of Research Methodology

The selection of a suitable research method depends on the nature of research problem, nature of research objectives and the kind of data required for achieving the research objectives.

As the accuracy of the outcomes of the present research was largely to depend on precise data collection from the sample groups, preparation of appropriate research tools and focused field survey (investigation) were considered to be fundamental to the success of this project. Therefore, considerable time and attention was paid to pre-investigation activities.

Planning and pre-investigation activities

The study was originally aimed to be conducted in 10 states of India. But as complete data could not be available from 2 states – Karnataka and Odisha, the study was eventually conducted in 8 states namely, Bihar, Delhi, Gujarat, Kerala, Madhya Pradesh, Rajasthan, Tamil Nadu and Uttar Pradesh. To begin with, series of online meetings were held to decide on the following:

- The school subjects to be taken to assess the performance of learners with visual impairment studying in inclusive schools in classes 5 and 8 from the above states.
- The general questionnaire to be prepared to access demographic, school related and family background of the learners.
- The preparation of the subject-wise questionnaires.
- Selection of suitable Braille passages to assess Braille reading and writing skills.
- Tools to obtain comparative data of subject-wise performance of visually impaired learners and their sighted counterparts.

Initially, 10 field investigators in 10 states, all professionals specializing in the education and rehabilitation of individuals with visual impairments, were selected with the help of AICB affiliates across various states. These investigators were trained and tasked with collecting data and documenting their field experiences. However, investigators from 2 states – Karnataka and Odisha could not provide complete data, therefore the analysis has been done for the remaining 8 states.

Administrative Mechanisms

Realizing that the nature of this research project is a complex one and the research work would involve a number of actions at varying levels, multi-level execution and monitoring mechanisms were put in place.

For the overall monitoring and control of the project, a person

with more than three decades in-depth experience of the visual impairment sector at both national as well as international levels and having long experience in the area of disability assumed the responsibility of that of the Principal Investigator. To assist the Principal Investigator, a Co-Investigator having long standing experience of active work in the field of education of visual impairment sector was appointed. A Project Coordinator was put in place to take care of day-to-day coordination of project activities specially related to the preparation of documents, communication with the AICB Head Office and monitoring the work of the field investigators who were appointed to conduct field survey in various states.

Investigation process

The Principal Investigator shared the draft questionnaires with the field investigators for their observations. Online meetings and discussions on each and every questionnaire were done. The suggestions from each member of the group were noted and accordingly the questionnaires were moderated and finalized. Separate questionnaires were prepared, for various target groups:

- General information questionnaire
- Achievement assessment tools - Subject-wise questionnaires for the visually impaired learners studying in class 5 in inclusive schools.
- Achievement assessment tools - Subject-wise questionnaires for the visually impaired learners studying in class 8 in inclusive schools.

- Separate passage for Hindi Braille reading and writing for learners of class 5.
- Separate passage for Hindi Braille reading and writing for learners of class 8.
- Separate passage for English Braille reading and writing for learners of class 5.
- Separate passage for English Braille reading and writing for learners of class 8.

As there could be variations in the curriculum being taught in various states, some flexibility was allowed to change a few items as per need keeping the difficulty level of the questionnaire and general format intact.

It was decided to administer the questionnaires to a total of 15 visually impaired learners chosen from class 5 and 8 from each state.

Process of Data Collection

A total of 10 investigators were appointed; one for each of the 10 identified states. The investigators were the residents of the respective states in which the survey was to be undertaken. Three out of these investigators were women. Orientation was provided through online mode to all investigators before undertaking the data collection work.

The Principal Investigator also shared the details of the state inclusive education coordinators and provided letter of introduction by name for each investigator to their respective state coordinators. The investigators were also advised to record responses and maintain a diary containing their work

activity details during the project period.

The investigators were given three month's period to complete their work. However, in most cases, the work took longer than that due to various reasons. Some of these were: non availability of adequate number of visually impaired learners in a single inclusive school and sometimes even in a single district, long distances and difficult travel conditions as much of the travel was done in the rural areas in few states. Procedural difficulties in obtaining data from state government departments and coordinating with state government schools were also a major hindrance to complete the data collection within the stipulated time frame.

During the investigation process, the Project Coordinator was constantly in touch with the investigators so that the problems faced by them could be resolved without delay. This approach facilitated more accurate data collection. The soft copies of the filled questionnaires in most cases, and the hard copies in some cases, were returned for analysis and monitoring purposes after the survey was over.

Saliant Outcomes

The study provides several key insights into the educational provisions and challenges faced by visually impaired students in inclusive schools across India. One of the most significant outcomes is the variability in resource availability across states, particularly in the provision of Braille materials, assistive devices and specialized teaching. States like Kerala, Gujarat, and Delhi have made notable strides in providing Braille books

and incorporating Braille instruction into their curricula, while other states still struggle in providing these fundamental requirements.

Furthermore, the study highlights the critical role of special educators in the learning process of visually impaired students. States like Gujarat, Kerala, and Tamil Nadu have implemented comprehensive support systems by providing dedicated special educators in schools, which has positively impacted student' achievements. However, gaps remain in the availability of trained educators in other states, which have hampered the educational progress of students in those areas.

Another important finding is the increasing access to technology, with over 60% of students across various states having access to devices such as smartphones, laptops, and Daisy players, especially during the pandemic. Due to this, the lack of structured Braille instruction and comprehensive support for the Expanded Core Curriculum (ECC) in many schools continues to impede student performance.

The study also underscores the significant impact of socio-economic factors on student outcomes. A large proportion of visually impaired students come from rural and economically disadvantaged backgrounds, which limits their access to a conducive learning environment both at home and in school. This emphasizes the need for a more integrated approach to educational support that considers not only school resources but also community and familial involvement.

The analysis of student performance across various subjects reveals that even in resource-limited settings, substantial academic achievements are possible. This underscores the importance of targeted interventions and efficient resource allocation to further enhance educational outcomes for visually impaired students. The study utilized subject-specific assessment tools to evaluate performance across different states, providing a comprehensive understanding of academic achievements.

A significant finding is the variation in performance across states. For instance, students from Kerala consistently excelled across all subjects, demonstrating outstanding academic results. In contrast, some states, such as Delhi and Gujarat, recorded lower average scores in multiple subjects. This disparity highlights the influence of regional educational practices and resource availability on student outcomes.

The data also shows that certain states consistently performed well in specific subjects, indicating strengths in particular areas of the curriculum. However, challenges remain, especially in regions where resources and support for visually impaired students are limited. The findings emphasize the need for tailored educational strategies that address these disparities and foster inclusive learning environments. By leveraging these insights, educational policymakers and stakeholders can develop targeted interventions to improve the academic success of visually impaired students across the country.

Chapter-3

Analysis and Interpretation of Results

The analysis and interpretation of data is an important part of research work. The data collected by the field investigators was analyzed using mix-method i.e., both quantitative and qualitative. The present chapter deals with the analysis of data, results and interpretations.

The data was collected through various modalities. The general questionnaires received via mail were scanned copies. As an initial step, all field data was entered into an Excel format. Discrepancies were identified in the scoring procedures, such as grades being recorded instead of marks. Efforts were made to resolve these inconsistencies and standardize the data into a uniform format.

A. Data From General Questionnaire - Part 1

To begin with, data from the general questionnaire have been compiled for analysis.

Profile of the students selected for the study from different states has been compiled under different heads.

Break up of visually impaired students selected from different states on the basis of degree of vision

State	Blind	Low Vision	Grand Total
Bihar	15	0	15
Delhi	15	0	15
Gujarat	9	8	17
Kerala	9	6	15
Madhya Pradesh	9	6	15
Rajasthan	13	2	15

Tamil Nadu	0	20	20
Uttar Pradesh	15	0	15
Grand Total	85	42	127

The data above shows that out of 127 visually impaired students selected for the study, 85 are totally blind (66%), which is in contradiction to the common belief that blind students are enrolled in special schools and low vision students attend inclusive schools. In only Tamil Nadu, all the students surveyed were having low vision.

Gender wise distribution of the sample

State	Girls	Boys	Grand Total
Bihar	4	11	15
Delhi	4	11	15
Gujarat	5	12	17
Kerala	6	9	15
Madhya Pradesh	6	9	15
Rajasthan	6	9	15
Tamil Nadu	10	10	20
Uttar Pradesh	5	10	15
Grand Total	46	81	127

It was found that number of boys available for the study were far more than the number of girls only exception being Tamil Nadu, where both are equal in number.

Caste-wise distribution of the sample

State	EWS	General	Minority	OBC	SC	ST	Grand Total
Bihar	0	4	0	9	2	0	15
Delhi	0	4	0	9	2	0	15

Gujarat	0	0	2	11	3	1	17
Kerala	0	8	0	6	1	0	15
Madhya Pradesh	0	4	0	4	6	1	15
Rajasthan	0	12	0	1	1	1	15
Tamil Nadu	0	0	0	9	10	1	20
Uttar Pradesh	2	4	0	7	2		15
Grand Total	2	36	2	58	27	4	127

Apart from being able to add to the profile of the students, caste-wise data does not have much bearing on the study. Data reveals that out of 127 students taken for study, maximum number of students found in schools are from OBC category.

Percentage of attendance of visually impaired students in Inclusive schools

State	50%	75%	Above 75%	Below 25%	Not provided by the school	Grand Total
Bihar	12	2	1	0	-	15
Delhi	12	2	1	0	-	15
Gujarat	9	4	3	1	-	17
Kerala	0	0	15	0	-	15
Madhya Pradesh	3	7	4	0	1	15
Rajasthan	4	10	1	0	-	15
Tamil Nadu	-	-	-	-	20	20
Uttar Pradesh	8	7	0	0	-	15
Grand Total	48	32	25	1	21	127

Kerala recorded the highest attendance, with 100% of students

achieving 75% or more attendance. In contrast, Bihar and Delhi had a significant proportion of students (80%) with only 50% attendance. In other states, the attendance of visually impaired students in inclusive schools ranged between 50% and above 75%. Attendance data for students from Tamil Nadu was not provided by the schools.

Availability of Assistive Devices

An essential prerequisite for providing quality education to students with visual impairments is the availability of assistive devices, Braille textbooks, specialized teachers, and provisions for teaching the expanded core curriculum. The tables below present the availability of these important support systems.

Availability of Braille slates with the visually impaired students studying in inclusive schools

State	No	Yes	Grand Total
Bihar	0	15	15
Delhi	3	12	15
Gujarat	4	13	17
Kerala	4	11	15
Madhya Pradesh	6	9	15
Rajasthan	15	0	15
Tamil Nadu	20	0	20
Uttar Pradesh	7	8	15
Grand Total	59	68	127

The data indicates that 53.5% of students have access to Braille slates either at home or school. A state-wise analysis reveals that all participating students in Bihar possess Braille slates, while most students in Delhi, Gujarat, and Kerala also have

access to them. In Madhya Pradesh and Uttar Pradesh, about half of the students have Braille slates, whereas in Rajasthan and Tamil Nadu, none of the students possess one. This scenario is surprising, given the commitment of both State and Central Governments to ensuring equal and equitable education for all. A Braille slate is a fundamental requirement for the education of visually impaired students.

Availability of Taylor Frame

State	No	Yes	Grand total
Bihar	0	15	15
Delhi	9	6	15
Gujarat	6	11	17
Kerala	4	11	15
Madhya Pradesh	6	9	15
Rajasthan	15	0	15
Tamil Nadu	20	0	20
Uttar Pradesh	7	8	15
Grand Total	67	60	127

Taylor frame is largely used in special schools for learning mathematics. In the present study, the data shows that about 50% of the students have Taylor Frame.

Availability of different assistive devices at home for the visually impaired students during pandemic

State	No Device Available	Device Available	No Input	Grand total
Bihar	0	15	0	15
Delhi	1	14	0	15

Gujarat	1	16	0	17
Kerala	4	11	0	15
Madhya Pradesh	10	5	0	15
Rajasthan	15	0	0	15
Tamil Nadu	0	0	20	20
Uttar Pradesh	6	9	0	15
Grand Total	37	70	20	127

Beyond traditional assistive devices, many students also possess technological devices. The table above provides a detailed breakdown of these devices, categorized by state. Notably, out of 127 students, 37 do not have access to any device. All 15 students from Rajasthan reported not possessing any devices. However, field investigators' reports indicate that visually impaired students in Rajasthan are using smartphones or Daisy players provided by the state government, suggesting that these devices are available in schools. No input has been received from Tamil Nadu regarding this matter.

Availability of Special Educators at Schools

State	No	Yes	Grand Total
Bihar	15	0	15
Delhi	2	13	15
Gujarat	0	17	17
Kerala	0	15	15
Madhya Pradesh	14	1	15
Rajasthan	15	0	15

Tamil Nadu	0	20	20
Uttar Pradesh	15	0	15
Grand Total	61	66	127

The presence of special educators is crucial for ensuring quality education in inclusive schools. Without their services, the educational experience for students with visual impairment is likely to be compromised. In Gujarat, Kerala, and Tamil Nadu, 100% of the respondents have reported having special educators, ensuring comprehensive support for students. In Delhi, the majority of students (13 out of 15) reported having access to special educators in their schools, while only two students stated otherwise.

In some states, rather than employing full-time special educators, schools appear to rely on itinerant special educators who provide support on a rotational or as-needed basis. However, in Bihar, Uttar Pradesh, and Madhya Pradesh, none of the respondents have reported having access to special educators in schools, posing significant challenges for inclusive education. In Madhya Pradesh, the situation is slightly improved in private schools, as evidenced by the inclusion of one student in the study who attends a private institution with a special educator.

This disparity underscores the urgent need for consistent deployment of special educators across all states to ensure equitable access to quality education for students with visual impairment.

Provision of Braille Teaching

State	No	Yes	Grand Total
Bihar	15	0	15
Delhi	4	11	15
Gujarat	4	13	17
Kerala	9	6	15
Madhya Pradesh	14	1	15
Rajasthan	15	0	15
Tamil Nadu	20	0	20
Uttar Pradesh	15	0	15
Grand Total	96	31	127

Out of 127 visually impaired students, only 31 have access to Braille learning provisions in their schools. Among these, Delhi stands out with the largest number of schools offering Braille instructions. However, a significant number of 96 students reported that their schools do not provide any Braille learning opportunities. This lack of access to Braille education has had a clear impact on their ability to read and write in Braille, as reflected in their performance assessments. The absence of Braille teaching in schools is a major barrier to the academic progress of visually impaired students, hindering their literacy development and overall educational experience. This gap highlights the urgent need for more widespread implementation of Braille learning programs in inclusive schools across the country.

Availability of Braille Books

State	No	Yes	Grand Total
Bihar	10	5	15
Delhi	4	11	15

Gujarat	3	14	17
Kerala	1	14	15
Madhya Pradesh	8	7	15
Rajasthan	15	0	15
Tamil Nadu	20	0	20
Uttar Pradesh	15	0	15
Grand Total	76	51	127

Out of the 127 visually impaired students surveyed, 51 students (nearly 40%) reported having access to Braille books. However, in states such as Rajasthan and Uttar Pradesh, no students indicated having Braille books available to them. In Tamil Nadu, although no students reported having Braille books, it is important to note that all participating students were categorized as having low vision. This may explain the lack of reference to Braille books, as low vision students might rely more on enlarged print or other assistive technologies. The absence of Braille books in several states highlights a significant gap in the resources available to visually impaired students, which can severely impact their ability to access educational materials and participate fully in their studies.

Teaching of expanded core curriculum

States	No	Yes	Grand Total
Bihar	14	1	15
Delhi	4	11	15
Gujarat	0	17	17
Kerala	6	9	15
Madhya Pradesh	14	1	15

Rajasthan	15	0	15
Tamil Nadu	20	0	20
Uttar Pradesh	15	0	15
Grand Total	88	39	127

The teaching of the expanded core curriculum, which includes essential skills such as orientation and mobility, the use of assistive devices, and sensory training, is not consistently implemented across many states. This is a critical gap, as these skills are vital for the independence and overall development of visually impaired students. However, in inclusive schools in Delhi, the expanded core curriculum is given significant attention and is integrated into the regular timetable. This ensures that students receive the specialized instructions that they need to navigate their environment, use assistive technology effectively, and enhance their sensory abilities, fostering a more comprehensive and empowering educational experience for visually impaired learners.

In conclusion, the data analysis underscores the need for significant improvements in the accessibility and support systems for visually impaired students in inclusive education. While some states have made considerable progress, particularly in terms of attendance, availability of assistive devices, and the presence of special educators, there are notable gaps in others, where essential resources such as Braille teaching and specialized support are either unavailable or inconsistently implemented. The absence of Braille books, inadequate provision of assistive devices, and limited access to

special educators in certain regions highlight the challenges still faced by visually impaired students in accessing quality education. It is clear that a more systematic and cohesive approach is required to ensure that all students, regardless of location, benefit from the educational opportunities and the support they need to succeed. Efforts to standardize and enhance these provisions are essential to bridge the existing gaps and create a more inclusive and equitable educational environment for visually impaired learners across the country.

CHAPTER - 4

Subject Specific Performance

This chapter focuses on the subject-specific academic performance of visually impaired students, providing an in-depth comparison of their individual scores with the highest marks obtained in each subject at their respective schools. The analysis in this section is based on data gathered from Part II of the general questionnaire.

B. General Questionnaire – Part II

Part II of the general questionnaire focused on the academic performance records of visually impaired students. However, several anomalies needed to be resolved while analyzing the collected data. As a result, the following tabulation has been prepared to present the data in a more meaningful and comparable format.

Performance of the V.I. students in English:

State	45-55	55-70	70 and above	Less than 45	Not available	Grand Total
Bihar	15	0	0	0	0	15
Delhi	2	4	5	4	0	15
Gujarat	4	12	1	0	0	17
Kerala	1	4	3	7	0	15
Madhya Pradesh	4	6	2	3	0	15
Rajasthan	6	8	0	1	0	15
Tamil Nadu	0	0	0	0	20	20

Uttar Pradesh	8	4	1	2	0	15
Grand Total	40	38	12	17	20	127

Comparative marks of sighted counterparts in English

State	45-55	55-70	70 and above	Less than 45	Not Available	Grand Total
Bihar	0	1	14	0	0	15
Delhi	1	0	14	0	0	15
Gujarat	0	0	0	0	17	17
Kerala	0	0	15	0	0	15
Madhya Pradesh	2	6	7	0	0	15
Rajasthan	5	9	0	1	0	15
Tamil Nadu	0	0	0	0	20	20
Uttar Pradesh	1	13	1	0	0	15
Grand Total	9	29	51	1	37	127

A state-wise analysis of the academic performance scores reveals notable variations in the achievement levels of visually impaired students across different states. In Bihar, the highest score in English is above 70%, whereas visually impaired students scored between 45% and 55%. In Delhi, the scores of visually impaired students ranged below 45% to above 70%, with the highest score being 70% or higher. In Gujarat, the majority (70.58%) of visually impaired students scored between

55% and 70%, although the highest score for the sighted counterparts is not available.

In Kerala, scores for visually impaired students ranged from below 45% to above 70%, with nearly half the visually impaired students scoring below 45%. The highest score of their sighted counterparts in this state was above 70%. In Madhya Pradesh, most visually impaired students scored between 55% and 70%, but the highest marks of nearly half the number of their sighted counterparts range from 70% and above. In Rajasthan, visually impaired students' scores were primarily in 45-55% and 55-70% ranges, with the scores of the sighted counterparts also within these ranges. In Uttar Pradesh, the largest group of sighted students scored between 55-70%, but most visually impaired students had scores between 45-55%. Data for Tamil Nadu and some data from Gujarat was not shared by the concerned schools.

From this analysis, it is clear that the majority of visually impaired students score lower than the marks obtained by their sighted counterparts, indicating a significant achievement gap between visually impaired students and their peers in these states.

Performance of the V.I. students in Hindi/Regional language

State	45-55	55-70	70 and above	Less than 45	Not available	Grand Total
Bihar	1	14	0	0	0	15
Delhi	1	2	10	2	0	15
Gujarat	4	12	1	0	0	17

Kerala	2	4	3	6	0	15
Madhya Pradesh	1	12	1	1	0	15
Rajasthan	6	8	0	1	0	15
Tamil Nadu	0	0	0	0	20	20
Uttar Pradesh	2	10	3	0	0	15
Grand Total	17	62	18	10	20	127

Comparative marks of sighted counterparts in Hindi/ Regional language

State	45-55	55-70	70 and above	Less than 45	Not available	Grand Total
Bihar	0	0	15	0	0	15
Delhi	0	1	14	0	0	15
Gujarat	0	0	0	0	17	17
Kerala	0	0	15	0	0	15
Madhya Pradesh	0	5	10	0	0	15
Rajasthan	5	9	0	1	0	15
Tamil Nadu	0	0	0	0	20	20
Uttar Pradesh	0	9	6	0	0	15
Grand Total	5	24	60	1	37	127

The majority (nearly 48.8%) of visually impaired students scored in the range of 55-70% in Hindi/Regional Language,

indicating that most students performed within this moderate range. Approximately 14.17% of visually impaired students achieved scores of 70% or higher. However, data for the scores of their sighted counterparts in Hindi/Regional Language were unavailable from two states—Gujarat and Tamil Nadu. From the available data, it is clear that 60% of sighted students scored 70% or above.

While the performance of visually impaired students is generally within the average range, it is important to note that their scores are only marginally lower than the scores of the sighted students in the class. This suggests that, while there is still room for improvement, the overall academic performance of visually impaired students in Hindi/Regional Language is fairly competitive and demonstrates a solid understanding of the subject matter.

Performance of the V.I. students in EVS

State	45-55	55-70	70 and above	Less than 45	Not Available	Grand Total
Bihar	1	5	0	0	9	15
Delhi	0	3	1	0	11	15
Gujarat	4	12	1	0	0	17
Kerala	0	1	1	0	13	15
Madhya Pradesh	3	10	1	1	0	15
Rajasthan	6	8	0	1	0	15
Tamil Nadu	0	0	0	0	20	20
Uttar Pradesh	5	5	5	0	0	15

Grand Total	19	44	9	2	53	127

Comparative marks of sighted counterparts in EVS

State	45-55	55-70	70 and above	Less than 45	Not Available	Grand Total
Bihar	0	0	6	0	9	15
Delhi	0	0	4	0	11	15
Gujarat	0	0	0	0	17	17
Kerala	0	0	2	0	13	15
Madhya Pradesh	0	6	9	0	0	15
Rajasthan	5	9	0	1	0	15
Tamil Nadu	0	0	0	0	20	20
Uttar Pradesh	1	7	7	0	0	15
Grand Total	6	22	28	1	70	127

Environmental Science is not taught in class 8 in many states, resulting in limited data for this subject. Additionally, there was no data available from Tamil Nadu and data of only visually impaired students was available from Gujarat. Despite the constraints on available data, it is noteworthy that nearly 59.4% of visually impaired students scored between 55-70%, which can be considered a commendable achievement compared to their sighted counterparts. This level of performance is especially impressive given the challenges faced by these students, including the scarcity of special

educators and limited access to Braille reading and writing materials. These factors significantly hinder their ability to fully engage with the subject, yet the results reflect a strong academic effort, suggesting resilience and determination in overcoming educational barriers.

Performance of the V.I. students in Mathematics

State	45-55	55-70	70 and above	Less than 45	Not available	Grand Total
Bihar	11	2	0	0	2	15
Delhi	3	7	1	3	1	15
Gujarat	4	12	1	0	0	17
Kerala	2	2	2	9	0	15
Madhya Pradesh	1	10	2	1	1	15
Rajasthan	6	8	0	1	0	15
Tamil Nadu	0	0	0	0	20	20
Uttar Pradesh	3	3	0	9	0	15
Grand Total	30	44	6	23	24	127

Comparative marks of sighted counterparts in Mathematics

State	45-55	55-70	70 and above	Less than 45	Not Available	Grand Total
Bihar	0	0	13	0	2	15
Delhi	0	4	10	0	1	15
Gujarat	0	0	0	0	17	17
Kerala	0	0	15	0	0	15

Madhya Pradesh	0	5	10	0	0	15
Rajasthan	5	9	0	1	0	15
Tamil Nadu	0	0	0	0	20	20
Uttar Pradesh	8	5	2	0	0	15
Grand Total	13	23	50	1	40	127

Complete data of the scores of the sighted students in class in Mathematics is also unavailable. However, based on the available data, visually impaired students generally performed in the range of 55-70%, with a significant number of students scoring between 45-55%. The scores of their sighted counterparts in Mathematics, as reported, are consistently above 70%. It is important to note that the scores of the sighted students in the class varied depending on the specific schools where the data was collected, as the visually impaired students attended different institutions.

In states such as Rajasthan and Uttar Pradesh, even the scores of the sighted students in the class were below 70%, highlighting a discrepancy in performance across different states. Despite these variations, the overall performance of visually impaired students in Mathematics demonstrates a commendable effort, especially considering the challenges they face, such as limited access to specialized resources and support.

Performance of V.I. students in Science

State	45-55	55-70	70 and above	Less than 45	Not Available	Grand Total
Bihar	5	4	0	0	6	15
Delhi	1	3	4	2	5	15
Gujarat	4	12	1	0	0	17
Kerala	3	5	1	6	0	15
Madhya Pradesh	7	3	1	1	3	15
Rajasthan	6	8	0	1	0	15
Tamil Nadu	0	0	0	0	20	20
Uttar Pradesh	6	6	3	0	0	15
Grand Total	32	41	10	10	34	127

Comparative marks of sighted counterparts in science

State	45-55	55-70	70 and above	Less than 45	Not Available	Grand Total
Bihar	0	0	9	0	6	15
Delhi	0	2	8	0	5	15
Gujarat	0	0	0	0	17	17
Kerala	0	0	15	0	0	15
Madhya Pradesh	0	6	6	0	3	15

Rajasthan	5	9	0	1	0	15
Tamil Nadu	0	0	0	0	20	20
Uttar Pradesh	2	7	6	0	0	15
Grand Total	7	24	44	1	51	127

The performance of visually impaired students in Science shows notable trends, with the majority of students scoring between 55-70%. A smaller group of students achieved scores above 70%, reflecting strong academic proficiency. States like Gujarat and Uttar Pradesh performed particularly well, with a significant number of visually impaired students achieving higher marks. On the other hand, Kerala and Bihar showed mixed results, with a larger proportion of students scoring in the range of 45-55% .

Regarding the marks of the sighted counterparts in Science, the scores were consistently above 70% in Kerala and Bihar, while data from Tamil Nadu and Gujarat was unavailable. However, in states like Madhya Pradesh and Rajasthan, their scores ranged between 55-70%.

This comparison highlights that while visually impaired students demonstrate commendable performance, their sighted counterparts generally achieve higher scores,

underscoring the need for enhanced support and resources to bridge this academic gap.

Performance of the V.I. students in Social Science

State	45-55	55-70	70 and above	Less than 45	Not available	Grand Total
Bihar	2	6	0	0	7	15
Delhi	1	2	6	2	4	15
Gujarat	4	12	1	0	0	17
Kerala	3	4	3	5	0	15
Madhya Pradesh	5	5	1	1	3	15
Rajasthan	6	8	0	1	0	15
Tamil Nadu	0	0	0	0	20	20
Uttar Pradesh	5	2	8	0	0	15
Grand Total	26	39	19	9	34	127

Comparative marks of sighted counterparts in Social Science

State	45-55	55-70	70 and above	Less than 45	Not Available	Grand Total
Bihar	0	0	8	0	7	15
Delhi	1	1	9	0	4	15
Gujarat	0	0	0	0	17	17
Kerala	0	0	15	0	0	15
Madhya Pradesh	0	5	7	0	3	15
Rajasthan	5	9	0	1	0	15

Tamil Nadu	0	0	0	0	20	20
Uttar Pradesh	1	6	8	0	0	15
Grand Total	7	21	47	1	51	127

In Social Science, based on the available data, 15% of visually impaired students achieved scores of 70% and above, while 30.2% scored within the range of 55-70%. This means that nearly 45.2% of visually impaired students performed within the range of 55-70% and above, which is a positive reflection of their overall academic achievement in the subject.

When comparing these results to the scores of their sighted counterparts in Social Science across the class, it is notable that 37% of students achieved scores of 70% and above, while 33.1% scored between 55-70%. However, the scores of nearly 70.1% of the sighted students in the class were predominantly in the range of 55-70% and above, which is higher than the average scores of visually impaired students.

This disparity suggests that while visually impaired students are performing reasonably well, there remains a gap between their achievements and those of their peers in the class. However, considering the challenges faced by visually impaired students, such as limited access to specialized resources, Braille materials, and support from special educators, their performance in Social Science is appreciable. With targeted interventions and improved educational provisions, these students could potentially close the gap and achieve even greater academic success in the subject.

Braille Proficiency

Apart from proficiency in academic subjects, mastery of Braille reading and writing is one of the most critical skills required for visually impaired students to achieve independent reading and writing. With the advent of technology, there have been notable changes in Braille skills, as digital tools and devices have become alternative means of learning. Additionally, studying in inclusive schools may significantly impact the development of Braille proficiency, as these environments may offer more support and resources of technology.

To assess this vital skill, Braille reading and writing tests in both Hindi/Regional Language and English were planned. However, the data collected from the field investigators revealed that a significant number of students lacked basic Braille knowledge, and the scores provided by different field investigators were inconsistent. To address this discrepancy, a standard grading system was developed to equate the various scores and provide a more consistent evaluation.

The grading system used is as follows:

A (70 and above) – Excellent: The student demonstrates strong proficiency in both reading and writing Braille.

B (55-70) – Good: The student shows intermediate skills in Braille reading and writing.

C (45-55) – Average: The student possesses basic Braille skills but may require additional support to fully develop proficiency.

D (less than 45) – Poor: The student can only recognize alphabets or does not know Braille at all.

Hindi Braille Reading Scores

State	45-55	55-70	70 and above	Less than 45	Not available	Grand Total
Bihar	9	1	0	5	0	15
Delhi	3	5	7	0	0	15
Gujarat	0	0	0	17	0	17
Kerala	3	1	0	11	0	15
Madhya Pradesh	0	1	0	14	0	15
Rajasthan	0	0	0	15	0	15
Tamil Nadu	0	0	0	20	0	20
Uttar Pradesh	3	1	0	11	0	15
Grand Total	18	9	7	93	0	127

English Braille Reading Scores

State	45-55	55-70	70 and above	Less than 45	Not available	Grand Total
Bihar	0	0	0	15	0	15
Delhi	5	4	6	0	0	15
Gujarat	0	0	0	17	0	17
Kerala	2	3	3	7	0	15
Madhya Pradesh	0	1	0	14	0	15
Rajasthan	0	0	0	15	0	15

Tamil Nadu	0	0	0	20	0	20
Uttar Pradesh	4	0	0	11	0	15
Grand Total	11	8	9	99	0	127

Separate Braille passages for reading Hindi and English were provided for both class 8 and class 5 students to assess their proficiency in these languages. However, a large number of students studying in inclusive schools across the states demonstrated limited or no knowledge of Braille, resulting in poor performance on the Braille reading tests. As a result, the majority of scores were recorded at or below the level of 45, reflecting a significant gap in Braille proficiency.

In the Hindi Braille reading test, 73.2% of students (93 out of 127) scored below 45, indicating a widespread struggle with basic Braille skills. Similarly, in the English Braille reading test, 78% of students scored below 45, highlighting a similar pattern of insufficient proficiency. These figures suggest that a large proportion of visually impaired students in inclusive schools lack the necessary Braille skills for independent reading and writing.

Out of the data collected from 127 students, only 7 students from Delhi scored 70% or above in the Hindi Braille reading test. In the English Braille reading test, only 9 students scored 70% or higher, with 6 of these students coming from Delhi and 3 from Kerala. These numbers indicate that, while some students have achieved a higher level of proficiency, they are a small minority compared to the overall group.

Overall, the performance in Braille reading is extremely poor, with the majority of students unable to read Braille proficiently. This trend highlights a significant drawback in the inclusive education system, where visually impaired students are often not provided with the necessary resources, training, or focus on developing their Braille skills. This issue underscores the need for targeted interventions and improved support in inclusive schools to ensure that visually impaired students have equal access to literacy and educational opportunities. The lack of emphasis on Braille education in many inclusive schools can be seen as a critical barrier to the academic success of these students.

Hindi Braille writing scores

State	45-55	55-70	Less than 45	70 and above	Not available	Grand Total
Bihar	0	0	15	0	0	15
Delhi	0	3	2	10	0	15
Gujarat	0	0	17	0	0	17
Kerala	4	1	10	0	0	15
Madhya Pradesh	0	1	14	0	0	15
Rajasthan	0	0	15	0	0	15
Tamil Nadu	0	0	20	0	0	20
Uttar Pradesh	3	1	11	0	0	15

Grand Total	**7**	**6**	**104**	**10**	**0**	**127**

English Braille writing scores

State	45-55	55-70	70 and above	Less than 45	Not available	Grand Total
Bihar	0	0	0	15	0	15
Delhi	0	4	9	2	0	15
Gujarat	0	0	0	17	0	17
Kerala	3	3	3	6	0	15
Madhya Pradesh	0	1	0	14	0	15
Rajasthan	0	0	0	15	0	15
Tamil Nadu	0	0	0	20	0	20
Uttar Pradesh	4	0	0	11	0	15
Grand Total	**7**	**8**	**12**	**100**	**0**	**127**

The Braille writing abilities of visually impaired students are similarly poor as their Braille reading skills. In most states, the majority of students studying in inclusive schools scored below 45 in Braille writing, indicating that they either cannot write Braille or make numerous errors while doing so. According to the data, 82% of students scored below 45 in the Hindi Braille writing test, and 78.7% of students scored below 45 in the English Braille writing test. However, Delhi and Kerala stand

out as exceptions, where a higher number of students performed well in Braille writing when compared to other states. In the Hindi Braille writing test, 10 students from Delhi scored above 45, and in the English Braille writing test, 9 students from Delhi and 3 from Kerala scored above 45. This suggests that these two regions may have more effective training programs or better access to Braille resources, contributing to improved writing abilities among visually impaired students. Despite these positive exceptions, the overall performance in Braille writing remains concerning, highlighting a need for more consistent and widespread support across all states.

C. Data from achievement assessment tools

Subject-wise questionnaires:

Subject-wise questionnaires were developed to assess the academic achievement of visually impaired students in class 5 and 8, studying in inclusive schools across selected states. The questions were aligned with the NCERT textbooks, as they are based on the National Curriculum Framework, ensuring consistency with national educational standards. The subjects covered in the questionnaires included Hindi, English, Environmental Science, Mathematics, Science, and Social Science. Each questionnaire consisted of 7 multiple-choice questions, with each correct answer awarded 1 mark.

For the purpose of data analysis, the average scores of all students in each subject were considered. To accommodate regional variations, flexibility was provided to the field

investigators, who were experts in the field, allowing them to replace certain questions with those aligned to the state curriculum. This flexibility ensured that the pattern and difficulty level of the questions remained consistent across different regions. This approach aimed to maintain the reliability and validity of the assessments while considering local educational contexts.

D. Average Scores of students – class, subject and state-wise

State	Hindi/Regional Language (out of 7)	English (out of 7)	Maths (out of 7)	Science (out of 7)	Social Science (out of 7)	EVS (out of 7)
Bihar	3.7	2.1	3	3.2	1.5	2.4
Delhi	2.5	1.01	3	3.04	4.28	2. 7
Gujarat	3.2	1.6	1.5	1.9	N.A.	3.6
Kerala	6.5	5.5	6.5	4.5	4.5	6
Madhya Pradesh	3.8	2.3	3.5	N.A.	N.A.	3.25
Rajasthan	3.6	2.2	2.2	2.8	2.4	1.6
Tamil Nadu	N.A.	N.A.	4.3	3.7	3.9	N.A.
Uttar Pradesh	3.2	4.5	4.9	4.6	5	5.3

State-wise analysis of the data clearly indicates that the average achievement of students from Kerala studying in class 5 is outstanding across all subjects. In subject-wise breakdown,

Kerala consistently scored the highest, while Delhi recorded the lowest scores. Specifically, in Hindi/Regional Language, Kerala had the highest average score, while Delhi had the lowest, with an average score of 2.5/7. Similarly, Kerala outperformed all other states in English, while Delhi remained at the bottom of the list. In Mathematics, Kerala again achieved the highest scores, followed by Uttar Pradesh, while Gujarat recorded the lowest average score in this subject among the states studied. In Science and Social Science, Uttar Pradesh

State	Hindi/Regional Language (out of 7)	English (out of 7)	Maths (out of 7)	Science (out of 7)	Social Science (out of 7)	EVS (out of 7)
Bihar	2.8	2.5	3.3	2.3	3.1	N.A.
Delhi	2.25	2.5	2.8	2.36	2.8	N.A.
Gujarat	1.8	1	1	1.1	2.1	N.A.
Kerala	3	4.5	3.8	3.9	3	N.A.
Madhya Pradesh	4.7	3.3	3.6	3.5	2.8	1.6
Rajasthan	6.3	4	5.1	2.5	3.2	N.A.
Tamil Nadu	N.A.	N.A.	4.9	4.2	4.7	N.A.
Uttar Pradesh	3.4	3.6	2.8	3.8	3.4	N.A.

scored the highest, with Kerala closely following.

Class – 8

The average scores across different subjects reveal notable regional variations. In Hindi, students from Rajasthan scored the highest, followed by Madhya Pradesh, with Gujarat recording the lowest score. In English, Kerala outperformed all other states, with Uttar Pradesh following closely behind. In Mathematics, students from Rajasthan achieved the highest scores, with Tamil Nadu placing second. However, Gujarat performed poorly in Mathematics. In Science, Tamil Nadu students ranked the highest with a score of 4.2/7, showcasing strong performance in this subject. Tamil Nadu also scored the highest in Social Science. It is important to note that Environmental Science (EVS) data is unavailable for many states, as this subject is not taught in Class 8 in most of the states.

In conclusion, the findings from Part II of the general questionnaire highlight significant regional disparities in the academic performance of visually impaired students in inclusive schools. Despite notable exceptions like Delhi and Kerala, where some students demonstrated relatively higher proficiency in both Braille writing and academic subjects, the majority of students across states faced challenges, especially in Braille literacy. The data reveals that visually impaired students consistently scored lower than their sighted peers, reflecting an achievement gap that necessitates targeted interventions and support. While many visually impaired students performed within a moderate range in subjects like Hindi, Science, and Social Science, their overall academic

performance remains below the desired level. The discrepancies in scores, particularly in Braille reading and writing, underscore the urgent need for improved access to specialized resources, trained educators, and Braille materials. Additionally, regional variations in the data suggest that some states have made better progress in supporting these students, which may serve as models for others. To bridge the gap in academic achievement, it is essential to provide more consistent, widespread, and tailored support for visually impaired students across all states, ensuring that they have equal opportunities to succeed academically.

CHAPTER-5

Challenges and Limitations

E. Analysis of project reports received from the field investigators from the states

The project reports submitted by field investigators from various states were intended to provide feedback and suggestions alongside the data collected from inclusive schools. These reports were not structured according to a predetermined format, allowing field investigators the freedom to highlight their personal experiences during the data collection process. Due to the varied presentation styles of the reports, it was decided to analyze them qualitatively, focusing on common themes that emerged across different submissions.

Process of selection of inclusive schools and visually impaired students from class 5 and 8

Letters of introduction and recommendation were given to all field investigators, so that they could approach the state education departments for procuring the data of visually impaired students studying in inclusive schools in their respective states. Letters were also sent to the deputy directors/directors of the said departments to make the data available to AICB and/or the field investigators. However, in most states such a support was not forthcoming. In one state, it took us around 9 months to obtain data from the state government department, and that also only of two schools. Even the data available on various online sources did not prove to be helpful as it was either incomplete or outdated wherever available.

Therefore, different investigators employed various methods to select visually impaired students for the study, and each encountered distinct challenges during the selection process.

- In Uttar Pradesh, the field investigator initially visited several schools, but none had visually impaired students. After reaching out to a teacher at a renowned NGO in Lucknow, the investigator was able to connect with another NGO that provided boarding and lodging for visually impaired students studying in inclusive schools. The investigator then visited this school, selecting 8 students for the study, and additionally chose students from various districts across the state.
- In Delhi, the investigator successfully identified the required number of visually impaired students from government

schools, most of which were located near NGOs or special institutions for the blind. These students received considerable academic support from these institutions, which played a vital role in their education. To facilitate the study, we had to approach the OSD & State Coordinator (IE) at the Office of DDE (IEDSS) for the necessary permissions, which involved a lengthy and detailed process.

- In Gujarat, the investigator conducted a survey across 7 districts, identifying 17 visually impaired students who met the criteria of the study.
- In Madhya Pradesh, the investigator sought assistance from the Assistant Project Coordinator of the Inclusive Education Cell to contact the schools. Despite her efforts, 4 of the 15 selected students lacked disability certificates, presenting a significant challenge in completing the data collection.
- The investigator from Karnataka faced difficulties finding the necessary number of visually impaired students. After contacting the department of education and visiting 7 districts, he stated in his communication, "the issue in Karnataka is that all totally blind children are sent to special schools at the start of each academic year, leaving only low-vision children in regular schools, who often do not require Braille". Eventually he chose to withdraw from the field investigation.
- In Orissa, the investigator submitted data of a few students from regular schools. However, the information provided

was incomplete and inadequate, preventing it from being included in the study.

- The investigators from Rajasthan, Bihar and Tamil Nadu also used various methods to select students for the study which was time consuming and had its own challenges.

These varying experiences highlight the complexities involved in selecting visually impaired students across different regions and underscore the importance of maintaining an updated and structured database of visually impaired students studying in inclusive schools in every state.

Observations and challenges faced during data collection

- The process of selecting students from various schools posed several challenges, particularly when it came to traveling long distances to reach remote locations, as seen in Gujarat. For some field investigators, commuting to these far-off places was a significant obstacle, adding to the complexity of the data collection process.
- Another key difficulty was obtaining permission from government schools to collect data. Securing approval from these institutions was a time-consuming and often bureaucratic task, which delayed the process in some states. The challenge was compounded by the fact that many schools were not equipped with the resources or infrastructure to facilitate such data collection.
- A major setback in the study was the fact that most of the visually impaired children did not know Braille, which

hindered the planned data collection on Braille reading and writing. As a result, the field investigators were unable to assess these essential skills in the manner originally intended. This gap in Braille proficiency also reflected broader educational limitations for visually impaired students in the inclusive schools.

- The lack of availability of special educators in many states further amplified the challenges faced during data collection. Special educators are crucial in supporting visually impaired students and in providing valuable insights regarding the resources and facilities available to these students in inclusive schools. Without the expertise of these professionals, investigators struggled to gather accurate data on the specific accommodations and teaching methods in place to support visually impaired learners. The absence of special educators in these schools highlighted a significant gap in the overall support system for visually impaired students.

Due to limited resources and above challenges, the sample size had to be limited to 15 students per state. However, the overall pan-India sample of 127 students is quite adequate. It is important to note that the study sample has been drawn from various regions across the country – North, South, East, West and Central.

Chapter 6

Key Findings, Conclusions, and Recommendations for Future Work

General Findings

The research study has highlighted a number of findings which are critical while addressing the issue of inclusive education of the visually impaired in the country particularly in the government and the government aided schools. It is obvious from the available facts that despite the issue having of inclusive education been on the forefront for more than three decades, the ground realities are far from satisfactory.

1. Non-Availability of Data

A major challenge confronting any empirical assessment of inclusive education of the visually impaired is the non-availability of reliable data from an authentic source. Our field investigators had considerable difficulty in obtaining information from various state agencies/sources including online databases. Alternative methods of obtaining the data needed to be resorted to which included special educator groups, NGOs etc. Even in a state like Delhi, which claims to demonstrate more progress as compared to some other states, it took us as many as nine months to obtain data from the concerned officers of the inclusive education programme. Even when this data was provided, it pertained to only two schools where children went to study from the residential special schools.

In view of the above, it is not difficult to imagine how inadequate and sketchy the planning and implementation of inclusive education programmes would be in various states.

2. Inadequate understanding of inclusive education system

In most places it was found that key duty bearers and stakeholders were not even fully aware of the strategies of inclusive education. In many instances, students were staying in special residential schools and went to study in inclusive schools from there. In such cases, the concerned special schools/organizations were providing most of the necessary support systems. This in our view, is counter to the spirit of inclusive education which mandates the study of a child with disability in a neighborhood school and the availability of all the support systems in the school itself.

3. Lack of readiness on the part of the schools

Despite strong emphasis on inclusive education by the government through various legislations and policies such as RTE Act and the RPwD Act 2016, most schools were not adequately informed about the provisions and systems to be put in place for effective inclusive education. Consequently, there was a visible lack of awareness on the part of teachers and the schools beyond providing admission and some facilities which were less than the minimum. In most cases, there was virtually no arrangement to teach Expanded Core Curriculum such as teaching of Braille and use of devices.

4. Lack of peer integration

In most cases it was observed that children were not included in their peer groups and felt a sense of isolation in inclusive schools. There were hardly any opportunities for them to take part in sports and other extracurricular activities. There was also an absence of parents-teacher coordination in many cases.

State-Wise Analysis of Educational Provisions and Resources Available in Inclusive Schools

1. **Braille:** The data reveals that in Bihar, all participating students have Braille slates, followed closely by Delhi, Gujarat, and Kerala. Overall, 53.5% of students possess Braille slates. However, only 31 out of 127 students reported having facilities for learning Braille in their schools. Despite the 100% availability of Braille slates in Bihar, no student from that state reported having Braille teaching facilities. In contrast, Delhi, Gujarat, and Kerala offer Braille teaching within their schools. Regarding Braille books, only 40% of students have access to them, with Kerala, Gujarat, and Delhi being the primary states providing these resources. Notably, all class 8 students in Delhi and Kerala have Braille books, which is a positive development.

2. **Other Devices:** Over 60% of respondents across various states reported possessing technological devices such as smartphones, laptops, and Daisy players at home, even during the pandemic. Only 37 out of 127 students did not have access to devices at home during this period.

3. **Special Educators:** In Gujarat, Kerala, and Tamil Nadu, all schools are equipped with special educators. In Delhi, except for two students in class 5, all other students reported having special educators in their schools. As for the other states, special educators were mostly not available.

4. **Provision for Teaching the Expanded Core Curriculum (ECC):** Gujarat, Delhi, and Kerala provide for the teaching of the Expanded Core Curriculum (ECC), including essential skills like orientation and mobility and daily living skills. In Delhi, ECC instruction is integrated into the timetable, with two periods dedicated to it each week. The remaining states provided no information regarding the provision of ECC in their states.

5. **Attendance of Visually Impaired Students in Schools**: In Kerala, 100% of students had attendance rates of 75% and above. In other states, attendance generally varied between 50% and 75%. Attendance data from Tamil Nadu was not available.

6. **Subject and Class-wise Scores in the Achievement Assessment Tools:** The achievement of visually impaired students studying in classes 5 and 8 was assessed using questionnaires specifically developed for this purpose. A state-wise analysis was conducted for each subject taught in both classes, revealing key trends in student' performance. In

Class 5, students from Kerala demonstrated very strong performance across all subjects. This success can be attributed to higher levels of attendance, the availability of devices, and the provision of special educators, which were more prevalent in Kerala compared to other states. These factors likely contributed to the superior achievement of students from this state. However, in Delhi, despite the availability of similar resources, the students' performance in subjects such as Hindi and English was less encouraging. In contrast, the data from Uttar Pradesh, where resources were found to be lacking, revealed that students performed remarkably well in Science and Social Science. Therefore, it can be concluded that if these students had access to better resources, their performance would likely improve further. In Class 8, students from Tamil Nadu showed strong performance in Science and Social Science. However, no clear pattern emerged regarding performance across subjects, states, or classes, indicating variability in achievement levels.

7. **Efficiency in Braille Reading and Writing:** A notable finding from the study was the significant gap in the teaching of Braille in many inclusive schools. Most schools where data was collected do not offer optimal Braille instruction, and many lack special educators. Furthermore, the provision for teaching the Expanded Core Curriculum (ECC), of which Braille is a crucial component, was not adequately integrated into the school timetable. This limitation has had a considerable impact on the overall achievement of visually

impaired students, as Braille is essential for their academic success.

8. **Scores of Visually Impaired Students in Different Subjects and the Highest Score in the Class:** Despite the challenges posed by a lack of resources for teaching Braille, the overall performance of visually impaired students remains in the average range. It can be inferred that with proper resources and better access to Braille instruction, the performance of these students would significantly improve. The data also revealed that a large proportion of visually impaired students come from rural areas and economically disadvantaged backgrounds. Many of their parents are not well-educated, which limits the availability of a supportive and stimulating learning environment at home. These factors further contribute to the barriers faced by these students in achieving their full academic potential. In summary, the study highlights the importance of providing the necessary resources, support, and a conducive home learning environment to help visually impaired students improve their academic performance.

Suggestions and Recommendations for Future Work

1. **Mandatory Policy Framework for Inclusive Education** Though there appears to be a strong legislative and policy framework for inclusive education, it's often not given due attention by those charged with its implementation at various levels. This gap needs to be bridged and a strict

adherence to the legislation and policies in letter and spirit is the call of the hour.

2. **Administrative Controls and Accountability Measures** Regular audits should be conducted to assess the effectiveness of inclusive education programs. District-level education officers should be accountable for ensuring that inclusive practices are implemented in all schools. Schools should be required to submit annual reports on their efforts towards accessibility and inclusion. A grievance redressal system should be established to address issues faced by students with visual impairments and their families.
3. **Regular Training for Teachers and School Principals** Mandatory periodic training for teachers and principals on inclusive education, with a focus on practical classroom strategies should be held. Training should include Universal Design for Learning (UDL), assistive technologies, Braille instruction, and social inclusion strategies. School administrators should be trained on policy implementation and resource allocation for inclusive education.
4. **Accessible Infrastructure and Learning Materials** Schools must have mandatory accessible infrastructure, including ramps, tactile pathways, and accessible washrooms etc. Braille textbooks, large print books, and audio learning materials should be made available to all visually impaired students. Digital accessibility should be prioritized by providing Braille displays, screen readers, and voice-assisted softwares. District counselors should oversee

the availability and distribution of these resources in the schools and district nodal officers must be held responsible for any gaps in this respect.

5. **Dedicated Special Educators and Support Staff** Every school should have at least one trained special educator for visually impaired students. These educators should provide specialized instruction in Braille, assistive technology, and orientation and mobility. Special educators should also support general education teachers in adapting lesson plans for visually impaired students.
6. **Collaboration Between General and Special Educators** Both general and special education teacher preparation programs should emphasize the importance of collaboration in an inclusive classroom setting. Teachers must be equipped with the skills to work together, ensuring that the needs of all students, including those with disabilities, are met.
7. **Teacher Training in Universal Design for Learning (UDL)** Pre-service general education teachers should be trained in the concepts of UDL to effectively include children with special needs in their lessons. This will ensure that teaching strategies are accessible and inclusive from the start.
8. **Parental Counseling and Training** Parents of visually impaired children should receive structured training on supporting their child's education and daily life skills. Workshops should be conducted to educate parents on available assistive technologies and home-based learning strategies. Regular counseling sessions should be

provided to help parents understand and advocate for their child's educational needs.

9. **Community Ambassadors for Inclusive Education** Teachers and influential persons in the community should be trained to serve as community ambassadors, promoting awareness of inclusive education in society. These ambassadors can work with local communities to reduce stigma and encourage social acceptance of visually impaired students. Regular awareness campaigns should be conducted at the community level to foster an inclusive mindset.
10. **Integration of Peer Groups in Schools** Peer sensitization programs should be conducted to help non-disabled students understand the challenges faced by their visually impaired classmates. Schools should assign peer buddies to assist visually impaired students in academics and extracurricular activities. Special training programs should be introduced for teachers to facilitate peer group inclusion and social integration. Compensatory and remedial teaching must be arranged for the visually impaired students to fill any gaps that might exist in classroom settings.
11. **Early Training in Braille and Assistive Technologies** Braille literacy should be introduced at the preschool or kindergarten level to ensure strong foundational skills. Schools should integrate both traditional Braille learning and modern technology-based learning for holistic development.

Every school should have curriculum based and other Braille books to meet the academic and general reading needs of the visually impaired.

12. **Extracurricular Skill Development and Assessment**
Special provisions should be made for visually impaired students to participate in sports, arts, and cultural activities. An inclusive approach to talent development should be adopted, ensuring that these students have equal opportunities in extracurricular competitions. Schools should conduct skill-based assessments to measure the development of non-academic competencies.

13. **Training Programs for Parents of Visually Impaired Students**
Structured programs should be designed to equip parents with skills to support their child's education, mobility, and daily living. Parents should be educated on how to create a learning-friendly environment at home. Community-based training sessions should be arranged to connect parents with experts and other families facing similar challenges.

14. **Early Childhood Education and Training for Visually Impaired Children**
From an early age, children should receive training in daily living skills, mobility, and social interaction. Pre-school programs should include sensory learning activities that enhance their ability to navigate their surroundings. Schools should collaborate with NGOs and disability organizations to provide structured early intervention programs.

CONCLUSION

While the benefits of inclusion for both students with and without disabilities are widely recognized, considerable research raises questions about whether simply placing students with disabilities in close proximity to their non-disabled peers in inclusive classrooms is sufficient to ensure quality education. Both social and academic challenges persist in this approach.

To effectively access the general curriculum, students with visual impairments require skills such as Braille literacy, proficiency with assistive devices, and training in orientation and mobility, among others. In special schools, these essential skills are taught by specially trained educators who are equipped to address the unique needs of visually impaired students. However, in inclusive education settings, while these children are integrated into their local communities, they are often placed in environments that are not adequately adapted to meet the specific needs of visually impaired learners.

This study also highlights critical gaps in the current systems, which need to be addressed by state education departments. Schools must be committed to providing quality education to visually impaired students by offering the necessary resources and support. When these students are able to manage their studies despite limited resources, their achievements can improve significantly with the right interventions and support.

For future research, it is recommended to explore the long-term impact of inclusive education on the academic and social

development of visually impaired students across different states. Studies could focus on evaluating the effectiveness of specific teaching strategies, such as Universal Design for Learning (UDL), in supporting visually impaired learners in mainstream schools. Additionally, research could examine the impact of various assistive technologies and Braille literacy programs on student performance and engagement. Future studies should also assess the role of parental involvement and community support in enhancing the educational experiences of visually impaired students. Furthermore, there must be a study comparing the vision, policies, and implementation of inclusive education between government and private schools in the context of the visually impaired to identify best practices and areas requiring improvement. Finally, investigating the professional development of educators, particularly in terms of training in visual impairment-specific techniques and resources, could provide valuable insights into improving teaching practices in inclusive settings.

REFERENCES

- Atypical Advantage. "Atypical Advantage." *Atypical Advantage*, 2024, atypicaladvantage.in/atypical-blog/post/integrated-education-scheme-for-disabled-children-in-india?srsltid=AfmBOorWrW2ZCzAnjrJJmIYb6yl0FM61E3SLidEh2xgyIargl32eVr8k.
- Census of India. "Home | Government of India." *Censusindia.gov.in*, 2020, censusindia.gov.in/census.website
- Convention on the Rights of the Child. *United Nations*, 20 Nov. 1989, p. 2, www.ohchr.org/sites/default/files/crc.pdf.
- "Convention on the Rights of Persons with Disabilities : Resolution / Adopted by the General Assembly." *Refworld*, www.refworld.org/legal/resolution/unga/2007/en/49751.
- Goutam Patra. *Kothari Commission Report on Indian Education: A Critical Review*. gtchooghly.ac.in/pdf/profile/goutam-patra/kothari%20commission.pdf.
- In-service Training and Sensitization of Key Functionaries of Central & State Governments, Local Bodies and Other Service Providers (2020) *Training Module, Target Group: Education*, Rehabilitation Council of India, Department of Empowerment for Persons with Disabilities (Divyangjan), MSJE, Government of India.

- Ministry of Education, Government of India. *Scheme of Inclusive Education for the Disabled at Secondary Stage (IEDSS)*. 2009.
- Ministry of Education. *About Samagra Shiksha*. New Delhi, n.d., samagra.education.gov.in/about.html.
- Ministry of Human Resource Development. *National Education Policy 2020*. Government of India, 2020, www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf.
- Ministry Of Human Resource Development. *SARVA SHIKSHA ABHIYAN: A Programme for Universal Elementary Education Manual for Planning and Appraisal*. 2004, dsel.education.gov.in/sites/default/files/2019-05/Manual_Planning_and_Apprisal.pdf.
- Ministry of Law and Justice. *The Right of Children to Free and Compulsory Education Act, 2009*. 2009, www.indiacode.nic.in/bitstream/123456789/19014/1/the_right_of_children_to_free_and_compulsory_education_act_2009.pdf.
- Ministry of Social Justice and Empowerment. *National Policy for Persons with Disabilities*, New Delhi, 2006.
- National Law University, Delhi. *The Constitution of India*. Eastern Book Co, 2012.
- National Policy on Education. *1968*, www.education.gov.in/sites/upload_files/mhrd/files/document-reports/NPE-1968.pdf.

- People with Disabilities in India: *From Commitments to Outcomes*. Washington, *Human Development Unit, South Asian Region, World Bank*, 2009.
- *Programme of Action 1992*, Ministry of Human Resource Development, Department of Education. *Education for Women's Equality*, 1922, www.education.gov.in/sites/upload_files/mhrd/files/document-reports/POA_1992.pdf.
- "Rashtriya Madhyamik Shiksha Abhiyan | National Portal of India." *Www.india.gov.in*, www.india.gov.in/spotlight/rashtriya-madhyamik-shiksha-abhiyan#tab=tab-1.
- Samagra Shiksha. *Samagra.education.gov.in*, samagra.education.gov.in.
- Taneja, Anjila. *Background Paper Prepared for the 2020 Global Education Monitoring Report, Inclusion and Education, Inclusive Education in India*, Oxfam India.
- "Teachers Education | Ministry of Education, GoI." *Dsel.education.gov.in*, dsel.education.gov.in/teachers-education.
- The National Trust Act, 1999, thenationaltrust.gov.in/upload/uploadfiles/files/act-englsih.pdf.
- The Persons with Disabilities (Equal Opportunities, Protection of Rights, and Full Participation) Act, 1995, thenationaltrust.gov.in/upload/uploadfiles/files/Persons%20with%20Disability%20Act%201995.pdf.

- The Rights of Persons with Disabilities Act, 2016, www.indiacode.nic.in/bitstream/123456789/15939/1/the_rights_of_persons_with_disabilities_act%2C_2016.pdf.
- UNDP. "Sustainable Development Goals." *United Nations Development Programme*, United Nations, 2024, www.undp.org/sustainable-development-goals.
- UNESCO. *Incheon Declaration Framework for Action for the Implementation of Sustainable Development Goal 4: Ensure Inclusive and Equitable Quality Education and Promote Lifelong Learning Opportunities for All.* 2015, uis.unesco.org/sites/default/files/documents/education-2030-incheon-framework-for-action-implementation-of-sdg4-2016-en_2.pdf.
- UNESCO. "Meeting the Human Resource Challenges for Inclusion of Children with Disabilities (CWDs) in School: A Critical Review of Policies and Practices on Teachers and Other Key Personnel." 2016, www.unesco.org/newdelhi/home. Retrieved on 12 May 2018.
- United Nations. "Convention on the Rights of Persons with Disabilities and Optional Protocol." *United Nations*, 2006, www.un.org/disabilities/documents/convention/convoptprot-e.pdf.
- World Health Organization, The World Bank. *World Report on Disability*, 2011.

APPENDIX

Achievement Assessment Tool--- Science – Class V

Q1) _____ is the famous scientist who discovered gravity

a) Sir Isaac Newton
b) Albert Einstein
c) Michael Faraday
d) None of the above

Q2) Longest bone in human body is _____

a) Femur
b) Stirrup
c) Tibia
d) Fibula

Q3) Who is the inventor of dynamite.

a) Thomas Alva Edison
b) Neil Bohr
c) Alfred Nobel
d) Marie Curie

Q4) The red blood cells have a substance called

a) Hemoglobin
b) Pepsin
c) Tofu
d) All of those

Q5) Sound is a form of

a) Waves
b) Energy
c) Current
d) All of these

Q6) There are _____ states of matter

a) Three
b) Two
c) One
d) None of these

Q7) We have _____ sense organs

a) 3
b) 7
c) 5
d) 4

Achievement Assessment Tool-- English Class V

Q1) which is the antonym of good?

e) Bad.
f) Intelligent.
g) Smart.
h) Lazy.

Q2) which of the following is an adjective?

i) Ram.
j) Boy.
k) Car.
l) Big.

Q3) Find out the adverb?

A. Mat.
B. Cat.
C. Smart.
D. Slowly.

Q4) He said that " he would be coming to my home " is an example of?

m) Direct speech.
n) Interrogative sentence
o) Passive voice
p) None of the above.

Q5) Identify the verb in the sentence?

A) Ate.
B) Cake.
C) Reenu.
D) The.

Q6) " The Bus is driven by the driver" is an example of

A. Passive
B. Active
C. None of these.
D. Both.

Achievement Assessment Tool--English Class Viii

1) Find out Personal Pronoun from the given options?

a) I
b) Are
c) Their
d) These

2) Find out the antonyms of Lazy?

a) Active
b) Dull
c) Noisy

d) Fool

3) I am a boy. What is "I" in the sentence?

a) Noun
b) Pronoun
c) Adjective
d) Adverb.

4) Fill in the blanks with appropriate options:

A) A moment ago, I---- a strange news (hear)
q) I have heard
r) Heard
s) Hear
t) Am hearing

5) To put the cart before the horse means---

i) To put things in wrong order
ii) To praise oneself
iii) Stop working
iv) To work hard

6) Match the words given below with appropriate options that follow:

Wrecked attention

a) With less interest
b) With complete attention
c) With great joy'
d) With no attention at all

7) Find out the Possessive Pronoun

a) I

b) Him
c) Their
d) Us

कक्षा – 8

दुनिया की छत

किसी भी लोककथा को समझने के लिए उस इलाके की जलवायु रहन-सहन खान-पान और संस्कृति को समझना उपयोगी होता है, जिस इलाके में वह लोककथा सुनाई जाती है।

राख की रस्सी शीर्षक लोककथा तिब्बत से संबधित है, जिसे दुनिया की छत कहा जाता है क्योकि वह बहुत ऊँचे पठार पर स्थित है पठार ज़मीन के ऐसे भाग को कहते है। जो मैदान से ऊँचा और पहाड़ से नीचा होता है। तिब्बत के पठार पर खड़े हैं ऊँचे-ऊँचे पहाड़ जो हिमालय का हिस्सा हैं। इन पहाड़ों की एक खासियत यह है कि ये कई रंग के है-भूरे, लाल, पीले, बैगनी, गुलाबी, गेरूआ और हरे। ठीक वैसे ही जैसे छोटे बच्चे अपने चित्रों में मनचाहे रंग भर देते हैं। इन पथरीले पहाड़ों में तरह-तरह की मिट्टी और खनिज पदार्थ है। सूरज की बढ़ती और धटती किरणों के पड़ने से वे पहाड़ अनोखें रंगो में चमक उठते हैं।

तिब्बत की हवा में नमी बहुत कम है। इस वजह से यहाँ बरसात और बर्फ़बारी कम होती है। खुश्क मौसम में पेड़ पौधें बहुत नहीं होते है। तिब्बत का पूर्वी भाग ही ऐसा है जहाँ घने जंगल पाये जाते है। उन जंगलों में पेड़ पौधों, पशु-पक्षियों की दुर्लभ किस्में मिलती है। तिब्बत की मिट्टी कहीं रेतीली है, कहीं लाल-पीली तो कही काली। तिब्बत

में लगभग 1500 झीलें है। ये झीलें बनती हैं, पहाड़ों की बर्फ पिघलने से। इनमें मानसरोवर झील का बहुत नाम है। यहीं से सांगपो यानी ब्रह्मपुत्र नदी निकलती है।

कक्षा – 5

"क्या निराश हुआ जाए"

यह सच है कि इन दिनों कुछ ऐसा वातावरण बना है कि ईमानदारी से मेहनत करके जीविका चलाने वाले भोले भाले और निरीह श्रमिक घिस रहे है तथा झूठ एंव फरेब का व्यापार करने वाले फल फूल रहे हैं। ईमानदारी मूर्खता का पर्याय समझी जाने लगी है, सच्चाई केवल बेवस और भीरू लोगों के हिस्से पड़ी है। ऐसी स्थिती में जीवन के महानतम मुल्यों का विषय में लोगों की आस्था ही डिगने लगी है। भारत वर्ष में कभी भी भौतिक बस्तुओं के संग्रह को बहुत ज्यादा महत्व नहीं दिया गया है, उसकी नजर से मनुष्य के अंदर जो महान आंतरिक गुण स्थिर भाव से बैठा हुअ है, वही परम और चरम है। काम क्रोध, लोभ-मोह आदि विचार मनुष्य में स्वाभाविक रूप से उपस्थित रहते हैं, परन्तु उन्हें प्रमुख शक्तिमान लेना तथा अपने मन एंव बुद्धि को उन्हीं के इशारे पर छोड़ देना बहुत बुरा आचरण हैं। भारतवर्ष ने उन्हें कभी भी उचित नही माना, उन्हें हमेशा संयम के धागे से बाँधकर रखने का प्रयास किया है। किन्तु हम भूख की उपेक्षा नही कर सकते, बीमार के लिए दवा की उपेक्षा नही कर सकते, गुमराह को सही रास्ते पर ले जाने के तरीकों की उपेक्षा नही कर सकते।

हुआ यह है कि इस देश के कोटि-कोटि दरिद्रजनों की हीन दशा को दूर करने के लिए ऐसे कई नियम कानून बनाए गए है, जो उद्योग, कृषि, शिक्षा, वाणिज्य तथा स्वास्थ्य की स्थिति को ज्यादा सुचारू एंव उन्नत बनाने के उद्देश्य से प्रेरित हैं, किन्तु जिन लोगों को इन कार्यो में लगना है, उनका हृदय हर समय पवित्र नही होता। प्राय: वे ही अपने लक्ष्य से भटक जाते हैं और अपनी ही सुख-सुविधा की तरफ ज्यादा ध्यान देने लगते हैं।

ACHIEVEMENT ASSESSMENT TOOL – ENGLISH
CLASS VIII

Read the following passage carefully:

Of all the emotions which surged through me as I stood on the summit of Everest, looking over miles of panorama below us, the dominant one I think was humility. The physical in me seemed to say, "Thank God, it's all over!" However, instead of being jubilant, there was a strange tinged of sadness. Was it because I had already done the 'ultimate' in climbing and there would be nothing higher to climb and all roads hereafter would lead down?

By climbing the summit of Everest, you are overwhelmed by a deep sense of joy and thankfulness. It is a joy which lasts a life time. The experience changes you completely. The man who has been to the mountains is never the same again.

As I look back at life after climbing Everest I cannot help remarking about the other summit- the summit of the mind- no less formidable and no easier to climb.

ACHIEVEMENT ASSESSMENT TOOL – EVS CLASS V

Q1. Which is our National Animal?

- A. Lion
- B. Tiger
- C. Leopard
- D. Elephant

Q2. Gandhiji took a famous march in 1930 from Ahmadabad in Gujarat. What is the name of the march?

- Surat
- Porbandar
- Dandi
- Vadodara

Q3. Name the first Indian woman who climbed the Mount Everest.

- Bachendri Pal
- Tenzing Norgay
- Arunima Sinha
- Santosh Yadav

Q4. Sundarlal Bahuguna was associated with which movement?

- Chipko movement
- Jharkhand Jungle Bachao Andolan
- Apiko movement
- Narmada Bachao Andolan

Q5. Which part of the plant produces pulses?

- Leaves
- Roots
- Stem
- Seeds

Q6. Where is Gateway of India situated?

- Mumbai
- Delhi
- Chennai
- Kolkata

Q7. Which of the following is a harvest festival?

- Diwali
- Bihu
- Durga puja
- All

ACHIEVEMENT ASSESSMENT TOOL – HINDI कक्षा –V

1. निम्नलिखित में से विशेषण को चुनिए,

1. भलाई 2. मिठास 3. थोड़ा 4. स्वयं

2. व्यवस्था से पूर्व कौन-सा उपसर्ग लगायें कि उसका अर्थ विपरित हो जाये?

1. आ 2. अ 3. परि 4. उप

3. पत्र में अपने से बड़े के लिए संबोधन शब्द कौन सा है?

1. प्रिय 2. श्रद्धेय 3. चिरंजीवी 4. आयुष्मान

4. ‘ रजत ने गाना गाया’ वाक्य में कौन सा कारक है?

1. कर्म 2. सम्बोधन 3. सम्प्रदान 4. कर्ता

5. निम्नलिखित में से कौन सा शब्द व्यक्तिवाचक संज्ञा है?

1. गाय 2. पहाड़ 3. यमुना 4. आग

6. हिन्दी वर्णमाला में वर्णों के कितने प्रकार है?

1. चार 2. तीन 3. एक 4. दो

7. निम्नलिखित रिक्त स्थानों में उचित सर्वनाम रूप भरकर वाक्य पुरा कीजिए?

----------लाठी----------भैस,

1.जिसकी, उसकी 2. जो, वह 3. जैसी, वैसी 4. जिनका, उनका

ACHIEVEMENT ASSESSMENT TOOL – Mathematics

Class V

Q1: Half of 100 rupees is _____ rupees.

- 75
- 50
- 25
- 40

Q2: Three fourths of a dozen toffees is _____.

- 9
- 6
- 3
- 4

Q3: 20 paise is _____ part of 1 rupee.

- 1/5
- 1/4
- 1/2
- 1/3

Q4: Which of the following does not divide 3630?

- 9
- 11
- 5
- None of these.

Q5: 2 is a prime Number?

- True
- False
- None of these

Q6: LCM of 3,8 and 9 is

- 72
- 18
- 27
- 54

Q7: The cost of a table fan is Rs 3250. Find the cost of 5 table fan?

- Rs 16250
- Rs 650
- Rs 13250
- Rs 750

Achievement Assessment tool—Mathematics CLASS- VIII

Q1: What should be added to (-5/4) to get (-1)?

- -1/4
- 1/4
- 1
- -3/4

Q2: What is the value of X if X+9 = 12?

- 2

- 3
- 8
- 6

Q3: What is the number of sides of a quadrilateral?

- 1
- 2
- 3
- 4

Q4: The sum of the measures of all the four angles of a quadrilateral is:

- 90°
- 180°
- 360°
- 720°

Q5: The cube of an odd prime numbers is:

- Even
- Odd
- May be even, may be odd
- Prime numbers

Q6: if 50% of students are good at science out of 20 students. Then the number of students good at science is:

- 15
- 10
- 11
- 5

Q7: 120 copies of a book cost Rs. 600. What will 400 copies cost?

- Rs.2000
- Rs.1000

- Rs. 3000
- Rs. 2400

Achievement Assessment Tool—Reading English CLASS V

Read the following passage carefully.

One day, when I was going towards my boat I was surprised to see the footprints of a man on the sand. I stood amazed! I listened; I looked around me; I could neither hear nor see anything. I went up higher to look down; I went up the shore and down the shore, but it was no good; I could find no other foot print but that one. I went to it again to see if there were any more footprints and to tell if it had been my imagination. But I was not mistaken, for there was exactly the print of a foot -toes, heel, every part of a foot. I could not imagine how it came there. I stayed a long time thinking, but became more and more confused. At last, I returned home very frightened, looking behind me after every two or three steps, mistaking every bush and tree to be a man.

MCQ – Social Science Class – 8

1.Which type of soil is good for growing wheat?

- A. Desert
- B. loamy
- C. sandy
- D. none of these

2. Which factors affect the location of a factory?

- A. Land
- B. Labour

- C. Capital
- D. All of these

3. Balancing the needs of using resources and also conserve them for future generation is called

- A. development
- B. devaluation
- C. sustainable development
- D. all of these

4. Major industrial regions are located near

- A. Deserts
- B. Sea Ports
- C. Glaciers
- D. Mountains

5. The Champaran movement was against

- A. Peasants
- B. East India Company
- C. The oppressive attitude of the farmers
- D. None of the above

6. Jhum cultivation is practiced these days in

- A. Eastern states of India
- B. Western states of India
- C. Northern states of India
- D. Southern states of India

7. If a 13-year-old child works in a factory, what is it called?

- A. Freedom to education
- B. Child labour
- C. Child trafficking
- D. None of these

Achievement Assessment Tool-Social Studies – CLASS V

1. There are ---------- main seasons in India.

- Four
- Three
- Two
- One

2. The forests that remain green throughout the year are called

- Evergreen
- Alpine
- Deciduous
- None of these

3. Which of these is a carnivore?

- Goat
- Man
- Horse
- Elephant

4. Rain water harvesting should be practiced to prevent

- Drought
- Floods
- Earthquakes
- Tsunami

5. The energy obtained from the sun is_____

- Solar energy
- Chemical energy
- Lunar energy
- Mechanical energy

6. ____ is a small, ball- like model of the earth.

- Map

- ❖ Globe
- ❖ Sun
- ❖ Moon

7. The planets of the solar system revolve around_____.

- ❖ The moon
- ❖ The sun
- ❖ The earth
- ❖ None of these

Achievement Assessment Tools—Science--Class VIII

Q1 **Alcohol is produced with the help of**

- ❖ Sodium chloride
- ❖ Yeast
- ❖ Nitrogen
- ❖ Carbon dioxide

Q2 **Bacteria present in root nodules of pea**

- ❖ Coli
- ❖ Plasmodium
- ❖ Rhizobium
- ❖ Penicillin

Q3 **The strongest synthetic fiber is**

- ❖ Nylon
- ❖ Rayon
- ❖ Polyester
- ❖ Acrylic

Q4 **Name the sphere that supports life, and where living organisms exist.**

- ❖ Atmosphere
- ❖ Lithosphere

- ❖ Biosphere
- ❖ None of these

Q5 **Which planet has the largest number of satellites?**

- ❖ Jupiter
- ❖ Saturn
- ❖ Mercury
- ❖ Mars

Q6 **Which gas is the major pollutant of air?**

- ❖ Carbon monoxide
- ❖ Nitrogen
- ❖ Oxygen
- ❖ Propane

Q7 **Flow of electron is called**

- ❖ Electrolyte
- ❖ Electroplating
- ❖ Electrodes
- ❖ Electric current

Achievement Assessment Tool—Writing (English) Class V

In a small village, there lived a poor man Ramu with his wife, sons and daughters. Inspite of working hard, the family could barely earn enough money to meet all their needs. One day Ramu told his wife, "I think we should move to the city and make some money." Next morning they all set out for the city. Towards noon, they reached near a huge banyan tree and rested there for a while. Ramu did not want to sit idle and decided to make a rope.

He sent his eldest son to a nearby village to buy jute for the rope. He sent his second son to buy vegetables for the meal and

the third one to buy other things. The daughters were asked to fetch water and bring firewood. Then the man sat under the tree and started making the rope.

Achievement Assessment Tool—Writing (English)
Class VIII

Be like a flower. One must try to become like a flower: open, frank, equal, generous and kind. So, you know what it means?
A flower is open to all that surrounds it: nature, light, the rays of the sun, the wind etc. it exerts a spontaneous influence on all that is around it. It radiates joy and beauty.
It is frank. It hides nothing of its beauty and lets its fragrance flow frankly out of itself. What is within and what is in its depths, it lets it come out so that everyone can feel it.
It is equal: it has no preferences. Everyone can enjoy its beauty and its perfume without rivalry. It is equal and same for everybody.
Then generous without reserve or restriction, it gives away the very own perfume of nature.
And then, kind: it has such tenderness, it is so sweet, so close to us, so loving.
Happy is he, who can exchange his qualities with the real qualities of the flowers. Try to cultivate in yourself their refined qualities.

ABOUT THE BOOK

This book is based on our research study examining the academic outcomes and challenges faced by visually impaired children in mainstream education. Conducted as part of an ongoing initiative by the All India Confederation of the Blind (AICB), the study evaluates their performance across subjects, proficiency in Braille literacy, and the effectiveness of the educational system in meeting their needs. The findings provide critical insights into the state of inclusive education in India, highlighting the academic disparities between visually impaired and sighted students, identifying key barriers to their progress, and proposing solutions to address these challenges. By exposing the shortcomings of the current system and their impact on students' success, this volume seeks to contribute to policy recommendations aimed at improving educational opportunities for visually impaired children.

ABOUT THE AUTHORS

Prof. Anil K. Aneja, with an illustrious academic career spanning over 35 years, is currently the Head of the Department of English at the University of Delhi. His expertise covers a wide range of areas, including Twentieth Century Fiction, Disability Studies, and Human Rights Literature, among others. He has contributed extensively through numerous conference presentations, research papers, and significant publications. Prof. Aneja also serves as the Director, Centre for Disability Studies, University of Delhi. Actively engaged in the disability sector for more than three decades, he is the President of the All India Confederation of the Blind and represents India in the World Blind Union. His contributions have been widely recognized with numerous prestigious awards, including the National Award for the Empowerment of Persons with Disabilities (2014), State Award in the Category 'Best Individual Working in the field of Social Work' by the Govt. of NCT of Delhi, the Rustom Merwanji Alpaiwalla Memorial Award 2020 by the NAB, Delhi, NAB Sarojini Trilok Nath National Award 2020, and the NCPEDP-LTIMindtree Helen Keller Award 2022 in the category Role Model Persons with Disabilities, among others.ISBNDr. Swati Sanyal works at the Durgabai Deshmukh College of Special Education, University of Delhi as an adjunct faculty where she previously served as Course Director till 2023. She has more than three decades of experience of both in-service and pre-service teacher preparation for blind and low vision learners. Dr. Sanyal has written articles and book chapters related to education of learners with visual impairment and got international exposure in special needs education through the prestigious Erasmus Mundus scholarship. She continues to serve as expert and resource person in various government and non-government agencies and Universities in activities related to visual impairment.

AGAINST ALL ODDS

Achievements of Visually Impaired Children Studying in Mainstream Schools

ISBN: 978-81-957833-5-9

M.R.P: 325/-