

Challenges in Implementing Assistive Devices in Teaching Learners who are Visually Impaired in full Service Classrooms

Mokwena Morelle and Thakadu Matshidiso

Doctor in Psychology of Education (PhD) Inclusive Education, University of the Free State, Free State Province, Senior Education Specialist (SES) in Inclusive Unit in Dr Kenneth Kaunda District, North-West Province, Doctor of Education (D.Ed), North West University

Abstract:- The study aimed to explore the challenges experienced in the implementation of assistive devices in the teaching of learners who are visually impaired in inclusive classrooms. The study encapsulates qualitative research techniques were used for data collection and analysis. The study revealed that through the assistance of technology, learners were motivated and could easily communicate with one another even outside their school which also encouraged their critical thinking. Effective educational outcomes from assistive technology use are dependent upon a coordinated assessment and implementation process. There were different challenges found to be hindering the successful implementation of assistive devices. These challenges were a lack of professional support for teachers teaching learners who are visually impaired in inclusive classrooms; educators' negativity and poor attitude; teachers' lack of knowledge in utilising assistive devices profitably; insufficient funding and procurement in purchasing assistive devices in schools.

Keywords:- Assistive Technology, Inclusive Classroom, Visually Impaired Learners.

I. INTRODUCTION

Proper utilisation of assistive devices in schools has in several times resulted in successful implementation of inclusive education, especially in teaching learners with visual impairment (LVI). There are numerous forms of technology assistive devices that range from simple devices, such as magnifying glasses, to complex computerised communication systems. Depending on their nature and the use of the application, assistive technology devices can be used by LVI on their own or with assistance, in and outside the learning environment. "Approaches in the use of assistive technology in inclusive education focus on using technology to train or rehearse, and to assist and enable learning" (Ahmed, 2018: 34). The implementation of assistive devices has never been simple and stakeholders frequently experience challenges.

For partially sighted learners, magnifying glasses can be used if large-print books are not available. Instead of using ordinary classwork books with lines that are presently used in schools, parallel lines can be drawn on blank A4

paper with a black pen (dark marker). This will be more visible for learners with visual impairment, especially if they find it difficult to write between the lines.

A. The Research Question

The research question in this study is to explore challenges experienced in implementing assistive devices in teaching learners who are visually impaired in the inclusive school. This study employed a qualitative method to understand the meaning people have constructed; that is, how they interpret and make sense of their experience and perception of the world. Qualitative researchers collect data in the form of written or spoken language, or the form of observation, and analyse the data by identifying and categorising themes.

The purposive selection was employed in this study. These participants were selected through a certain defining quality that made them holders of the data needed for the research (Barglowski, 2018). That quality was that they had visual impairment challenges. The selected participant were from two selected schools in Dr Kennthe Kaunda district. Two principals as managers who were responsible for the implementation of assistive technology, advisers who were responsible for assisting teachers in the implementation of assistive technology, were used. In addition, eight teachers (two from each school) who were teaching LVI were also selected. The schools lacked a proper administration block, adequate sanitation, and a library. In this qualitative research, the data collection instruments used were semi-structured interviews, document analysis, and classroom observation. Data were collected from the four selected schools; that is, one from each in the district. The schools were full service schools, which formerly had the entire population of learners and educators.

B. The Importance of Assistive Device in Enhancing Successful Inclusion

Technology has great potential in providing access to all learners, and the ability to access all areas of the general education curriculum. Assistive technology is a generic term that includes assistive, adaptive, and rehabilitative devices for individuals with disabilities. It includes "virtually anything that might be used to compensate for the lack of certain abilities" (Ahmed, 2018: 129), ranging from low-

tech devices, such as crutches or a special grip for a pen, to more advanced items, such as hearing aids and glasses.

From the data collected, participants responded by commenting that there were no adequate, recent, and functional assistive devices and those that were available were outdated and in the majority non-functional. These devices were reported to have not been serviced and they as end users have not been for in-service training to utilize some of the available assistive devices. Some teachers lamented that they were willing to assist and teach learners with visual impairment but what frustrated them was that they were not sufficiently skilled to make use of the differentiated assistive devices. Principals also alluded to the fact that purchasing assistive devices was costly and that there was a minimal budget allocated for such.

C. Challenges Experienced in the Implementation of Assistive Devices.

Teachers, school departmental heads (SDHs), principals, and subject advisers at times, find it impossible to implement assistive technology as a result of the following challenges: Inflexible and unadapted curriculum; a lack of funding in purchasing assistive devices; insufficient professional support forums; educators' negativity and poor attitude in the implementation of assistive devices, and a lack of knowledge in the implementation of assistive devices.

D. Inflexible and Unadapted Curriculum

According to Dalton, McKenzie and Kahonde (2012:35), "a flexible curriculum is needed to respond to the diverse needs of learners' diverse potential." In this sense, the curriculum needs to accommodate those learners with visual impairment. A rigid and inflexible curriculum will disadvantage learners with special educational needs. In the White Paper 6, South Africa (2001: 20) "the Ministry asserts that a flexible curriculum across all bands of education is accessible to all learners, irrespective of learners' learning needs.

E. Lack of Funding for Purchasing Assistive Devices

According to the Amended National Norms and Standards for School Funding NNSSF in South African Schools Act SASA, 1996, (Act no.84 of 1996) Department of Basic Education, funds are made available to schools according to Quintiles. School funds are made available, after taking into consideration the possible funding implication this may have on poverty-related programmes involving no-fee schools. This also implies that the individual school is funded according to its learner enrolment, which means the lesser the learner enrolment the lesser the funding. Thus, this disadvantages the school in terms of purchasing resources, including AT devices.

The high cost of AT devices and the lack of funds available to meet these costs are the most frequently mentioned problem experienced by school principals and teachers teaching LVI. As mentioned earlier, the selected schools were based in marginalised communities, making it difficult for teachers and principals to make AT devices

available to assist LVI. Schools typically report on purchases, and access to fewer financial resources means that the technology needs of their learners are compromised. In schools where there are AT devices, there is still the problem of maintenance and repair. At times, learners may be without equipment for a long period as it takes time to be fixed.

F. Insufficient Professional Support Forums (IPSF)

Support in implementing the assistive technology setting is called educational support, rather than learning support (Nel, Tlale & Engelbrecht, 2016). Therefore, it is of paramount importance to effect educational support to enhance the successful implementation of assistive technology. Teachers commented that they had no one to whom they could express their frustration or address their questions and concerns. Subject advisors also lamented that although they travel long distances to meet the needs of most schools, it is practically impossible at times to implement a follow-up. A further problem is that subject advisors have many schools to attend and that there are too few of them to do the job properly.

A lack of suitable training for school personnel constitutes a major challenge for the successful implementation of AT in inclusive schools. In an interview with teachers, it was found that professional support was minimal and that there had not been any workshops or support regarding the use and implementation of AT. Principals concurred that they did not have such AT to assist LVI and even if they had, they had not been not trained and supported in the use of such AT. They also indicated that even at the universities and colleges where they were trained to become teachers, no module or subject dealt with the use of AT in schools. These problems have resulted in teachers' negativity and poor attitude.

II. RESULTS AND DISCUSSION

It was made clear by teachers that they do not receive enough training in the use of assistive device to enhance successful implementation of inclusive education. One teacher said, "No, we have not received any form of special training related to inclusion". The teachers also lamented that the training they received from the subject advisory unit did not equip them to work specifically with the implementation of differentiated teaching strategies more so, the usage of various teaching assistive devices.

Subject advisor shared the same sentiments and concurred that it is challenging to reach out to teachers when they are needed. The inclusive training would enable teachers to screen learners with visual impairment and administer the SIAS document.

III. CONCLUSION AND RECOMMENDATIONS

This study explored the challenges experienced in the implementation of AT devices in LVI in inclusive schools. The results suggest that teachers, subject advisors, and principals experience many challenges in the

implementation of AT devices in teaching LVI. The Department of Basic Education needs to address such challenges, inter alia the training of teachers; making AT resources available to enhance the teaching of LVI in inclusive schools a success. Moreover, the maintenance of such devices is crucial to enhance sustainable teaching and learning in inclusive schools.

In the interview with teachers, it was revealed that they were not qualified to teach LVI and generally in the inclusive school, they did not have the relevant qualifications. It is recommended that the Department assist teachers to acquire such qualifications to enable them to alleviate problems in the implementation of differentiated teaching strategies for teaching LVI in the inclusive classroom. Teachers also lamented the unavailability of teaching resources i.e. assistive technology which includes magnifying glasses, braille reading, etc. The Department of Basic Education is responsible for the funding and purchasing of assistive devices; therefore, it is its sole responsibility to ensure that all-inclusive schools are provided with the necessary teaching resources. The assistive device procurement personnel and the school support services should work together to ensure that teachers are well-trained in the utilisation and implementation of such resources.

Assistive technology can be a useful and supportive tool for LVI. It helps both teachers and learners to create valuable learning experiences. The researcher in this study found and believes that learners can achieve more with the utilisation of AT, as it makes an atmosphere and environment conducive to learning. Finally, In the 21st century and the 4th industrial revolution, the implementation of technology has become more frequent, thus encouraging learner participation and allowing them to benefit more from subject content. Therefore, the Department of Basic Education should ensure that in every school where there are learners with learning barriers that there are enough assistive devices. The storage and maintenance of such devices are very important.

REFERENCES

- [1]. Astalin P.K 2013. Qualitative research designs: A Conceptual Framework. International Journal of Social Science & Interdisciplinary Research, USSIR, Vol.2(1), January (2013).
- [2]. Barglowski K 2018. Where, What and Whom to Study? Principles, Guidelines and Empirical Examples of Case Selection and Sampling in Migration Research. In: Zapata-Barrero R., Yalaz E. (eds) Qualitative Research in European Migration Studies. IMISCOE Research Series. Springer, Cham. https://doi.org/10.1007/978-3-319-76861-8_9
- [3]. Dalton, E. M., Mckenzie, J. A., & Kahonde, C. 2012. The implementation of inclusive education in South Africa: Reflections arising from a workshop for teachers and therapists to introduce Universal Design for Learning. African journal of disability, 1(1), 13. <https://doi.org/10.4102/ajod.v1i1.13>
- [4]. Dunn, R 2020. The three sociological Paradigm Perspectives: Houston Community College ,Open Stax.
- [5]. Jamshed, S. 2014. Qualitative research method-interviewing and observation. Journal of basic and clinical pharmacy. 5. 87-8. 10.41030976-0105.141942
- [6]. Jonker, H., & März, V, Voogt, J. 2020. Curriculum flexibility in a blended curriculum. Australasian Journal of Educational Technology. 36. 68-84. 10.14742/ajet.4926
- [7]. Kivunja, C. & Kuyini, A. B. 2017. Understanding and Applying Research Paradigm in Educational Context. September, 2017, Url: <https://doi.org/10.5430/ijhe.v6n5p26>
- [8]. Landsberg, E., Kruger, D. & Swart, E. 2013. Addressing barriers to learning. Pretoria: Van Schaik.
- [9]. McMillan, J. H., & Schumacher, S. 2014. Research in Education. Evidence Based Inquiry (7th ed). New York, NY: Pearson.
- [10]. Marshak, L. E., Dandaneau, C. J., Prezant, F. P. & L'amoreaux, N. 2013. "The school Counselor" guide to helping students with Disabilities. San Francisco: Jossey-Bass Press.
- [11]. Nel, N. M., Tlale, L. D. N., Engelbrecht, P., & Nel, M.. 2016. Teachers' perceptions of education support structures in the implementation of inclusive education in South Africa. Koers, 81(3), 1-14. <https://dx.doi.org/10.19108/koers.81.32249>
- [12]. Otyola, W.R., Kibanja, G. M., & Mugagga, A. M. 2017. Challenges faced by visually impaired students at Makereke and Kyambogo Univerity, Makerere journal of Higher Education.ISSN:1816-6822;9(1)(2017)7586DOI: <http://dx.doi.org/10.4314/majobe.v9i.6c>.
- [13]. O'Neil, S. and Koekemoer, E. 2016. Two decades of Qualitative research in Psychology, Industrial and Organizational Psychology in Human Resource Management within South Africa: A critical review. S.A. Journal of industrial Psychology/42 (1), a 1350. <http://dx.doi.org/10.4102/sajip.v42i1.1350>. 17 February 2018.
- [14]. Republic of South Africa, Department of Education 2001. White Paper 6: Education and Training (Inclusive Education) in Special Education. Pretoria: Department of Education.
- [15]. Zwane, S. L., & Malale, M. M. (2018). Investigating barriers teachers face in the implementation of inclusive education in high schools in Gege branch, Swaziland. African journal of disability, 7, 391. <https://doi.org/10.4102/ajod.v7i0.391>
- [16]. Zwane S L (2016). Teacher training for inclusivity at selected schools in Gege branch of schools in Swaziland. Med dissertation.Pretoria, South Africa: UNISA, University of South Africa.