

Literacy for Students with Low Vision in Special Schools: Perceptions of Teachers on Instructional Media in Kenya

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Abstract

This article presents an analysis of teachers' perceptions on instruction of print and Braille literacy in special primary schools for learners with visual impairment in Kenya. It is a summary of findings of a Ph.D study that sought to address the problem of decline in Braille literacy as a result of teachers' reluctance to learn and teach Braille in these schools. The study targeted five (5) primary schools which had learners with visual impairment in the country. The target population comprised 132 teachers, teaching in the five primary schools and five headteachers. The research adopted the descriptive survey research design and was based on Bruner's perceptual model which explains the process of perceptual development. Multiple sampling techniques were applied to select the five schools and respondents. Out of fifty-eight (58) respondents, fifty-three (53) were teachers while five (5) were headteachers. A questionnaire focusing on the objectives of the study was used to collect data from the teachers. An interview schedule was used to collect data from the headteachers. Pilot testing of the research instrument yielded a reliability of 0.842. The questionnaire was reviewed by experts to enhance validity. Quantitative data was analyzed using descriptive statistics namely: frequencies and percentages. The statistics were generated by means of the Statistical Package for Social Sciences (SPSS) version 22.0, while qualitative data was analyzed through narrative analysis and thematic approach. The findings of this study established that teachers believed that teaching both Braille and print reading and writing has a positive advantage for some learners with low vision, with a mean response of 1.68. They strongly supported the statement that learners with low vision should be taught both Braille and print reading and writing (dual media), regardless of how good their vision is, with the mean response of 2.06.

The study also established that teachers provided Braille as an alternative medium for children who are experiencing progressive loss of vision, with a mean of 2.08.

Keywords: Literacy, Students with low vision, Perceptions, Print and Braille

1. Introduction

In an effort to understand the research knowledge represented in different ways, more studies have recently been conducted in descriptive qualitative approaches to recognize teachers' thoughts regarding Braille and simultaneous print and Braille reading (Dual media) instruction, none of which has been conducted in Kenya.

The information contained in this article is only a beginning to further studies that are needed to determine teachers' perceptions on literacy instruction for children with low vision in special schools. This will ensure that children learning to read both Braille and print acquire literacy skills for their daily use. Despite their training as specialist teachers for students with visual impairment, many teachers in primary schools for learners with visual impairment are reluctant to learn and teach Braille and dual media literacy.

Consequently, students have taken advantage of this reluctance by their teachers resulting to writing unconventional Braille, where they are now using their own Braille contractions contrary to accepted Braille rules and standards of Universal English Braille Code. This state of affairs poses a big challenge to the development of Braille and dual media instruction in primary schools for learners with visual impairment in Kenya. Unless this worrying and dangerous trend receives urgent attention, the usage of the Braille code as the source of empowerment for learners who use Braille or dual media will be seriously compromised.

A number of researchers point out that the excessive usage of assistive technology may serve people with severe visual impairment tremendously, while on the other hand, the cultivation of literacy skills may be delayed significantly (Argyropoulos, 2005 & Spungin, 1996). Research has shown that there has been a growing concern throughout the English-speaking countries over a perceived decline in Braille and dual media literacy skills (Australian Braille Authority, 1999; Rex, Koenig, Wormsley, & Baker, 1994; Allman & Holbrook, 1999).

Nzoka (2011) investigated proficiency of primary school teachers in English and Kiswahili Braille literacy, targeting teachers in special schools for the blind and integrated programmes in Kenya. The study revealed that, teachers were not interested in learning Braille and demonstrated lack of Braille skills in guiding their learners. Ndung'u (2011) argues that, Braille will always be more than a medium of literacy for persons who are blind or those with severe vision loss. It seeks to represent competence, independence and equality. Recently, choice of reading media has become a focus of research the education of students with visual impairment. Lusk and Corn (2006b) are of the view that while reading speed should not be the only requirement, it is important for children to develop a 'functional and competitive reading speed in either print or Braille' (p. 655).

Children who learn to read through print and then transfer to Braille require teaching methods that are

different from those required for children learning to read beginning with Braille. For children who are print users and who experience deteriorating vision, the question often becomes one of “when and how” rather than “whether” to introduce Braille and the decision can be a “profoundly emotional one” (Wormsley & D’Andrea 1997). A relatively small percentage of children will require access to both Braille and print. However, most of them will focus on one medium.

A UK study by Rogers (2007) found that only 107 children used both print and Braille for reading or writing (approximately 17% of the population of children aged between five and sixteen used Braille). Rogers suggested that because teachers often see visual processing being faster and more efficient than tactual processing, print initially may be viewed as the preferred format for children with very low vision, especially in lower primary classes, where children are not required to process large amounts of information. Almost all the children (86%) in her sample had begun by learning print in kindergarten, but by age seven, 54% had been introduced to Braille. The study found that dual media users did not use Braille and print in equal amounts and identified three groups: predominantly print users, predominantly Braille users and children who appeared to use both print and Braille successfully.

Lusk and Corn (2006a) observed that a single-medium policy was common in the United States in the 1970s but currently, dual media is regarded as a positive advantage for some children. They examined dual-media learners in the United States and investigated the instructional approaches and curricular decisions in teaching dual media to students with low vision. The study did not only find a generally positive attitude towards both print and Braille among the students, but also that the most common factor in teachers’ decision to introduce dual media instruction was a major concern among teachers and parents, owing to the progressive nature of the child’s eye condition.

2. Purpose

The purpose of the study was to investigate and analyze teachers’ perceptions on instruction of Braille and dual media literacy in special primary schools for learners with visual impairment in Kenya. The study was guided by seven objectives. For the purposes of this article, attention is focused on findings of objective 5, sated as follows “To determine teachers’ perceptions on provision of print and Braille literacy for learners with low vision in Kenya”.

3. Method

The study adopted descriptive survey design which involves collecting data in order to understand a given phenomenon under investigation. The design was found appropriate for this study because it helped the researcher to collect data based on opinions, attitudes, values and perceptions of special primary school teachers on Braille and dual media literacy instruction in Kenya. The study also employed mixed methodology by utilizing both qualitative and quantitative approaches in data collection and analysis. Information from the selected sample was obtained through questionnaires and interviews.

The study was conducted in five primary schools for learners with visual impairment in Kenya. The five schools are located in different counties in the country. They included: Thika School for the visually impaired, St. Lucy School for the visually impaired, St. Oda School for the visually impaired, Kibos School for the visually impaired and St. Francis School for the visually impaired. These schools were identified as a suitable study locale because first, they were the only special primary schools for learners with visual impairment in the country, except Likoni School for the visually impaired which was used for the pilot study. Secondly, teachers who taught in these schools were specially trained to teach learners who use Braille as their medium of instruction.

The study targeted a total of 137 participants comprising 5 headteachers and 132 classroom teachers in the five schools. The 132 teachers were made up of 59 male and 73 female teachers. Furthermore, the 132 teachers consisted of 23 visually impaired and 109 sighted teachers. In view of the nature of the population for this study, multiple sampling techniques were adopted to select the schools and the respondents from the various strata within the schools. These involved both probability and non-probability sampling procedures. The study used purposive sampling, stratified random sampling and simple random sampling. The five primary schools and their headteachers were purposively selected to participate in the survey. Stratified random sampling method was also adopted to select a sample of fifty-three (53) teachers from the target population. This was applied on the basis of gender of the teacher and type of school and proportions assigned to each stratum based on their ratios in the target population.

The stratification was done in two phases. In the first phase, the teachers were stratified into two strata; sighted teachers and teachers with visual impairment. In the second phase, they were stratified into male and female teachers. This procedure was considered because the schools had different proportion of male-female ratios as well as different ratios for both sighted teachers and those with visual impairment.

The stratification technique ensured that each segment of the population was adequately represented in the

study sample. Finally, simple random technique was adopted to select teacher respondents from each school and stratum who responded to the questionnaire.

The sample size for the study was forty per cent (40%) of a total population of 132 teachers. This translated into approximately fifty three (53) teachers. Table 3.2 shows the distribution of the strata sample size for headteachers and teachers.

Table 1: Distribution of Sample Population

Schools	Blind Teacher			Sighted Teachers			Hdtrs	G.TOTAL
	Male	Female	Total	Male	Female	Total		
Thika	1	1	2	5	7	12	1	15
St. Lucy	1	1	2	5	6	11	1	14
St. Oda	1	1	2	2	5	7	1	10
Kibos	-	1	1	3	5	8	1	10
St. Francis	-	1	1	3	4	7	1	9
TOTAL	3	5	8	18	27	45	5	58

The researcher used questionnaires as the main tool to collect the required data from the field. Closed-ended and open-ended questions were used to provide needed information for the study. To supplement the questionnaires, interviews were conducted to gather more in-depth information from the headteachers. The questionnaire comprised eight sections. According to Orodho (2012), each item in the questionnaire should be developed to address a specific objective and research questions in the study. The researcher adopted this practice for the present study.

The interviewer asked semi-structured questions and then probed accordingly in order to obtain more complete data (Orodho, 2009). This helped the researcher to generate quality qualitative data that was analyzed through the lenses of the researcher to address the research problem. Cresswell (2008) asserts that interviews yield high qualitative data that is credible, trustworthy, authentic and balanced through systematic data collection procedures. The advantages associated with the use of interview made it one of the best tools for data collection in this study.

To determine the content validity, the researcher made judgments on the appropriateness of the content of the instruments with the help of experts. Since most of the items in this study were in the form of scale measurement, requiring the respondents to indicate their levels of agreement, the Cronbach Alpha reliability approach was judged most appropriate in estimating the reliability of the instruments.

In this study, the reliability coefficient of 0.842 was used to judge the reliability of the instruments. By using Statistical Package for Social Sciences (SPSS Version 22.0), the demographic information of 58 teachers was analysed by means of descriptive statistical technique. In addition, Pearson's Product Moment Correlation Coefficient was used to correlate participants' perceptions on Braille literacy instruction with their gender, age and Braille teaching experience. Finally, the thematic approach of data analysis was adopted to analyse and interpret the qualitative data that was obtained from the headteachers to address research objective seven in the study.

4. Results and discussion

This article presents the findings, interpretation and discussion according to the fifth objective of the study stated as follows: "To determine teachers' perceptions on provision of print and Braille literacy for learners with low vision in Kenya". As stated in chapter one, the purpose of the study was to investigate and analyze teachers' perceptions on instruction of Braille literacy in special primary schools for learners with visual impairment in Kenya.

Teachers' Perceptions on Provision of Print and Braille Literacy to Learners with Low Vision (Objective Five)

Objective five of the study sought to establish teachers' perceptions on provision of print and Braille literacy to learners with low vision. Their perceptions were rated on a scale of 1 – 5 (1 – Strongly Agree, 2 - Agree, 3 - Neutral, 4 - Disagree, 5 - Strongly Disagree).

The mean response on the tested items indicated that strongly agreed had a mean of 1.00, whereas strongly disagreed had a mean of 5.00 as indicated in Table 1.

Table 1: Perceptions on provision of print and Braille literacy to learners with low vision

Statement	SA	A	N	D	SD	Mean
Teaching Braille literacy to learners with low vision is a wastage of time and effort	9 (17.0%)	4 (7.5%)	4 (7.5%)	21 (39.6%)	15 (28.3%)	3.55
Teachers provide Braille as an alternative medium for children who are experiencing progressive loss of vision	24(45.3%)	17(32.1%)	1(1.9%)	5(9.4%)	6 (11.3%)	2.08
Learners with low vision should be taught both Braille and print reading and writing (dual media) regardless of how good their vision is	26(49.1%)	15(28.3%)	-	7(13.2%)	5 (9.4%)	2.06
A learner with low vision has the right to choose whether he/she prefers reading and writing in Braille, print or a combination of both print and Braille (Dual media)	14(26.4%)	19(35.8%)	4(7.5%)	12(22.6%)	4(7.5%)	2.49
Learners with low vision in the schools are not exposed to Braille literacy, but learn Braille on their own from their peers	18(34.0%)	20(37.7%)	3(5.7%)	5(9.4%)	7(13.2%)	2.30
Teaching both Braille and print reading and writing has positive advantage for some learners with low vision	29(54.7%)	18(34.0%)	-	6(11.3%)	-	1.68
We do not have a standardized assessment tool developed to help teachers determine whether children should receive literacy instruction through Braille, print or through a combination of Braille and print	23(43.4%)	13(24.5%)	2(3.8%)	13(24.5%)	2(3.8%)	2.21
Confident in ability to make decisions concerning students learning media	15(28.3%)	13(24.5%)	10(18.9%)	5(9.4%)	10(18.9%)	2.65
Legislation requiring the teaching of Braille to all children requested by their parents is a good idea	14(26.4%)	28 (5 2.8%)	4(7.5%)	6(11.3%)	1(1.9%)	2.09
Decision about students learning media should be an IEP committees' decision	13(24.5%)	21(39.6%)	6(11.3%)	7(13.2%)	6(11.3%)	2.47

SA-strongly agree, A-agree, N-Neutral, D-Disagree, SD- Strongly disagree

The findings of this study established that teachers believed that teaching both Braille and print reading and writing has a positive advantage for some learners with low vision, with a mean response of 1.68.

The findings are consistent with those of Lusk and Corn (2006b) who established that a single-medium policy was common in the United States in the 1970s but currently, dual media is regarded as a positive advantage for some children. Lusk and Corn (2006b) found that there was generally positive attitude towards both print and Braille among the students and the most common factor in teachers' decision to introduce dual media instruction was a major concern among teachers and parents, owing to the progressive nature of the child's eye condition. Teachers strongly supported the statement that learners with low vision should be taught both Braille and print reading and writing (dual media) regardless of how good their vision is, with the mean response of 2.06. Less than twenty five percent (25%) of the respondents held a contrary opinion. The study also established that teachers provided Braille as an alternative medium for children who are experiencing progressive loss of vision, with a mean of 2.08. The statement was supported by nearly 80% of the respondents.

When teachers were asked whether legislation requiring the teaching of Braille to all children requested by their parents is a good idea, they affirmed the statement, with a mean response of 2.09. The researcher established that schools for learners with visual impairment do not have a standardized assessment tool developed to help teachers determine whether children should receive literacy instruction through Braille, print or through a combination of Braille and print, with a mean of 2.21.

This finding raises a legitimate concern in the education of learners with visual impairment in the sampled schools because continued appropriateness of the child's literacy medium should be assessed and determined on regular basis. As a matter of fact, accurate assessment of literacy performance is important in informing literacy teaching because assessment provides teachers with an insight into pupils' progress and the particular problems they may be experiencing. This applies to the teaching of literacy through Braille as it does to teaching literacy through print. Without such assessment tools, teachers in schools cannot arrive at decisions about appropriate literacy media for children with visual impairment (Steve, Mike & Graeme 2011).

The study also sought to establish the perceptions of teachers on provision of print and Braille literacy for learners with low vision in relation to teacher's age using Pearson Correlation matrix. The results indicated that teachers who were older provided Braille as an alternative medium for children who are experiencing progressive loss of vision ($r = 0.434$, $P = 0.001$), older teachers were confident in their ability to make decisions concerning their students learning media ($r = 0.394$, $P = 0.004$) and felt that teaching both Braille and print reading and writing has a positive advantage for some learners with low vision ($r = 0.284$, $P = 0.039$).

Younger teachers felt that learners with low vision in their schools are not exposed to Braille literacy, but learn Braille on their own from their peers ($r = 0.401$, $P = 0.003$). This category of teachers also felt that they did not have a standardized assessment tool developed to help teachers determine whether children should receive literacy instruction through Braille, print or through dual media ($r = 0.446$, $P = 0.001$).

Further, the study sought to establish the perception of teachers on the provision of print and Braille literacy for learners with low vision in relation to print and Braille teaching experience. The results of the study revealed

that teachers who had taught Braille for a shorter time reported that they did not have a standardized assessment tool developed to help them decide on the best literacy instruction medium ($r = 0.281$, $P = 0.048$). However, Lusk and Corn (2006) are of the view that while reading speed should not be the only requirement, it is important for children to develop a 'functional and competitive reading speed in either print or Braille' (p. 655). The study also established that teachers who were older provided Braille as an alternative medium for children who were experiencing progressive loss of vision. Younger teachers were of the same opinion.

5. Conclusion

Decision on literacy instruction medium for students with low vision in special schools is a policy issue and should not be left to the discretion of teachers. A policy of this nature will have to take into account the views of stakeholders; particularly students with low vision themselves and their parents. However, what cannot be overemphasized is the provision of appropriate standardized assessment tools in special schools to help teachers determine the best alternative literacy instruction medium.

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