

# Challenges Faced by Teachers in Teaching Braille to Students with Visual Impairment

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## Abstract

*The current study investigated the challenges faced by the teaching faculty in teaching Braille to students with visual impairment. Students with visual impairment face reading issues due to lack of their visual skills. Thereby, teachers of special education had to face various challenges while teaching Braille skills to their pupils with vision loss. The study ascertained these challenges to improvise the situation and resolve the reading issues of the students with visual problems. It was a descriptive study. A sample of forty teachers of special education currently teaching the pupils with visual problems in district Faisalabad, was selected for the study. The study sample was chosen on the basis of convenient sampling technique. A self-developed questionnaire with close ended nature of options was used to collect the data from respondents. Investigator himself approached the teaching faculty and collected the required data. The study findings showed that there was a very high level of inclination of the teachers ( $M=4.70$ ) towards the factor that there was a lack of awareness and understanding about the Braille among other staff members, likewise teachers were struggling with time management issue while teaching Braille to the students with visual impairment. No any significant difference ( $p>0.05$ ) between the male and female teachers challenges during Braille teaching was noted. The study will incorporate effective outcomes / information in teaching of Braille to the blind people, and help the special educators in handling the challenges while teaching Braille to students. It is recommended that teaching staff should be given special training regarding the use of Braille machine, including related services such as use of sixer, slate and stylus, Braille embosser, Braille software and other technological tools.*

**Keywords:** Challenges in Teaching, Braille, Visual Impairment.

## Introduction

Special education is a fairly worldwide education as it provides the educational facilities for all type of special or exceptional persons without considering discrimination based on the nationality, regionality, socio-economic condition, culture, language, sex, color, caste and age. Special education is desire of each and every special child regardless of their type of disability multiple, negative or positive etc. In short, special education helps to serve the children with special needs wherever they exist (Mangal, 2007).

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Visual impairment is an abnormal level of eyesight even with the use of eyeglasses, medication, surgery, or contact lenses. The signs of vision impairment can take many different forms. Accordingly, visual impairments can result from a loss or reduction in visual acuity or visual field, both of which are discussed below. Crucially, the World Health Organization has defined visual impairment by characterizing the degree of impairment experienced by an individual. "Low vision/partially sighted" describes a visual field of 20 degrees or less, or visual acuity between 20/70 and 20/400. In comparison, they have defined "blindness" as having a vision field of 10 degrees or less or visual acuity of less than 20/400 (Kapur, 2018).

The Braille system is a code, a set of symbols formed within units of space and arranged in cells, that allows persons with vision impairment to read the same alphabet letters that persons with sight read. The system also includes symbols for common words and affixes. The code is converted into tangible form and is read by moving the hands from left to right along each line. These Braille readers can gain literacy skills comparable to print readers, as it is a writing system that can be used for full literacy and can be written, stored, and read with versatility. Because of the declining literacy among severely vision impaired young persons, it is important that these students with minimal residual vision and those who are totally blind be given the opportunity to learn Braille (Kizilaslan, 2020).

Literacy is, of course, fundamental to education. Without literacy, one is educationally handicapped. The ability to read and write is related to educational placement, choice of vocational options, and overall quality of life. Currently, more than 100,000 legally blind persons in the United States who would benefit from learning Braille are not doing so. A large proportion of those who are not reading Braille have multiple disabilities and are being served in special education programs. However, even among recent high school graduates, a substantial proportion of those who read large print or who read by other means, most likely have not achieved a level of literacy that would allow them to function competitively in the workforce. This is equally true for those vision impaired persons who are now being college educated without Braille literacy. This concern for declining Braille literacy and the view that it has a causal relationship with placement and vocational outcomes should motivate educators and rehabilitation professionals to find ways to increase Braille reading and writing by young persons with vision impairment.

Teachers of the students with visual impairment face various challenges including the Braille, use of assistive devices use and printing material etc. Skinku (2018) looked into the difficulties teachers had when instructing visually impaired students in Ghanaian inclusive classrooms. According to the study, teaching students with visual impairments presents a number of difficulties for teachers. difficulties with the size of the classroom, the resources provided, and even their operational knowledge with these students. Teachers also acknowledged that while they have some assistive technology, most of it is not available to make educating visually impaired students easier. According to the results, in order to successfully integrate visually impaired students into regular classrooms, teachers must get in-service training in the use of Braille and big print materials. The Ghanaian government should also increase the availability of Braille textbooks and assistive technology for teaching and learning.

Kana and Hagos (2024) found that teachers often teach Braille as a stand-alone skill without integrating it with pre-reading skills or insufficient methods for teaching reading readiness skills before introducing Braille reading. Thus, the studies suggested that teachers of individual with visual impairments should receive training in prereading skills and teaching reading readiness skills before introducing Braille. Another by Mulenga and Muzata (2020) highlighted that some learners read and write Braille contractions while others struggle because of a lack of pre-Braille

training access, suggesting early and intensive Grade 2 Braille training. To do this, Ivy and Hooper (2015) explained that students with visual impairments often require more time and early intervention to acquire skills and need direct instruction to learn skills than their typical peers without visual impairments do.

According to the report of Mallik and Mishra (2021), teachers found it hard to use Braille in scientific classes because of a lack of inclusive curriculum activities and in-service training so the studies suggested flexible and inclusive curriculum at schools. Argyropoulos et al. (2019) highlighted the need for teachers to receive further training in the Braille code, including its literary and scientific notation.

Braille is necessary for visually impaired students to improve their writing and reading abilities. One essential skill that students must acquire during the learning process is the ability to read and write in Braille. Therefore, it's important to understand the different obstacles that visually impaired pupils at different grade levels may face when studying Braille. The systematic review study focused on the factors hindering the use of Braille for instruction and assessment of students with visual impairments. The review included 12 articles that met the inclusion and exclusion criteria from online edata-bases. Reviewers used qualitative systematic review design and thematic analysis to conduct this systematic review. The systematic review synthesized three thematic areas with subthemes based on the thematic analysis and reported as follows: (1) students with visual impairments–related factors: lack of access to Braille and myths about Braille math, preference to rely on voice, lack of access to pre-Braille methods, and demotivation (lack of interest); (2) factors related to schools: insufficient Braille resources, absence of inclusive curriculum, inadequate policy and practices, teachers' lack of Braille knowledge, and limitations of pedagogical skills; and (3) barriers related to educational leadership: challenges of policy and practices, limitations of Braille research and teaching methods, and lack of Braille technologies (Kana & Hagos, 2024).

When teaching geometry in Braille at the secondary level, teachers of pupils with visual impairments encounter difficulties. Children with various special needs sit in the same class at the majority of special education centers. Since special education schools lack the necessary tools for teaching geometry, the topic is not taught in accordance with its standards. Braille textbooks of the previous syllabus edition are given to teachers. The current syllabus needs to be changed into braille, which presents a difficulty for them due to time and cost constraints. Teachers and pupils do not have access to the necessary tactile materials or geometry equipment. One of the biggest obstacles to teaching pupils geometric concepts in an acceptable manner is the lack of necessary materials. In order to teach geometry, teachers are not well trained. Competent authorities do not advise teachers on how to modify the geometry curriculum. Teachers are able to control the class size, but they are unable to teach geometry effectively because of a shortage of teaching resources. Soft copy audio aids for notes are not given to students. If software is accessible, teachers are not taught to use it, and it is not offered in classrooms. The visually impaired pupils faced a number of difficulties when learning geometry lectures without the use of geometrical tools and without the activity approach (Nabeel et al., 2021).

Students with visual impairment have good cognitive skills and they perform quite well in educational activities. Teachers of students with visual impairment play their role very skillfully to ameliorate their educational outcomes. Teachers use Braille system to impart the education to the students with visual impairment. Teachers face numerous problems regarding the effective use of Braille while teaching the students with visual impairment which demands the attention of researchers to explore this phenomenon deeply.

### Statement of the Problem

The purpose of this study was to identify the challenges faced by teachers to teach Braille to students with visual impairment. Teaching Braille to children with visual impairment presents a myriad of challenges for educators. Despite the importance of Braille literacy for the academic and social development of students with visual impairment, educators encounter various obstacles in effectively imparting Braille skills. The complexities of teaching Braille go beyond the technical aspects of the language itself, encompassing pedagogical, logistical, and attitudinal barriers that impact the learning experiences of both teachers and students.

Specifically, the research seeks to address the following key questions: What are the primary pedagogical challenges encountered by teachers in teaching Braille to students with visual impairment. What logistical obstacles hinder the effective teaching of Braille in educational settings. How do attitudinal barriers, both within educational institutions and society at large, affect the teaching and learning of Braille? What strategies do teachers employ to overcome these challenges, and what are their perceived effectiveness?

### Objectives of the Study

The study was carried to explore the following:

1. To ascertain the challenges faced by the teachers to teach Braille to the students with visual impairment.
2. To compare the challenges faced by the male and female teachers to teach Braille to the students with visual impairment.
3. To develop viable recommendations to cope such challenges faced by the teachers to teach Braille to the students with visual impairment.

### Research Questions

Researcher intended to search the following questions:

1. Which sorts of challenges are being faced by the teachers to teach Braille to the students with visual impairment?
2. Is there a significant difference between the challenges faced by the male and female teachers to teach Braille to the students with visual impairment?
3. What are the viable recommendations to cope such challenges faced by the teachers to teach Braille to the students with visual impairment?

### Literature Review

Lack of resources has been identified as a major barrier to the provision of quality education for blind and visually impaired (VI) children in both developing and developed countries (World Health Organization, 2010; UNESCO, 2017). The scarcity of resources often results in placing children with sight problems in mainstream schools, where they may be included in classes with teachers lacking specialized knowledge in visual impairment (World Blind Union, 2019). This issue is further exacerbated by the dearth of resources such as braille books and materials, as well as a lack of specialist tuition (National Federation of the Blind, 2018). Teachers frequently report receiving minimal guidance on curriculum adaptation for visually impaired children and are often required to create their own materials through scanning and adaptation processes (American Foundation for the Blind, 2015).

The limited availability of quality braille equipment is one of the biggest obstacles facing students and teachers dealing with vision impairment. In particular, embossers, which are printers for

braille, are vital to a visually impaired student as they allow a visually impaired person to readily produce materials that are both readable and tactile. Ideally, a student would have an embosser both at school and at home. Currently, there is only one company that manufactures braille paper, which means that paper is very expensive. Many schools are held to tight budgets and are forced to use very limited quantities of braille paper, which is ineffective for teaching reading and writing to a blind student. As a result, a shortage of paper may lead the student to transition from braille to audio, a situation that can hinder a student's overall literacy. Other pieces of equipment include braille writers and note takers, which are costly and may require a grant or individual funding from a disability agency. All of these devices are often considered to be "educational aids" and are rarely covered by insurance (Johnson, 2018).

In many countries, there is a lack of support for blind children in regular schools, and as a result, there are fewer resources available to support the learning of Braille by visually impaired children in mainstream schools. In the book "The Education of Blind Children," it says that in 1990, only 35% of the 47,800 blind children in the USA were enrolled in special schools for the blind (Huebner, 2002). This means that the majority of blind children are taught in mainstream schools and will receive less support from specialist teachers and a curriculum more focused on mainstream learning, which means that they are likely to receive fewer resources for learning Braille. Although this paper is US-based, a study in the UK showed similar results with only around 6% of blind children studying NLSB (National Literary Support for the Blind) courses or "learning media" aimed at encouraging Braille learning at school (Herbert et al., 2020). These percentages are reflected in the numbers of resources available for Braille, as they are made by companies wanting to sell products.

High demand for resources does not exist in areas where the teaching of Braille is low, so products are often only available in America where most resources are produced. Prices for Braille resources are very high, and so it is unlikely that a blind pupil in a mainstream school will have access to the same text that a sighted pupil has in an equivalent subject. This is a result of a lack of funding towards resources for blind students and has a direct effect on the quality of education offered to them. Heine has identified two types of resources necessary for the teaching of Braille, which are instructional materials (mainly books) and devices, both of which are not always available to teach children and adults learning Braille (Heine, 2021).

Most teachers lack training to teach children with visual impairment, and braille instruction is an even more specialized area of education. In 2005, 31% of qualified teachers of children with visual impairment reported that they had no specific training in the area of vision loss and the field continues to suffer from a lack of certified teachers with expertise in the area of visual impairment. A study by Hampton and Shamburg found that 98% of special education teachers had one course or less in working with students who are visually impaired. It was found that the average amount of time dedicated to instruction for blind and visually impaired students during a formal education program for a teacher was 12.5 hours. This was surprising given that the majority of educators were likely to come across these students in their classrooms at some point in their careers. A teacher in New York makes note of the by which the teacher delivers instruction and the degree to which the student internalizes the instruction may vary greatly from person to person. Everyone has unique learning preferences and styles, which is why this is the case. The distinctive cognitive, affective, and physiological activities that are comparatively consistent markers of how a learner views, engages with, and reacts to the learning environment are referred to as learning styles. Student learning style and any resulting preference for a specific teaching method will heavily influence the degree to which the student will be receptive to learning Braille and the rate at which

the student will be able to achieve literacy. While any good teacher will be aware of student learning styles when teaching any subject, the impact of learning style is especially critical when teaching Braille due to the hands-on nature of the medium.

There was close to unanimity among the teachers about one issue: inadequate time in which to learn braille. As Table 5 indicates, at least 60% of the students at all grade levels, including the high school and college levels, were receiving fewer than two hours per day of braille instruction in many cases not more than a few minutes per day. This included the time provided by itinerant teachers who were supplementing instruction provided to blind students by classroom teachers. Given the slow learning rate and the need to establish a strong foundation in the literary code even in students who would later make good use of recorded materials or electronic devices to access print, the prevailing level of instruction cannot be considered adequate.

When studying the logistics of braille instruction, it is apparent that braille literacy is given less priority than other literacy skills. Sighted children begin to learn letters and numbers in a block form around age 5, and begin to read and write in cursive around age 7. In contrast, blind children use braille as soon as they start to read and write, yet they are often not given the same instruction in braille until years later. As a result, they attempt to learn braille as their first writing system after becoming competent print readers. By this time, they have already missed several critical stages of cognitive development which make learning a tactile reading and writing system more difficult. The teacher of blind students credential requires proficiency in the literary skills of the primary language, yet many teachers are not prepared to teach braille because it is not considered an essential part of the blind child's curriculum. This lack of preparation is further complicated by the small number of teacher preparation programs which offer courses in braille transcribing and teaching.

Assessment of a child's literacy progress is crucial to prevent the child from being passed on to the next learning task/grade when they do not have the literacy skills to effectively cope with what is being demanded of them. This could lead to educational failure and frustration for the child. The solution to this situation could be the development of training programs for parents and educators in the Unified English Braille Code so that they are equipped with the skills to effectively monitor the child's literacy progress. Today, children from preschool age onwards are being taught to use computers, with the development of screen reader technology, and their parents and educators may see this as a viable alternative to learning Braille. A primary concern of parents and educators of children who are blind and who are learning Braille is that it is very difficult, if not impossible, for a sighted adult to monitor the child's progress in reading and writing Braille if they do not know Braille themselves. This is because a sighted person cannot effectively assess the quality of the Braille produced, and many children who are blind do not have the opportunity to use a Braillist to assist with their school work, as it is not a cost-effective use of limited resources/funding for support staff in schools.

The first challenge faced by teachers teaching Braille is the difficulty in understanding tactile feedback. Tactile feedback is a major element of any child's learning experience using Braille. Tactile "discrimination" or the ability to tell the size, shape, and look of different letters and symbols is one of the most essential readiness skills for Braille reading and writing (Holbrook, D'Andrea, 2009). Typically, sighted children begin learning letters and numbers as soon as they are able to see and grasp objects. They quickly move on to writing and reading printed letters. This process occurs naturally and continues throughout the child's life. This is not so for children who are blind. Learning to "see" common print letters well enough to discriminate and print them accurately is a skill requiring many years of special training. In fact, adults who are proficient at

reading Braille do not read by moving their fingers systematically across lines of text as one might expect. They read by skimming or scanning lines with fingers or eyes and comprehending entire words and phrases at once. This is where learning to "see" letters quickly and efficiently becomes a critical skill for young Braille readers. The ability to discriminate letters in this way is based on the child's tactile sensitivity and kinesthetic awareness.

### Research Methodology

The study was carried out to explore the challenges faced by the teachers to teach the Braille to the students with visual impairment. The research methodology entails the nature of the study, sampling and instrumentation as per following details:

#### Nature of the Study

A quantitative method was adopted by the researcher for data collection and analysis based on numerical values. In the social sciences, quantitative approach is the most used research framework. It describes a collection of methods, approaches, and presumptions used to investigate numerical patterns in order to research psychological, social, and economic phenomena. A variety of numerical data is collected in quantitative research (Coghlan & Brydon-Miller, 2014).

#### Research Design

The research was descriptive in nature. The study's data and facts were gathered through the survey approach. Data for the study was gathered from teachers who instruct visually impaired students in Braille using a self-created questionnaire.

A descriptive study is a type of research in which no variables are changed; instead, the behavior, traits, or circumstances of a specific population or phenomena are observed and described. Providing a thorough and comprehensive description of a phenomena or population is the main objective of descriptive studies, which often include a variety of data gathering methods such surveys, interviews, and observations (Salomao, 2023).

#### Study Population and Sampling Process

Study population contains the totality of respondents. The population of the study comprised of all the male and female teachers of special education schools teaching the students with visual impairment in urban area of district Faisalabad. The sample of the study was selected from special education teachers currently working in the special education schools of students with visual impairment in district Faisalabad. Convenient sampling technique was used to select the sample from special education schools for blind in district Faisalabad. Convenience sampling is a non-probability sampling method where data is collected from an easily accessible and available group of people. The individuals in the sample are selected not because they are most representative of the entire population, but because they are most easily accessible to the researcher (Simkus, 2023). A sample of 40 teachers was selected as under:

**Table 1: Sample of the study**

Sr. No.	Gender	Sample Size	Remarks
1	Male Teacher	20	
2	Female Teachers	20	
	Total	40	

The sample comprise of 20 male special educators and 20 female special educators who were presently teaching the pupils with hearing impairment.

### **Research Instrument**

A self-developed questionnaire was framed according to the objectives of the study to assess the challenges faced by the teachers to teach Braille to the students with visual impairment. Data regarding the study was gathered from both male and female special education teachers for the blind in the Faisalabad district using a questionnaire. Every statement on the survey was closed-ended. There were twenty statements in the questionnaire. To collect the data, a five-point Likert scale was employed.

The validity of the research instrument was ensured. Researcher took the help of his supervisor to improve the questionnaire. The faculty of special education was also approached to get their opinion regarding the validation of the questionnaire. The necessary changes were to improve questionnaire and ensure its validation for the study.

Reliability of the questionnaire was determined with the help of Cronbach alpha statistics. It was inferred that reliability index was  $r=0.951$  which showed the suitability of the questionnaire for the research with all its items. The reliability score was greater than the required value of  $r>0.7$  which indicated the suitability of questionnaire for the study. The reliability coefficient greater than 0.7 showed satisfactory consistency of the research instrument (Portney & Watkins, 2000), and acceptable to be used in the study.

### **Collection of Data**

Researcher himself visited the special education schools for blind in district Faisalabad and approached the respondents for data collection. The proper permission of principal was taken before the data collection. After getting the permission from the special education schools for blind in Faisalabad, researcher shared the necessary information pertaining to the study objectives and complete procedure of the filling of questionnaire. Completed questionnaires were collected back by the researcher at the spot and data was kept in a secure way for its analysis.

### **Analysis of Data**

Statistical analysis of the collected facts of the study was done through the use of frequency and percentage, as well as mean and standard deviation. Independent t-statistics were applied to make a comparison between male and female teachers regarding their challenges faced to teach Braille to the students with visual impairment. All the questionnaires were analyzed separately and their results were interpreted right below the tables with each statement.

### **Results**

The study investigated the challenges faced by the teachers to teach Braille to the students with visual impairment. Following results were inferred:



**Table 2: Demographics of the study respondents**

Demographic Feature	Description	Frequency	Percentage (%)
<b>Gender</b>	Male	20	50
	Female	20	50
<b>Age</b>	18-25	9	22.5
	26-30	20	50.0
	31-35	5	12.5
	36-Above	6	15.0
<b>Education</b>	M.A	17	42.5
	B.S	10	25.0
	M.Phil.	13	32.5

The data revealed that there were half male and half female teachers of the students with visual impairment who were the part of the study. Most of the teachers (50%) were falling in the age range of 26-30 years and one fourth (22.5%) had the age of 18-25 years. Less than half of the respondents were master degree holders whereby one third of them had degree of master of philosophy.

**Table 3: Challenges faced by the teacher to teach the Braille to students of visual impairment**

Challenges	Mean	S.D	Min	Max
I find it challenging to access sufficient Braille teaching materials.	4.18	1.299	1	5
I feel adequately trained to teach Braille to children with visual impairment.	3.03	1.143	1	4
I find it challenging to access sufficient Braille teaching materials.	3.48	1.198	2	5
The school provides enough resources for Braille education.	3.48	1.826	1	5
I struggle with time management when teaching Braille alongside other subjects.	4.70	0.464	4	5
There is a lack of support from the administration in teaching Braille.	4.03	1.187	2	5
I find it difficult to keep students engaged during Braille lessons.	3.25	1.127	2	5
The class size makes it challenging to provide individualized attention to students learning Braille.	3.08	1.207	1	5
I face difficulties in assessing the progress of students learning Braille.	3.65	1.189	2	5
There is insufficient professional development available for teaching Braille.	4.38	0.490	4	5
I feel confident in my ability to teach Braille effectively.	3.65	1.167	2	5
Collaborating with parents to support Braille learning at home is challenging.	4.38	1.005	2	5
There is a lack of technological tools to aid in teaching Braille.	3.47	0.987	2	5
I find it challenging to motivate students to learn Braille.	3.90	0.982	2	5
There is a lack of peer support and collaboration among teachers for Braille instruction.	4.15	1.122	2	5
I find it difficult to integrate Braille teaching with the general curriculum.	4.13	0.563	3	5

The physical classroom environment is not conducive to teaching Braille.	3.35	1.099	1	4
I feel stressed and overwhelmed by the responsibility of teaching Braille.	3.78	0.891	2	5
There is a lack of awareness and understanding about Braille among other staff members.	4.70	0.464	4	5
I find it challenging to keep up with advancements in Braille technology and teaching methods.	3.68	1.207	2	5

Note: *M*=Mean, *S.D*=Standard Deviation, *Min*=Minimum, *Max*=Maximum

The data exhibited the challenges faced by the teachers while teaching Braille to the students with visual impairment. There was a very high inclination of the teachers ( $M=4.70$ ) towards the factor that there was a lack of awareness and understanding about the Braille among other staff members, likewise teachers were struggling with time management issue while teaching Braille to the students with visual impairment. The teachers were also facing moderate level of issues ( $M=4.0-4.38$ ) while teaching Braille such as insufficient professional development available for teaching Braille, problems to collaborate with parents to support Braille learning at home, lack of peer support and poor collaboration among teachers during Braille instruction and issues to integrate Braille teaching with the general curriculum. The teachers were facing low level of challenges ( $M=3.0-3.90$ ) such as teachers feel stressed while teaching Braille, teachers find it challenging to keep up with advancements in Braille technology and teaching methods.

**Table 4: Overall level of challenges faced by the teachers while teaching Braille**

Description	Mean	S.D	Level of challenge
Overall level of challenges faced by the teachers while teaching Braille	3.82	0.351	Moderate

The data analysis indicated that there was a moderate level of challenges ( $M=3.82$ ,  $S.D=0.351$ ) faced by the teachers while teaching Braille to the students with visual impairment.

**Table 5: Comparison between the challenges faced by the male and female teachers while teaching Braille to the students with visual impairment**

Gender	N	Mean	S.D	df	t	p
Male	20	3.91	0.299	38	1.753	.088
Female	20	3.72	0.381			

The independent t-statistics exhibited no significant difference between the challenges faced by male and female teachers while teaching Braille to the students with visual impairment.

## Discussion

The study assessed the challenges faced by the teachers while teaching Braille to the students with visual impairment. The results of the study indicated the challenges of insufficient Braille material, lack of Braille skills training of the teachers, and lack of awareness among teachers about the use Braille etc. Poor Braille related provisions have been discussed in the study of Skinku (2018), where researcher investigated the teachers' challenges in teaching pupils with visual impairment in inclusive classrooms in Ghana. According to the study, teaching students with visual

impairments presents a number of difficulties for teachers. difficulties with the size of the classroom, the resources provided, and even their operational knowledge with these students. Teachers also acknowledged that while they have some assistive technology, most of it is not available to make educating visually impaired students easier. According to the results, in order to successfully integrate visually impaired students into regular classrooms, teachers must get in-service training in the use of Braille and big print materials. The Ghanaian government should also increase the availability of Braille textbooks and assistive technology for teaching and learning. Kao and Mzimela (2019) and Dogbe (2020) found that teachers often teach Braille as a stand-alone skill without integrating it with pre-reading skills or insufficient methods for teaching reading readiness skills before introducing Braille reading. Thus, the studies suggested that teachers of individual with visual impairments should receive training in prereading skills and teaching reading readiness skills before introducing Braille. Another by Mulenga and Muzata (2020) highlighted that some learners read and write Braille contractions while others struggle because of a lack of pre-Braille training access, suggesting early and intensive Grade 2 Braille training. To do this, Ivy and Hooper (2015) explained that students with visual impairments often require more time and early intervention to acquire skills and need direct instruction to learn skills than their typical peers without visual impairments do.

## Conclusion

The assessed the challenges faced by the teachers while teaching Braille to the students with visual impairment. It was inferred that numerous challenges were being faced by the teachers while Braille teaching such as insufficient Braille material, lack of Braille skills training, lack of awareness about the use of Braille among the other staff, and inability of the teachers to integrate the Braille in general curriculum. Overall there was a moderate level of challenges being faced by the teachers while teaching Braille to the students with visual impairment. No any significant difference ( $p>0.05$ ) between the male and female teachers challenges during Braille teaching was noted. The research recommends the special training of the special educators in use of proper Braille to teach their pupils with visual impairment. It was emphasized that modern technological tools such as computer, embosser, notetakers should also be given due consideration and ensure its use for effective Braille teaching.

## Recommendations

The study recommendations were as given below:

1. Special consideration should be given to provide the latest and modern Braille teaching tools to teach the Braille skills to pupils with vision problem from grass root level.
2. Teaching staff should be given special training regarding the use of Braille machine, including related services such as use of sixer, slate and stylus, Braille embosser, Braille software and other technological tools.
3. Curriculum of the students with visual impairment should also be given due consideration to modify all of its material in Braille form so that blind and low vision may easily access it and improve their reading skills.

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