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The Challenges and Availability of Assistive Technology for Visually Impaired English Language Teachers in Five Selected Schools in Wolaita Zone, Southwest Ethiopia

Getachew Geno Alala[1]Ph.D.

1.Assistant Professor, Department of English Language and Literature, School of Social Sciences and Humanities, Wolaita Sodo University, Ethiopia. Email:gegpro@gmail.com

Director, Special Needs and Support Directorate, Wolaita Sodo University, Ethiopia.

Abstract

The main aim of this study was to examine the challenges and availability of assistive technologies for visually impaired English language teachers. This study purposively selected seven visually impaired English teachers from five selected secondary and comprehensive schools in Wolaita zone. Interview was used to generate qualitative data for the study. Data were analyzed according to theme that emerged from the data but guided by main research objectives. The findings revealed that the lack of insufficient knowledge, time, communication channels and availability of assistive technology limited the visually impaired teachers' ability to fully engage in practical activities and slowed the adoption process.

Keywords: challenges, availability, assistive technology, and visually impaired English teachers.

1. Introduction

Technology is being developed at an amazingly fast pace in the world today and has created many opportunities for its users. Teachers with disabilities are one of the user groups benefitting from the opportunities provided by this technology explosion (Jacobsen, 2012). However, the contribution and the use of assistive technology for visually impaired English language teachers in Ethiopian schools is very low. Of course, its importance is

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acknowledged world-wide that assistive technology is an excellent tool to support struggling teachers' efforts in increasing their skills of the English language. Such tools can be gained from school environment, developed by professionals, purchased as software from the market and online websites etc. These technologies can also provide many possibilities for visually impaired teachers to experience opportunities that had previously been non-optional, existent or, at best, limited to them (Jacobsen, 2012). Assistive technology is important for visually impaired English teachers to help students understand their own approaches to language learning and provide alternative strategies when necessary. One area that utilizes to support adult academic autonomy is special education in school environment. Research has indicated that creating an inclusive and Universal environment will accommodate individuals with a wide range of abilities by reducing barriers (Rose, Hasselbring, Stahi, & Zabala, 2005).

Technological devices have been used in foreign language teaching for more than half a century. The most common used technologies are computers. Computers were introduced to foreign language learning field already in 1960s (Al-Mahroogi and Troudi 2014). The diversity of devices used in classrooms has increased and besides computers, mobile devices, such as tablets and smartphones, have also become a part of teaching activities. Therefore, by intertwining language development with current assistive technologies, visually impaired EFL teachers can use direct and indirect technological learning strategies. According to Oxford (1990), direct and indirect classification schemes are helpful to implement the language education. Direct strategies are any strategies that directly involve the language being learned (Hsiao & Oxford, 2002). Examples include using a dictionary, mnemonic device, flash cards, or other techniques that can support lexical development. Indirect strategies are subdivided into metacognitive, affective, and social categories (Hsiao & Oxford, 2002). These strategies are often experienced and developed beyond the classroom to assist in cultural awareness and daily activities. Similarly, assistive technologies are defined as the technologies or applications (hardware or software) that are specifically developed to assist individuals with disabilities in overcoming barriers (Forgrave, 2002; Rose, 2001).

Assistive technologies can help people with disabilities maximize potential and the ability to achieve individualized educational objectives (Ashton, 2002). In educational settings,

these technologies support teachers to access and share information, complete schoolwork independently, provide an environment for socialization and help teachers with disabilities become prepared for work (Hofstetter, 2001; Neumann & Uhlenkueken, 2001; Seegers, 2001).

In most parts of Ethiopia, like in Wolaita Zone, the visually impaired English teachers seek support from their friends to use old instructional materials; they do not have necessary assistive technology devices and services such as, word-prediction programs, screen readers, screen magnifiers, instructional software, e-books, computers and iPads to access the available resources. Unfortunately, most assistive technologies and internet resources are not available to visually impaired individuals, many who want to use these technologies (Ozel, Inan, & Sezer, 2004). Rose (2001) stated that we need to use the new technologies not only to overcome existing barriers to learning, but to design an environment for learning that have fewer barriers right from the start. For most people, technology makes life easier or broadens their horizons, similarly, for visually impaired EFL teachers, assistive technology may provide the opportunity to increase independent functioning and access the school curriculum. The government of the federal democratic republic of Ethiopia recognizes the importance of accessibility to the life of persons with disabilities, yet too many schools in Wolaita zone are not cognizant of the potential of assistive technology to empower visually impaired teachers who are struggling to work independently (Hasselbring & Bausch, 2005).

Almost in all schools in Wolaita Zone, visually impaired English teachers are not considered to use assistive materials. Many schools are under resourced and have a shortage of instructional materials. In Ethiopia, to reduce the existing gap and to actualize Education for All, the Ministry of Education has designed a strategy for Special Needs Education, the final goal of which is to ensure access and quality education for all (ministry of education, 1994). However, due to lack of assistive and adaptive technology, the challenges of visually impaired English teachers have not yet been addressed.

2. Objective of the Study

The objective of this study was to examine the challenges and availability of assistive technologies for visually impaired English teachers. It was conducted in an attempt to find

out the accessibility of the resources and challenges that visually impaired EFL teachers encounter in five selected schools in Wolaita zone. For most people, technology makes life easier or broadens their horizons, but for visually impaired teachers, assistive technology may provide the opportunity to increase independent functioning and access the general education curriculum.

3. Methodology

This study adopted a case study design. The rationale was to understand their experience and examine the challenges and availability of assistive resources for visually impaired EFL teachers in five selected schools in Wolaita zone. Qualitative data was used to explore the participants' experience about assistive technology. It is believed that reality is shaped by past and present individual experiences, which are why reality is complex and ever changing. Individuals' experiences are interwoven, which makes it difficult to measure or quantify these experiences (Glesne, 2006).

3.1. The Sites and Participants

The sites and participants were chosen purposively. Purposive sampling is the deliberate choice of an informant due to the qualities the informant possesses. A nonrandom technique does not need underlying theories or a set number of informants. Simply put, the researcher decides what needs to be known and sets out to find people who can and are willing to provide the information by virtue of knowledge or experience (Bernard 2002, Lewis & Sheppard 2006). Based on above method, 7 visually impaired teachers were selected from 5 secondary schools in Wolaita Zone. Research that deals with participants with disabilities is commonly faced with sampling challenges due to various factors which include the inadequate homogenous samples (Muzata, 2020). However, since this was a case study, it should not be misinterpreted as a weakness because the target of case study in qualitative research is to provide detailed understanding (Muzata, 2017). The main reason to select the schools is the availability of visually impaired teachers, convenience to follow up and their being within a reasonable distance from the researcher place of work that allows the researcher for more frequent interaction with the participants.

3.2. Data Tool

Interview was used to collect data. Interviews are particularly useful for uncovering the story behind a participant's experiences and pursuing in-depth information about assistive technology. All visually impaired teachers were interviewed about the challenges and availability of assistive devices. They were first interviewed separately and later together. The interviews lasted 27-33 minutes each while the joint one took 50 minutes. In qualitative research, specifically, interviews are used to pursue the meanings of central themes in the world of their subjects. The main task in interviewing is to understand the meaning of what the interviewees say (McNamara, 1999). Usually, open-ended questions are asked during interviews in hope of obtaining impartial answers, while closed ended questions may force participants to answer in a particular way (Creswell, 2009; McNamara, 1999). An open-ended question gives participants more options for responding (Creswell, 2009). Therefore, only open-ended interview questions were used.

4. Findings and Discussion

To achieve purpose of the study, data were gathered from visually impaired teachers from five selected schools via interview. The gathered data through interview by open-ended questionnaire was analyzed qualitatively or verbatim.

4.1. The challenges and availability of assistive technologies for visually impaired EFL Teachers.

All seven participants selected from five schools were interviewed. They were interviewed about grade label, subject type they teach and field of study they graduate. They were also asked about the type of assistive technology they use to teach English language, the inclusion, practice, and implementation of assistive technology in their actual classroom. Besides, the respondents were interviewed about their background knowledge of technology and were asked to put their suggestions on it.

Regarding grade label, subject and field of study, the participants revealed that most of the participants teach English subject for different grades. However, they did not use any technological material to minimize their burden in English classrooms.

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Concerning the inclusion of assistive technology in the classroom, five of the visually impaired teachers revealed that they did not use any type of assistive technology in the teaching learning process. However, two of the participants responded that they use digital audio recorder and mobile phone to support them before they join their students. From this, one can understand that there were no assistive technologies used by visually impaired EFL teachers to support them in their teaching and learning process. However, variety of assistive technologies were recommended by participants to be included in their school curriculum such as, personal computers, pencil grips, digital audio recorders, interactive whiteboards, word processors, screen readers, netbooks, adjustable desks, voice recognition products, communication aids, large print books and projectors. In most cases, there were no opportunities to incorporate the above listed technologies into the English classroom because of lack of funding or readiness of the material. Regarding the background knowledge and practice, the participants responded that they had not received any direct training, but they had heard as there is possibility to train and they have knowhow to incorporate assistive technology into the school curriculum.

Finally, most of the respondents suggested that assistive technology devices and services pave the way for the accessibility to the school curriculum; this engagement in turn provides more opportunities for social inclusion and enhancement to the visually impaired teachers' self-esteem or self-management abilities. In addition, they suggested that by using assistive technology, visually impaired English teachers could be effective in activities that might not otherwise be available or accessible to them. However, if there is a lack of funding and lack of training, technology may not be incorporated into the curriculum properly and may not benefit the visually impaired teachers.

Conclusion

The main objective of this study was to examine the challenges and availability of assistive technologies for visually impaired English teachers. The findings indicated that visually impaired English teachers have no opportunities to use assistive technology and assistive materials are not facilitated in schools. In Ethiopia, while the law requires consideration of assistive technology devices and services for persons with disabilities and the established benefits of assistive technology are clear, significant barriers in the consideration and

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implementation of assistive technology remain. Most secondary and comprehensive schools are not familiar with assistive technologies, nor the many ways these technologies can be applied. Some common factors affecting the implementation of assistive technology in English classrooms are lack of trained staff to provide services for visually impaired teachers, knowledge and awareness of assistive technologies among visually impaired teachers, and lack of fund to obtain assistive materials. Therefore, assistive devices and skills are required to ensure the independence of visually impaired English teachers in education sector, and it is recommended that additional research in all aspects of assistive technology to be incorporated into the curriculum to help visually impaired English teachers to be successful in their academic life.

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