

# **THE ATTITUDE OF CHILDREN WITH LOW VISION TOWARDS BRAILLE AS A SYSTEM OF WRITTEN COMMUNICATION IN SCHOOLS FOR THE BLIND IN GHANA.**

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## **Abstract**

This qualitative study was conducted as a second attempt to investigate the attitude leading to the acceptance of Braille as a mode of instruction. The study used 80 pupils with varying degrees of visual impairment (low vision). The instruments used were questionnaires, interview schedules, observation and work sample analysis. Results indicated that most of the children in the sample had the potential to read bold print. Efforts were made to advise and put in place strategies to improve reading abilities of borderline cases of children who read Braille slowly. Implications of the main findings such as the negative effects on teaching and learning have been identified to inform the Ministry of Education.

## **Introduction**

There are two schools for the Blind in Ghana namely, the Akropong School for the Blind which is situated in the Eastern Region of Ghana and the Wa school for the Blind which is located in the Upper West Region of the country. The total enrolment of the two schools is 496 pupils. Among these pupils are 292 with varying degrees of low vision which can be found at all levels ranging from the pre – school to the Junior Secondary School.

All the teachers in the two schools have been trained as professional teachers of persons with visual impairment at the University of Education, Winneba. Teaching and

learning go on effectively in the two schools. Academic results in the schools have been generally encouraging. The main problem facing the school is the choice of the right communication mode in terms of reading and writing.

The first study confirmed that majority of pupils with low vision did not accept and use braille efficiently for their academic work. They generally believed that Braille as a system of writing was being imposed on them and this affected their levels of achievement.

The curriculum of the schools for the blind in Ghana, is almost the same as the one being run in the public school system. The syllabus is, however, modified and adapted to suit the educational needs of the pupils with visual impairments. Braille which is a special way of writing for the blind is taught to all pupils in the two schools irrespective of varying degrees of impairment.

This study is a second look at problems of reading braille by children with low vision in order to find other alternative opportunities to reduce the problem or advise in view of improving reading abilities of children with visual impairments. This is necessary because a number of theories on growth and development have been developed in the methodology of teaching children based on the varying emphasis on the basic nature of human beings which are as unique as individuals with educational needs. Scholl, (1986) postulated that, a greater amount of information is gained in a shorter period of time through the use of the visual system than through any other sense organ. A visual impairment, therefore, places a child at a disadvantage in cognitive development, particularly in areas of sensory stimulation, concept formation, and communication.

In today's information age, every individual should realize that communication and literacy are very necessary for many areas of life competencies. According to Schroeder (1989), literacy unlike other skills is not an end in itself, but rather the means to virtually unlimited variety of ends. It is the very key to prosperity since literacy opens the way to information by tearing down barriers of myth and ignorance.

### **Literature**

Schroeder (1989) further stated that blind people have come to value braille, recognizing its role as the primary means to literacy for the blind. This statement was further confirmed by Nemeth, (1989) who also disclosed that, braille have "liberated a whole class of people from a condition of illiteracy and dependency and given them the means for self-fulfillment and enrichment". However, large numbers of blind people do not know braille and therefore, find themselves in a state of functional illiteracy. As a result, blind people lacked many of the fundamental opportunities which enable them to become self-supporting contributing members of society.

In addition Schroeder, further mentioned that many professionals have sought to explain away the low level of Braille literacy through claims that braille is too complicated and difficult to learn, too bulky and costly to produce and made obsolete by tapes and speech technology. He accepted that this professional argue that many of today's blind children are multi-handicapped and therefore cannot be expected to master braille reading. It also that by modern pedagogy many blind people, when given the appropriate low vision aids, can become competent print readers thereby rendering braille unnecessary.

Schroeder also maintained that the alternatives for braille for visual learners with low vision usually come with their problems. For instance, tape recorders while useful for reading large quantities of text do nothing to enhance spelling or teach the child punctuation. Tape recorders do not allow to turn readily to a scenic page of a text. Braille rather allows the individual a portable means of making notes, keeping names and address files. He believed that technological devices should not replace braille. Other alternatives such as, low vision aids often reduce reading speed and comprehension by virtue of diminishing the amount of materials that can be seen at one time. Other low vision devices such as Closed Circuit Television are very large and cumbersome. He believed that if low vision devices are used efficiently, they can facilitate learning in persons with low vision.

It is generally recommended that individuals with visual impairment resulting in low vision use standard rather than large print whenever possible and when appropriate to the task and ease of use. Large print is recommended when standard print is not within an individuals visual range even with the use of optical devices or specific psychological factors necessitate its use. In such cases other reading media, such as recordings and braille, should be considered. The student's potential reading speed should be used as a guideline in choosing reading media. When, appropriate, the individual should be involved in the selection of the medium or media most suitable to meet his or her needs.

Readers of braille generally think that the ability to read braille works to counteract negative stereotypes of blindness. Some expressed this as being more like sighted people and some as being efficient and graceful. Non-readers on the other hand think that braille increases the gap between them and the sighted world, evoking unflattering stereotypes of blindness, which they too reject. Both groups were quick to judge the other.

Teachers of children with low vision however, reported that, in general their students are poor readers. Research has supported the observation that children with low vision do not read as well as sighted children of the same of age and (Corley and Pring, 1993a, 1993b; Daugherty and Moran; Fellenius, 1999; Tobin, 1985). Some children with low

vision, however, do perform in accordance with, their age or even better (Van Bon, Adriaasen, Gompel and Kouwenderg, 2000).

It is not clear which factors contribute to the variability in the reading abilities of children with low vision especially when dealing with braille. According to Gompel et al (2003) besides reading, spelling may also be a problem for children with low vision. As Van Bon and Dulghuisen (1995) showed that spelling is easier when one can see the letters; this feedback helps to keep track of the process. When a child with low vision is reading braille the main problem may be the extent to which the child has developed finger dexterity and whether the child is a visual learner. Children who could be assisted to read braille need to be trained to develop the receptors in the cutaneous tissue to be able to identify, classify and discriminate symbols using the pad of the fingers (Ocloo, 2003). According to Gardener (2003), the useful information regarding referrals for the prescription of optical devices is that they can be made on the basis of teacher observations with respect to a child's measured visual acuity, visual fields, sensitivity to contrast and illumination and visual functioning. Children who are functioning at levels below their chronological age and those who have multiple impairments, should be included in these evaluations. With parental approval, the teacher may share the assessment result with a child with low vision, eye specialist along with a list of tasks which make visual demands on the child in the school setting. This will provide the eye specialist with guidelines for presenting optical devices. It is also very useful for teachers to accompany their pupils for clinical evaluation whenever possible and make recommendations regarding the mounting system for the device to parent.

The sophistication of the device does not necessarily correspond with its usefulness. It is important to note that each optical device possesses advantages or disadvantage and the use of one type of device may be suitable for one particular child but may not be appropriate for another. Some children will require only one device to meet their visual needs, while other children will require two or more to accomplish the same purpose (Corn & Gardner, 2003).

Counseling by teachers of students with visual impairments or other professionals may be advisable to assist children in acceptance of optical devices. At certain times in a child's school career, a child may become self-conscious about using optical devices. A child's desire to remain inconspicuous should be respected as long as the child begins to take responsibility of obtaining visual information. When devices are introduced at an early age and children have developed good habits of usage, they tend to be more readily accepted than when they are introduced at later ages.

### **What is Available for those with Low Vision in Ghana**

The state of the art in terms of technology for children with visual impairments and low vision is still at a very rudimentary level. The socio-economic difficulties of the country

makes the provision of relevant technology for persons with low vision look like a luxury since it has never been a priority to allocate money for the purchase of these items. What has to be noted is the fact that the provision of optical and electronic magnifiers are neither educational luxuries nor curative measures; they are essentially educational tools which provides children with limited vision the possibility to use printed materials to enhance their regular means to study (Corn, 1986).

According to Avoke and Ocloo (2003), the scenario in Ghana is one in which children with low vision are educated along those with blindness, using the same non-visual means predominantly. While indeed there are some children in regular classrooms whose visual problems are not usually as serious as those in other settings for educating children with visual impairment, modern technology equipment is not readily available and teachers do not as a result consciously use environmental modifications to assist children with low vision to use residual vision in the classroom setting. A number of writers such as (Best 1992 and Corn 1989) have listed non-optical devices that are not electronic and environmental modifiers to include books, reading stands, large print books, high intensity lamp, illumination and contrast and similar others. Some of these devices including corrective lenses and magnifiers are sparingly used in Ghana.

### **Statement of the Problem**

Children with visual impairments have unique learning needs. In order to meet these needs, it is imperative for the special education teacher to take cognizance of the onset of the visual problem and the cause of the condition as well as the teacher's personal perceptions as well as his or her attitudes. These directly related variables determine to a greater extent the methodology and the adaptations that suit the individual needs of this category of special needs children.

Educators of children with visual impairments generally ignore the use of residual vision for learning in schools. Currently the schools for the Blind in the country use braille extensively as the main medium of instruction and for reading and writing. This means that Braille is imposed on them instead of for alternative methods like the use of large print, good seating arrangement, and appropriate print and equipment such as magnifying glasses.

### **Purpose of the Study**

The purpose of the study is to find out:

- (i) What difficulties do children with low vision face using braille?
- (ii) Whether pupils with low vision accept and learn braille as a medium of instruction.
- (iii) Whether the use of braille facilitates or impedes academic progress of pupils with low vision.

- (iv) What plans are there to vary teaching methods when teaching children with low vision?

### **Research Questions**

- What difficulties do pupils with low vision face in learning to use Braille as a medium of communication and instruction?
- To what extent do pupils with low vision accept braille and make effort to learn it?

### **Methodology**

#### **Research design**

This is a qualitative research whereby opinion of participants will be sought. This research as mentioned is located within the qualitative paradigm because it is in the school setting and to make sense of, or interpret phenomenon in terms of the meanings they bring to situations (Denzin and Lincoln, 1994).

#### **The Population**

The population was made up of all the pupils with low vision enrolled in the two schools for the Blind in Ghana. The number totaled 135. All the teachers in the school totaling 60 (teachers) were involved in the study.

#### **Sample**

The sample was made up of 80 pupils with low vision and 40 teachers from the two schools. The pupils were selected through purposive sampling or judgmental sampling, which is common in qualitative studies (Tesch, 1990). The researcher contacted the headteachers through whom they got the population of the pupils with low vision in the schools and in each class. These pupils were identified and tested by the Ghana Eye Care Programme. Forty-five of the pupils in this sample and 30 teachers were also involved in the earlier study conducted in 2004 / 2005 academic year. The main objective was to find out how pupils with low vision accept and use braille as a medium of communication. This implied that the sample may include beginning Braille readers functional braille readers and non-braille readers.

#### **Instrumentation**

The instruments used included one set of questionnaires; interview schedule, and an observation guide.

#### **Procedure**

The interview was semi-structured. The questionnaires comprised 25 items and were given to 60 teachers. They were grouped under demographic characteristics of teacher respondents identification of persons with low vision, writing and reading difficulties of

braille by pupils with low vision. On the identification of pupils with low vision the researchers sought information on whether teacher respondents could identify pupils with low vision and how it was done. On writing and reading braille in class or during class assignments, the researcher sought information from teachers as to how pupils react to the use of braille and their proficiency levels.

The observation guide contained 10 key points on what the researchers wanted to find out in the schools. This covered classroom work to enable a form of work sample analysis to take place, records of admissions and medical case histories of individual pupils in the sample.

The interview was semi-structured and concentrated on acceptability of braille, the use of braille as issues of self-esteem, self-identity and the 'stigma' of being a person with disability were formed to be integrally intertwined with the samples expressed feelings about braille (Schroeder, 1989). According to Taylor and Bodgon (1994), cited by Avoke (2004), making sense of student's experiences in a research is facilitated if the researchers engaged in interviews with the respondents in specific settings. Such attempts could encourage depth analysis, which other methods may not provide, since it was important to view human behaviour as a product of how people interpret their world and to ensure that was captured. Prompts could be used to explore other dimensions on attitudes and non-verbal cues.

In this case, the researchers audio taped all the interviews and produced verbatim transcripts. The interviews were on one – on – one basis therefore, the writers traveled to the schools to carry out the interviews as well as administer the questionnaire to the teachers. They used a week to answer and return them through the post. There was almost 95% recovery rate. The head teachers were interviewed on separate dates since the distance between one school and the other was almost 1,000km

The sample interviewed with 120 which comprised 40 teachers and 80 pupils. The interview lasted for an average period of 40 minutes to 1 hour 30 minutes. The number of pages for transcribed interview ranged from 30 – 110 pages.

### **Data Analysis**

A descriptive and inferential analysis were used to discuss the results of questionnaires served to teachers and headteachers using simple percentages to quantify the themes or major questions.

That qualitative data analysis is "a search for general statements about relationships among categories of data (Marshall and Rossman, 1989, p 112)

Transcripts of interviews which were coded were discussed within the thematic context. An analysis of data, following procedures suggested by Delamont (1992), Glaser and Strauss (1967), Lincoln and Guba (1985), and Miles and Huberman (1984) included coding of data and developing themes using the “constant comparative” method as described by Glaser (1978).

### **Findings and Discussion**

The first part of the findings is discussed alongside the major research questions. The researchers questioned the reading mode of pupils with low vision in the sample. Interestingly, 60 pupils out of the 80 constituting 75% in the sample were observed by their teachers using touch and sight to read braille while 15 (18.75%) of the pupils out of the sample of 80 were seen using braille confidently without difficulty while the others were observed to be confused thereby using only sight to read braille materials presented to them. This finding confirmed the first part of the study two years earlier when it was discovered that as much as 67.7% combined sight and touch when reading braille in a bigger sample of 120 pupils.

The researcher followed to interview the pupils involved. Various responses of interest to the study were given. The main issue that came up could be captured in this phrase from the responses from the majority:

***Braille is a communication mode which the public regards as writing for the blind: if those of us with low vision also write Braille they will see us as also being blind. We therefore, wanted to be assisted to use optical devices to read print.***

Print materials were presented to the 80 pupils and 56 (70%) of them could see the letters at close range of less than 10cm from the eye. Forty-two of pupils in this category out of the sixty (60) identified could recognize letters while quite a number of them could mention the names of the alphabets. The ability of the blind and the visually impaired could be improved if adequate provisions are made and perceptions are changed. To confirm this view, Schroeder (1989) observed that the person with visual impairment must believe that it is respectable to be blind or work with reduced vision and that she / he possesses the capacity to compete on an equal footing with his or her sighted peers. “As with many other issues facing the blind in education and rehabilitation, blind people and professionals often have strikingly different views concerning the cause of this problem”.

Gardner and Corn (2003) however, believed that, it is common belief that in almost all cases, the use of impaired vision does not lead to any deleterious ocular effects. Regardless of the distance at which reading materials are held, use of vision by either children with normal sight or children with visual impairments does not harm the eyes.

Thus there is no medical reason to discourage children with visual impairments from either using optical devices, such as high plus spheres, and / or from bringing print as close to their eyes as necessary in order to see print clearly.

Schroeder (2002). Conducted a study and came out to report that the subjects in his study who reported neutral attitudes toward Braille have several characteristics in common. "They all have residual vision; described themselves as sighted persons with visual problems rather than as blind persons' and avoided visual task to some extent. Wright (1983) described a stage of development in which people with disabilities try to conceal their disabilities and act as if the disabilities do not exist. During this stage, they internalize the idea that they should live up to 'normal' standard and devalue themselves if they cannot. He also reported that Goffman (1963) stated that the experience of stigma leads individuals to hide signs of their differences and attempt to pass as normal; this behaviour was evident in three of four non-Braille readers in his study, Wright also described the consequences of this behaviour for self acceptance and coping with a particular disability. She explained that the attempt to live by the standard of "normal" performance and to conceal the disability does not allow the person to clarify what he or she can do or cannot do.

The researchers also wanted to know whether the students like Braille for the purpose of reading and writing during teaching and learning moments. Many views were expressed which stand out clearly to partly answer one of the research questions. Some of the ideas and themes expressed can be summarized as follow:

***Reading is usually difficult for me because like writing you need to decode the words or remember them. The rules are many and some of words are very long and very difficult to scan. Sometimes, the familiarity of the words is also very important because some words are difficult to read as well as write in Braille. The writing devices are also difficult to use.***

With a follow up interview for further explanations on the views expressed it was ascertained that majority of children or pupils in this second study wished they could be assisted to use low vision devices. Gimple et al reported that children with peripheral visual field losses may have difficulty perceiving words and for many other readers with low vision. The visual field will be narrowed because of the use of necessary text enlargements or optical readings. They emphasized that children with low vision who use optical reading aids are indeed poorer decoders than are children who do not. They found out also that children with low vision in special schools performed worse on all literacy tests involving decoding reading comprehension, and spelling. Their research in this area of study suggested that other factors such as cognitive ability additional non-

visual problems, and special schools; norms affect the performance of pupils with low vision.

The research questioned the pupils in the sample who used Braille confidently to find out as to what factors facilitated the proficient use of Braille. These pupils constituted 18.75% of the sample of 80 pupils. Their responses were very thematic. They generally agreed that the individual needs to accept the condition and be convenience of using Braille: their comments could be captured in this phrase:

***One needs to know that visual impairment comes with limitations. The individual needs to accept the condition in order to learn and master Braille. If your condition is severe it is better to adopt Braille in order to avoid eye strain and pressure on your back.***

Schroder (2003) writing on perceptions of Braille by blind adults stated that Braille has positive emotional connotations for Braille readers, because their emotional attachment to Braille went beyond its utility as a communication tool: Braille was tied to their self-esteem, independence, and feelings of competence. Eckart (1988) found that children with disabilities are more well adjusted and have higher self-esteem when they are encouraged to develop various skills.

Many children with low vision have been denied the opportunity to learn Braille. Many researchers believed that such children do not have to stop using print in order to use Braille. If they have some vision they can use both print and Braille. If the only access to reading and writing is which you can use only poorly, you cannot function at your highest potential. If you also have access to Braille which you can use well, you can function at a higher level. It has been shown that both Braille and print are taught to children with low vision, most will choose to do the majority of their writing and a great deal of their reading in Braille. The point at issue here is choice – but if you are not taught Braille you do not have a choice.

Again, if you learn braille, it does not mean you have to stop using print. When a person must hold a book right up to the face to see the print or when a person's writing is so poor it cannot be read by self and / or others or when a person's eyes get sore when reading for a few minutes or when a person gets headaches when reading or when a person can only read in a certain light then they deserve a break. If they have braille skills they can choose for what and when to use braille. Many persons with low vision are so grateful when someone teaches them braille.

From the responses on the questionnaire it was clear that 80% of teacher respondents confirmed that they observed the students using sight and touch concurrently in learning and reading Braille. This result agreed with that of the first study when majority of

teachers observed pupils consistently using both sight and touch in writing and reading braille. One unfortunate thing though was the fact that teachers indicated that they discouraged the use of sight in reading braille. According to Keefe (1995) some of the pupils with low vision could benefit extensively from tactual learning practices because they are basically tactual learners while others are visual learners. This presupposes that most low vision children could benefit from both tactual and visual information.

The new thinking in most circles is that teachers and educational practitioners should teach pupils with low vision to use Braille as well as optical and non – optical devices so that the child could be at liberty to rely on personal choice and convenience rather than teacher prescribing what the child should use.

### **Attitude of Pupils with Low Vision Toward Braille**

On the attitude of pupils with low vision toward Braille, the two headmasters expressed similar views which are presented below:

***Majority of children with low vision use their residual vision to see all kinds of things including reading and writing of Braille.***

***Pupils with low vision who have functional vision learn the Braille faster and compete comparatively with the totally blind in the use of Braille in reading and writing. The individual's intelligence however, determines academic performance.***

The observation made by the headmaster of the Akropong School for the blind is critical to the study:

***Pupils attitude toward Braille could be a barrier to achievement. It can be deduced that pupils can be encouraged and motivated to use both print and Braille taking all the indicators into consideration.***

The Wa school headmaster had this to say during the interview on attitude of pupils with low vision toward Braille:

***The attitude of pupils with low vision toward Braille can be said to be both positive and negative. The pupils with useful residual vision can be helped with adaptations and optical devices to read standard print. The second groups generally have functional vision and are really interested in Braille and tend to learn it without frustration. My personal view is that the pupils should be encouraged to learn both Braille and the use of optical devices and adaptation. The child decides which one to learn, practice and use efficiently.***

The comment made by the headmaster is very critical to the study. Pupils with useful residual vision are reluctant to learn Braille as reported in the earlier study. One observation made by the researchers during work sample analysis was the fact that

because of this attitude they scored less in their academic performance when they misused the code of Braille. Those with functional vision who accepted Braille perform far better because they learnt and use Braille efficiently in the glaring absence of technological devices.

### **The Way Forward For Slow Readers and Baseline Cases**

The two functional categories of visual impairments include individuals with low cognitive abilities which gravely affect their academic abilities. Writing and reading are the main areas that are compromised. During the study, the researchers came across 16 of the pupils out of the 80 pupils in the study constituting 20% who tried using felt pens to write. Unfortunately, what they wrote was not legible and they could not read back their own writing. The main concern now is to encourage children with low vision to make the right choice and adopt the right attitude towards Braille

What must be considered is that vision also may fluctuate or may be influenced by factors such as inappropriate lighting, light glare, or fatigue. In view of this it is a useful strategy to routinely check your instruction environment to be sure it is adequate and ready for use.

The degree of impairment and the individual's background and training including proficiency in the use of optical devices and Braille will affect the various strategies and suggestions.

In order to assist pupils with severe cases of low vision, the teacher needs to be familiar with the efficient use of optical devices such as hand – held magnifiers, large prints among others. It is also the responsibility of the teacher to inform other children of the difficulties of the child with low vision. The “buddy system” could be used when students volunteer to assist the child to sharpen both writing and reading abilities.

According to Baine (1991) classroom management procedures are very necessary in order to alleviate the difficulties of children with low vision. He identified choice of seating, movement in class and special teaching methods as some of the specific considerations for the teacher. Also, teachers need to make ways of looking or the seeing behaviour in children with low vision and ensure that his or her communication strategies are very effective. You need to encourage the low vision child to get additional explanation from classmates if the needs arise as well as develop co-operative learning styles in the teaching of the child. There is also the need to establish learning cells that involve the child with low vision.

It is an established fact that most children with low vision experience difficulty in reading from the chalkboard. There is need for the teacher to verbalize all that is written on the

chalkboard or on the working sheet of students and encourage the child with low vision to use personal readers computers and ordinary typewriters.

The child must as early as possible learn his or her strengths and weaknesses. The choice to use Braille or print must be made as early possible in order for the child to develop positive attitude toward Braille in the case of very slow Braille readers and bases line cases who are not likely to benefit from print or optical devices or environmental modifiers.

### **Conclusion**

Considering the research questions, the following conclusions could be drawn for this second study on the topic:

- The pupils did not accept Braille and they have not been motivated enough to do so in the absence of very expensive and non-existent optical devices.
- Teachers have not put in place remedial teaching strategies to provide alternative opportunity for slow Braille learners to generate and sustain the interest of this category of pupils.

### **Recommendations**

Bases on the findings of this research, the following recommendations are made to alleviate and reduce the communication difficulties of pupils with low vision in Ghana

- The Ministry of Education should make it a policy that all pupils with low vision should be screened, and those that can benefit from visual means of learning are educated along side their sighted peers in the regular schools. These in the schools for the Blind should be categorized into visual learners and non-visual learners. The non-visual learners must be provided with opportunities to adopt Braille and learn it with the desired enthusiasm in order to accelerate their academic achievement and societal acceptability.
- It is recommended that teachers in the two schools for the blind should make adequate provision in teaching pupils with low vision even in the absence of certified low vision aids, using environmental modifications which do not carry any price tag such as bold print or standard print illumination, contrast and space, good seating arrange, and verbal reinforcement.
- It is also recommended that government must provide modern adapted materials for the use of pupils with low vision to enable them to be absorbed into the regular schools.
- For effective inclusion of those with severe conditions efforts should be made through effective remedial practices and lessons to sharpen their Braille skills as a means of capacity building.

- It is further recommended that government through the Ministries of Education and Health should attach ophthalmic nurses to the schools as permanent health workers. An ophthalmologist should be attached to every school that could run routine check-ups on pupil's eye conditions. The Ghana Eye Care Programme should also intensify the screening of children at very tender ages to be able to treat and prevent visual morbidity in most potential cases

Finally, it is suggested that the medical forms required for admission into the schools for the Blind should be more detailed to include the strengths and weaknesses of visual conditions in children. Also, the prognosis of the conditions should be specified to help teachers plan their management strategies properly.

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