

Enhancing School Attendance Through Assistive Technology: Teaching Learners with Diverse Disabilities in Comprehensive Schools, Meru County, Kenya

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ABSTRACT

Kenya has made significant changes towards inclusive education for learners with disabilities. This has been made possible through various policies and act of parliament, the introduction of inclusion in mainstream schools as opposed to special schools and 100% transition from one level of education to the next. However, the use of assistive technology in learning by learners with disabilities still remain a nightmare. The learners with disabilities have not received adequate assistant to enable them attend learning institutions. These learners need to access education which prepare them for employment and independent living, failure to which may result to anti-social skills. This study sought to address school attendance through assistive technology to enhance teaching of learners with diverse disabilities in comprehensive schools in Meru County in Kenya. The study was guided by the following objectives: to determine the various types of disabilities that are present to learners in comprehensive schools, establish if the various types are of single type or multiple disabilities and determine the support that is provided to learners to ensure they go to school. The study location was Meru County with a sample size of 88 respondents. Data was collected using questionnaires, interview schedules and observation checklist. The Quantitative data was analyzed using quantitative methods and statistical package for social science version 22 was employed in data organization. Qualitative data was analyzed using thematic analysis. Findings of the study revealed that comprehensive schools in the county have learners with different disabilities attending school, all who are taught and assessed in the same way, compromising quality of learning and performance.

Key words: Learners with diverse disabilities, school attendance, Comprehensive schools, supporting learners with disabilities; Assistive technology.

INTRODUCTION

Teaching of learners with disability has posed serious challenge especially in the past. This is because in many occasions, persons with disabilities do not go to formal schooling but are left at home while their siblings attend school. School attendance involves the physical presence of learners in an educational institution for purpose of learning. It can be full time or part time and for learners with Special Needs, it can be in a Special Unit, integrated school or special school. In 1981, the year of disabled was celebrated by united nation and it was a landmark towards recognition of the problems, issues and likelihood of persons with disabilities to learn (Shabiha et al. 2021). World Health Organization (WHO, 2022) contends that 16% of world population is affected by disabilities and require support to learn. This support can be got from AT. Assistive Technology (AT) is any unit, equipment designed for a particular purpose, software program or device that supports, extends, nurture or strengthen the chances that a student will learn in school and improve their functional capabilities (Individuals with Disabilities in Education Act, IDEA, 2004). AT is made up of a variety of devices that are used to support learners with diverse disabilities in fulfilling their educational duties (Mwantimwa, 2021). World health organization (WHO) and united nations international children's emergency fund (UNICEF, 2022) argues that

AT enable learners with variety of disabilities access education, employment and independent living, make content available such as digitizing books, improve academic performance by adapting to individual requirements, develop literacy, numeracy, speech, language, memory and social skills among others.

UNICEF and WHO (2015) approved the need for the application of modern AT devices to learners with diverse disabilities in education to support them in their limitations and assists them access education. By this study leveraging AT usage therefore, can assists in improving of school attendance by learners with diverse disabilities in comprehensive school in Meru County.

Background

Disability is any mental or physical health that hinders a person to do various undertakings and interrelate with the surrounding environment (centers for disease control CDC, 2024). Disability can be measured encompassing six different aspects namely: vision, listening, walking, recalling and absorption of information, self-awareness and communication (Yi Feng et al. 2020). IDEA 2004 posits that there are 13 classifications of disabilities, these are autism, emotional disturbance, deaf-blindness, deafness, hearing impairment, intellectual disability, multiple disabilities, orthopedic impairment, speech or language impairment, traumatic brain damage, specific learning disability, visual impairment and other health impairment. Some learners can have more than one disability and cannot be supported in special education systems for only one type of disability offered in special schools. For example, intellectual disability – orthopedic impairment or intellectual disability-blindness (IDEA, 2004). Learners with disabilities should attend school and learn (UNESCO, 2014; Owino & Wandera, 2024). This can be achieved by establishing the systemic issues that affect the usage of AT devices to support these learners attend school.

Globally, it is proposed that, over 1.3 billion people are involved with a form of disability and within this about 200 million are children. Highly recorded is physical disabilities with the most common being: Disseminated sclerosis, Juvenile chronic arthritis. Neuro tube defects, limb deficiency, poliomyelitis, static encephalopathy, seizure disorder, spinal cord disorders and skeletal disorder in that pecking order (Isola & Hodge, 2019). Systematic and comprehensive reviews of the interaction between education and disabilities are limited, hindering the implementation of policies to improve the educational inclusion of learners with disabilities. Existing studies show noteworthy educational disparities among learners with diverse disabilities and school attendance. For instance, Mizunoya et al. (2018), examined the disability gap in school attendance across 15 low- to middle-income countries, using mainly household survey data. The authors reveal a universal and significant disability gap in primary and secondary education attendance and highlight the critical role disability plays in decreasing school attendance regardless of a child's individual and socio-economic characteristics. Specifically, the results show that the disability gap in primary and secondary school attendance is statistically significant at an average of 30 percentage points. In addition, the study points out that general education policies promoting universal primary and secondary education do not effectively target learners with disabilities. Also, various studies target specific disability and not the variety of disabilities that may be present in comprehensive schools. For instance, In Cebu, Philippines, Babia Jestoni et al. (2022), explored AT services in SE schools with the help of a quantitative research design. The researcher found out that children in SE centers majorly had autism at 35%, hearing impairments at 27.5%, mentally challenged 20%, Down syndrome 12.5%, cerebral palsy 5%. All the learners were in special schools tailored for a specific disability and not in special comprehensive schools with learners with diverse disabilities. However, the study failed to outline whether learners with disabilities were supported to attend school and learn in comprehensive schools. Khalil et al. (2022), also conducted research on knowledge and attitudes of teachers towards utilization of AT devices by learners who are disabled in Saudi Arabia. The researcher used a quasi-experimental research design and found out that 47.1% of the children in schools in the country were autistic, 35.3% had intellectual disability, 22.1% had multiple disabilities, 19.1% had learning disabilities, 10.3% had physical disabilities, and communication disability was at 7.4%, hearing and vision at 2.9% and Down syndrome 2.9%. The reviewed study was conducted in Saudi Arabia, which means there was need to compare whether the status was the same in Kenya. Further, Abdulaziz (2022), in Saudi Arabia conducted research on teachers of special education and assistive technology where the researcher employed quantitative research design. The researcher found out that majority of children had speech and language impairment at 34.4%, multiple disabilities at 20.3%, autism spectrum disorder at 12.5%, intellectual disabilities at 10.9%, deaf blindness at 4.7%, learning disabilities at 7.8% and other health

impairments at 9.4%. However, the studies were conducted in Saudi Arabia and not in Kenya and did not focus on school attendance by learners with disabilities placed in comprehensive schools, which was the main focus of the current study.

Learners with diverse disabilities encounter challenges with writing, interpretation, seeing, reception of information and gripping objects like pencil or pen or moving legs or arms fully. Therefore, these students with special needs need AT devices and support from teachers to learn freely. Globally, AT devices are used by over 1 billion people but the proportion of those that are in need and can access the AT devices in a given country is unknown (Satish et al., 2024). AT devices include tangible devices like computers, laptop and servers and digital application or any combination of the two which are vital tools that enhances the well-being, communication and welfare of persons with disability across the world. They empower persons with disability to reach their full potential accessing all aspects of family life and society (WHO, 2024). They are crucial in alleviating systemic barriers of instruction, attitude among others which interferes with school attendance and learning for learners with diverse disabilities in comprehensive schools. For learners with diverse disabilities, they need to be incorporated so they can be assisted to attend school. But there are various barriers which hinder implementation. For instance, in Philippines, Babia Jestoni *et al.* (2022), explored assistive technology services in Special Education schools and used a quantitative research design. The researcher found out that AT services offered to Special Education (SE) Centers are adequate but teachers and parents for learners with disabilities need to be trained in using them since they lack adequate knowledge to use them. Further, Ferhan *et al.* (2023) found out that the intention to use AT by special education teachers depends on whether the teacher perceived the AT device as easy to use and if it's useful. The researcher argued that if it's easy to use then it had an effect on behavioral intention to use it. Therefore, curriculum and teaching methods that provide opportunities for refinement of teachers contribute to the victory of AT usage in educating learners with special needs and hence improving their personalized learning and success both academically and socially.

In Nigeria, Alatishe-Muhammed et al. (2023) used a cross-sectional research design to study disabled kids who attended special needs schools in north central Nigeria. It was found out that 20 million people live with disabilities and out of the number, 1.3 million were children, with only 14% of the learners with disabilities admitted in schools. The number of disabled children in school had about 12.6% learners with hearing impairments, 66% visual impairment, 14.4%, with physical disabilities, intellectual disabilities and multiple disabilities were 8.4% respectively. The learners however, were found in special schools and not in inclusive comprehensive schools.

Nizeyimana (2024), conducted an investigation in Uganda and argued that Ugandan government supports various categories of disabilities including VI, auditory impairments, physical impairments, cognitive impairments, speech impairment and chronic impairments such as sickle cell anemia, asthma, epilepsy and albinism. The finding aligns with the world report on disability, but failed to focus on learners to attend school in comprehensive schools. Similarly, Nteziryayo et al. (2022), focused on academic assessment services for learners with disability in Rwanda, used a scaffolding model and multiple intelligence theory. The analysis showed that the major types of disabilities in special schools and inclusive setting were physical impairment at 39%, hearing impairment at 17.7%, visual impairment at 33.8% and learners with mental impairment and learning disabilities at 8.8%. The study though took place in Rwanda in special schools and not in comprehensive schools, hence one ought to carry out a similar investigation in Kenya. In Tanzania, Mnyanyi (2023), studied arbitration services for persons with disabilities. The analysis was a systematic review carried out in Tanzania. The researcher analyzed studies done between 1961 to 2022 in Tanzania in different areas of disability and found out that visual impairment had a population of 10.3%, deafness at 14.6%, autism at 12.5%, physical impairment at 2.6%, intellectual impairment at 1.3% and deaf-blind at 0.3%. The reviewed study was a systematic review, whereas the current research was conducted in comprehensive regular schools and teachers as respondents.

The specific population living with disabilities in Kenya according to the 2019 census is about 2.2% (which comprise 0.9 million people), While according to WHO (2022) a total of 16%. Of the world population have disabilities. Concerning the 2019 census report, the number of persons with disabilities could be approximately 7.5 million people, out of which about 250,000 are children enrolled in educational institutions (integrated programs, special schools and special units (Government of Kenya, GOK 2021). Based on these results, many learners with diverse disabilities are likely out of school. Initially, KISE (2018), conducted an analysis on

learners with disability in 47 counties in Kenya. The results showed that 3.1% of the population surveyed were visually challenged learners, 3.0% learners had physical impairment, 2.5% had intellectual disability, 1.2% learners had hard of hearing, 0.9% had speech and language disorder, 0.6% had self-care and 0.2% were deaf blind. The learners had enrollment in special schools, integrated schools and Special units. However, the study was not clear on support provided for learners with diverse disabilities to attend and acquire the necessary skills in the schools for learners with disabilities. Validating the data obtained by KISE, was a study by Owino et al. (2019). The research used a descriptive survey design to determine preparedness of teachers towards inclusive education in regular schools in Awendo, Migori County. The results revealed that in inclusive schools, visual impairments had the highest number at 17.8%, hearing 7.8%, emotional and behavioral disorder at 6%, mental retardation 3.9%, ADHD at 0.6%, multiple disabilities at 8.1%. The examined studies were conducted in inclusive schools before the introduction of comprehensive schools and there was need to investigate the same in another part of Kenya such as Meru to assess achievement and state the gap. Further, Kibet *et al.* (2020), studied inclusion of learners with VI in Bungoma County. It was found out that teachers of learners with VI had inadequate skills and knowledge on how to apply AT devices and this was a major hinderance to its use in class instruction to support learners with VI to attend school. These skills that are lacking needs to be present to be able to support learners with diverse disabilities in comprehensive schools to learn. If teachers are knowledgeable and trained on assistive technology usage, they can impact positively when teaching learners with diverse disabilities. Similarly, M'birithu et al. (2024), examined the characteristics teachers have on instructional management for pupils with cognitive impairment in special schools in Meru County. The researcher, used Vygotsky theory as well and adopted mixed methods approach, utilizing a cross-sectional descriptive survey design and disclosed that teacher competence, attitude, experience, differentiated instructional skills and communication techniques such as use of AT fosters a positive teaching and learning environment for learners with intellectual disabilities but they were lacking in schools for learners with special needs in Meru County and this made school attendance for these learners with diverse disabilities not adequately supported.

All these studies reveal that there are many Learners with Diverse Disabilities who are placed in schools, but support to attend school by way of assistive technology and instruction is not clearly spelt out (Owino, 2022). Also, there is limited research done in Meru to establish the types of disabilities found among learners with diverse disabilities in the county as well as the support given so that they can attend comprehensive schools.

In this regard, the objectives that guided the study aimed to:

- i) Determine the various types of disabilities that are present to learners in comprehensive schools.
- ii) Establish if the various types are of single type or multiple disabilities
- iii) Determine the support that is provided to learners to ensure they go to school.

Theoretical Framework

To support the study the research adopted the Technology Acceptance Model (TAM) Proposed by Davis (1989). The Model has two determinants: perceived ease of use (PEOU) and perceived usefulness (PU). Perceived usefulness is the extent to which teachers teaching learners with disability value the benefit that accrue as a result of using a particular AT device and appreciate how it would enhance their attendance to school. It's a key factor in determining teachers' intention to use AT devices. Perceived ease of use is the degree to which teachers assume that using a given AT device to teach learners with disabilities would be easy and effortless. Both PEOU and PU affect the support teachers will offer to learners with diverse disabilities to attend school. This theory maintains that PU and PEOU are key constructs in determining the support learners with diverse disabilities are given to attend school.

Research Methodology

The study used a descriptive research design and involved data collection using questionnaires, observation check list and interviews. The study had both qualitative and quantitative methods of data collection in a single

study. The qualitative was from open ended questions, interviews and observation checklist while quantitative was from closed ended questionnaires.

This study was carried in comprehensive schools in Meru County that had learners with diverse disabilities. Meru County is in the Eastern region of Kenya approximately 285km North West of Nairobi. Its county number 15 among the 47 counties in Kenya. The main social – economic activity carried out in Meru is miraa farming. This heavily disrupts school attendance and learning for learners in the county since these learners skip classes to work as pickers, packers or vendors for quick cash. For learners with diverse disabilities, they need to be adequately supported to attend school through provision of AT devices as well as other activities that will ensure they learn. The study target comprised of 88 respondents. 14 schools which were purposively selected. 14 headteachers heading the comprehensive schools, 14 teachers who were teaching learners with diverse disabilities and 60 learners in the schools. They were selected because they provided the researcher with detailed first-hand data on school attendance for learners with diverse disabilities.

We sought the consent of teachers and head teachers and explained the importance of the study before the process of data collection began. The teachers then voluntarily signed consent form to participate in the study. The study used questionnaire for teachers, interview schedule for both learners and head teachers as well as observation checklist for collection of data around the school environment. The choice of all the three tools of data collection ensured validity and reliability of the information through triangulation. The teachers were given questionnaires to fill while headteachers and learners had interviews conducted to them. These instruments were self-made and were cross checked to ascertain that there was a one-on-one relationship between the questions asked and the objectives under investigation.

The data collected was classified and categorized according to research objectives. The quantitative data from questionnaire being the main source of data was entered into statistical package for social sciences (SPSS) version 22. Kathiresan (2021) asserts that SPSS enables one to gain critical analytical skills and supports more accurate and insightful research and decision-making. Descriptive statistics was then used to generate the means, percentages, and frequencies which were used in making summary of data. Qualitative data from open ended questionnaires, interview schedule and observation checklist were cleaned and the responses tallied first into sub themes and coded. Afterwards data was analyzed using thematic analysis. Qualitative data was used by the researcher to support what had been gathered by the quantitative data and the information gathered from the three instruments triangulated to check for reliability. This involved reviewing the common themes and their similarities with the quantitative analysis. The qualitative data was presented in verbatim forms as direct quotes and narratives.

Result

The findings of the study were presented in three sections based on the research objectives of the study. These were: types of disabilities that are present to learners in comprehensive schools: If the various types of disabilities are of single type or multiple disabilities and support that is provided to learners to ensure they go to school.

Learners with Different Disabilities Attending Schools

Teachers who were given questionnaires were expected to select one of the categories of disabilities from a list. The data indicated that learners in the classes had various forms of disabilities which require diverse assistive technology. This is according to Table 1.

Table 1 Various Categories of Learners with disabilities in schools

Disability categories	Frequency (n = 14)	Percentage
Autism	2	14.3
Emotional disturbance	6	42.9

Hearing impairment	5	35.7
Intellectual disability	7	50.0
Orthopedic impairment	2	14.3
Language impairment	4	28.6
Traumatic brain damage	2	14.3
Specific learning disability	6	42.9
Visual impairment	2	14.3

The Table 1 above indicates that learners with intellectual disability were at 7 (50%) followed by emotional disturbance with 6 (42.9%) and learning disability 6 (42.9%). Also, there was a small number of learners who had autism 2 (14.3%), traumatic brain damage 2 (14.3%) as well as orthopedic Impairment 2 (14.3%).

When headteachers were asked if in their school there were different types of disabilities, their responses supported the data from the questionnaire in that there were learners with different disabilities in the special units, though, the disabilities displayed were mild. For instance, one of the head teachers noted that;

‘Our learners have different disabilities but they are mild in nature’.

The head teacher continued that they had challenges during enrollment since most of their parents have not accepted the condition of their children and bring them to school’

Another one echoed similar sentiment that;

‘Our school have learners with intellectual mild impairments where most of them are intellectually impaired with a few cases of cerebral palsy.’

The findings from the observation checklist further, confirm that learners with diverse disabilities attend comprehensive schools but in small number. The observation checklist also revealed that all the learners with their diverse disabilities were placed in the common classroom, irrespective of the severity and category of the disabilities. The observation checklist additionally revealed that in most of schools, the AT were missing except for phone owned by teachers, while in some schools they shared the limited televisions and computers. The learners were also spotted watching computer games.

Other Categories of Learners with Disability

Other silent disabilities noted by the teachers among learners who attended schools were as Table 2 below;

Table 2 Other Silent Categories of disabilities in the schools

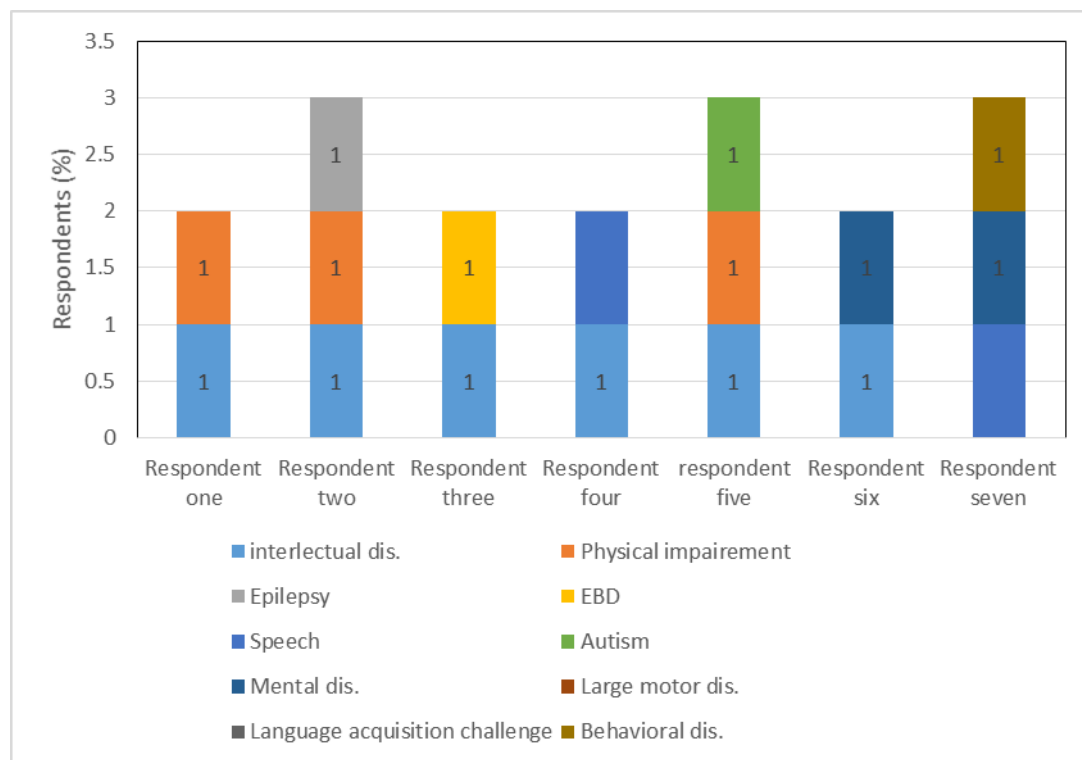
Other Disabilities	Frequency (n = 14)	Percentage
Down syndrome	2	14.2
Behavior syndrome	1	7.1
Cerebral palsy	1	7.1

There were 2 (14.2%) cases of Down syndrome, 1 (7.1%) case of Behavior syndrome, one (7.1%) case of Cerebral palsy, according to Table 2 who attended school and learned through AT.

Learners in a Class Having More than One Type of Disability

When teachers were asked if there were learners having more than one disability and whether they were able to use AT, The data obtained in most of the comprehensive schools were as recorded in the Figure 1 below.

Figure 1 Learners with multiple disabilities in Schools and use AT



According to the Figure 1 above, there was a learner with intellectual disability, the same learner had physical impairment and also had epilepsy. In another school, a learner had EBD and intellectual disability combined. In the same school, there was one other learner with intellectual disability and speech. Still in another school, one learner had autism, physical impairment and intellectual disability. All these learners were noted to be sharing the same class together with other learners who were in their classes. These findings could imply that the learning needs of the learners all together in a common classroom was not met adequately by way of instruction and assessment since each learner presented different needs. These results were similar to findings from data obtained through observation which revealed that all the learners with multiple disability together with others with single disabilities were sharing classes without considering their disability category and severity

Support to Ensure Learners go to School

Teachers and headteachers were asked on how they use AT to ensure that learners with disabilities are included in the learning process. The responses during the interviews with the head of institution and also from open ended questionnaire from teachers established that different schools have come up with various ways of retaining exceptional learners in their schools.

For example, some schools have computers and learners watch computer games which they find very interesting. Other schools arranged for special feeding program. Some schools also allow learners to socialize in class while in some teachers go for the learners from their homes. In some schools, teachers further, entice the learners by taking them to Paralympic games, educational trips and introduce ICT program for them. Teachers also offer a conducive and friendly learning environment for the learners. The learners are also involved in activities like rabbit and chicken rearing which they sometimes sell, slaughter and eat. Teachers have also made different efforts in support to learners with various instructional materials. Therefore, learners came in school because there is something offered in a routine manner that is different from home.

For example, one of the teachers said that

We have computer room in our school where these learners go and just watch the whole day since they cannot learn much.

Another teacher remarked,

'In our school we provide a friendly learning environment for all our learners'

Still in another school, a teacher remarked;

'There is a feeding program that is offered in our school'

Similar sentiments were echoed from the interviews with the head teachers where one of them said that;

'We have a computer room where they watch. We have also introduced lifesaving skills after school such as rearing animals and planting food crops in the school. These assist to keep these learners in school. The products are sold later'

Another one said that

'We have given them a small farm where teachers together with learners utilize some of their skills to teach activities of daily living to these learners'

During the interview with learners one of them said that;

'It really assists us to learn more so to know how to cater for rabbits because our teacher refers to it too much'

Another one said that

'We even rear small animals not only planting spinach. The teacher tells us when we sell spinach, we can buy more rabbits.'

One learner also said,

We watch animals from the television and computer and is very interesting.

From the observation, the researcher noted that there were two schools which had watching rooms. There were also six schools out of the total surveyed which had planted vegetables around the classes and some schools had vegetable gardens. Two schools from those surveyed had rabbit rearing taking place. These assisted learners with disabilities to learn activities of daily living and made them to come to school as well as having the feeling of being supported to be in school.

DISCUSSION

Types of Disabilities in Comprehensive Schools and use of AT

The study revealed that learners with diverse disabilities, particularly intellectual disabilities, attend comprehensive schools in Meru County. These learners are placed in common classrooms regardless of severity or category. They were unable to use any form of AT due to the nature of their disabilities. These finding echoed the findings by Abdulaziz (2022), Khalil et al. (2022), and Babia Jeston et al. (2022), both which maintained that learners with disabilities are learning together in the same class making class management challenging. Similar outcomes were reported by KISE (2019; Owino et al., 2019), confirming that integrated schools host a wide range of disabilities. These learners are placed in a common classroom which compromises their instruction and assessment quality as well as their school attendance (Owino et al., 2022).

Through the TAM lens, this placement reflects teachers perceived usefulness (PU) of inclusive schooling and use of assistive technology in learning—teachers value the idea that all learners can be accommodated in one setting with the aid of AT. However, the perceived ease of use (PEOU) is low, as teachers struggle to identify silent or less visible disabilities and lack specialized training to manage diverse needs simultaneously. When PU is high but PEOU is low, TAM predicts adoption challenges, which explains why instructional quality and assessment are compromised in these classrooms. Thus, the findings suggest that unless teachers are supported with relevant AT devices and training that are both useful and easy to apply, learners with diverse disabilities will continue to face barriers in comprehensive schools.

Objective 2: Learners with Multiple Disabilities

The study found that some learners present multiple disabilities, making it difficult for a single teacher to meet their instructional and assessment needs based on the limited AT available in schools. This aligns with KISE (2018) and Owino et al. (2019), who noted that learners with multiple disabilities are often congested in inclusive schools and special units.

Applying TAM, teachers' reluctance or inability to fully support these learners stems from low PEOU—they perceive handling multiple disabilities as complex and beyond their training. The teachers also revealed that they were not trained to use AT and find it challenging. At the same time, the PU of specialized interventions is recognized, but without accessible AT devices or shadow teachers, teachers cannot translate this usefulness into practice. TAM therefore explains why learners with multiple disabilities experience compromised school attendance: teachers may value interventions but avoid them if they are perceived as too difficult to implement. This highlights the need for simplified, practical support systems that increase both PU and PEOU for teachers to use AT in their classes.

Objective 3: Support Strategies for Learners' School Attendance

Teachers reported using strategies such as life skills activities (animal rearing, crop planting, daily living tasks) and creating conducive learning environments to support attendance. These findings resonate with Muthoni (2020), who emphasized incorporating learners with physical impairments into daily living activities. They also align with TAM: teachers adopt strategies they perceive as useful (PU) in motivating learners and ensuring attendance, and easy to use (PEOU) within their resource-constrained context. Because assistive technology devices are scarce and perceived as difficult to use, teachers substitute them with life skills approaches that are both accessible and effective in their eyes like rearing of animals and vegetable garden to entice learners to come to school.

This demonstrates TAM's predictive power: when AT devices are not perceived as useful or easy, teachers will default to alternative strategies that maximize PU and PEOU. While these strategies help sustain attendance, they may not fully address instructional needs, underscoring the importance of improving both the perceived usefulness and ease of use of AT devices in comprehensive schools.

Across all three objectives, the Technology Acceptance Model (Davis, 1989) provides a coherent explanation for teachers' choices and challenges. Teachers' support for learners with diverse disabilities is shaped by their perceptions of usefulness and ease of use of available strategies and technologies. Where PU is high but PEOU is low (e.g., handling multiple disabilities), adoption falters. Where both PU and PEOU are high (e.g., life skills activities), strategies are readily adopted. Therefore, enhancing teachers' awareness of the benefits of assistive technology (PU) and simplifying its application through training and support (PEOU) is critical to improving school attendance and instructional quality for learners with diverse disabilities in Meru County.

CONCLUSION

This study examined school attendance and teaching of learners with diverse disabilities by use of AT in comprehensive schools in Meru County. The findings revealed that learners with a wide range of disabilities—from profound intellectual impairments to mild physical conditions attend the same classrooms, introduced to the same AT for learning often without adequate differentiation. Some learners present multiple disabilities,

further complicating instructional delivery, as each disability has its own unique needs in learning, teachers are typically trained in only one specialization of disability. This mismatch between learner diversity and teacher capacity compromises both attendance and instructional quality in the comprehensive schools.

Teachers, however, employ alternative strategies to sustain attendance, such as engaging learners in life skills activities and implementing retention measures like feeding programs. Nevertheless, inadequate AT compromised the quality of education resulting in to over-emphasis on other means to enhance school attendance as opposed to AT. Interpreted through the Technology Acceptance Model (Davis, 1989), these choices reflect teachers' reliance on methods they perceive as both useful (PU) in motivating learners and easy to use (PEOU) within resource-constrained contexts. Conversely, the limited adoption of assistive technology devices highlights low PEOU and PU perceptions, explaining why teachers default to non-technological strategies to enhance school attendance.

RECOMMENDATIONS

- i) The study underscores that teachers value inclusive education and make efforts to support school attendance, however, the absence of accessible and clearly beneficial assistive technologies limits their effectiveness. There is need to Strengthen both the perceived usefulness and ease of use of assistive technologies through re-training, simplified tools, and institutional support. Doing so would enhance teachers' capacity to manage diverse and multiple disabilities, improve instructional quality, and ensure sustainable school attendance for learners with disabilities in comprehensive schools.
- ii) There is need to develop a policy on accessibility of AT that will enhance the implementation of digital literacy among learners with diverse disabilities in the comprehensive schools.
- iii) There is need for training the untrained teachers in SNE and those trained in SNE to be re-tooled in AT use for learners with disabilities for purposes of AT inclusive education.

REFERENCES

1. Abdulaziz S. A. (2022). Teachers of special education and assistive technology: teachers' perception of knowledge, competencies and professional development. Sage and open access pages: <https://orcid.org/0000-0001-6635-0095>
2. Alatishe-muhammad B.W. Olubiyi O. A., Afolayan M. A., Rotimi B. F., Ameen H. A., Bolarinwa O. A., Salaudeen A. G., Suriyakala P. C. (2023). Pattern and Types of Disability among Students in Schools for Special Needs in Resource Limited Setting of Africa. The Malaysian journal of nursing | vol. 15 <https://doi:10.31674/mjn.2023.v15i01.013>
3. Asola, E.F., & Hodge, S.R. (2019). Transitioning Students with Physical Disabilities and Other Health Impairments", Special Education Transition Services for Students with Disabilities Advances in Special Education, 35 (1), 167-183. <https://doi.org/10.1108/S0270-401320190000035018>
4. Babia J.P., Alaras, L.G. Ctejo, D.G...I Candia, B.A.E (2022) assistive technology in sped schools. Journal of positive school psychology: <https://journalppw.com>
5. Bolingo, A. (2019). Impact of assistive technology on education performance of learners with visual impairments at the university of Rwanda-college of education. Unpublished. Med. Google scholar: <https://scholar.google.com>
6. Centers for disease control and prevention. (CDC, April 3 2024). Disability and health overview. CDC: <https://www.cdc.gov>
7. Chukwuemeka, E. J., & Samaila, D. (2020). Teachers' perception and factors limiting the use of high-tech assistive technology in special schools in North West Nigeria. Contemporary educational technology. <https://doi.org/10.30935/cet.646841>
8. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 319 – 340 <https://doi.org/10.2307/249008>.
9. Karusha, J.B. (2023). Use of assistive technology in teaching and learning of learners with visual impairments in primary schools in Kasulu district, Tanzania. Kyambogo university: <https://google.scholar.com>

10. Kenya Institute of Curriculum Development (KICD, 2019). Basic Education Curriculum Framework. Government of Kenya: <https://www.kicd.ac.ke>
11. Kenya Institute of Special Education (KISE, 2018). National survey on children with disabilities and special needs in education. <https://kise.ac.ke/system/files/202201/National>
12. Khalil, A. I., & Hantira, N. Y. (2022). Special Education Teachers' Knowledge and Attitudes toward the Use of Assistive Technology for Disabled Children Management: Impact of an Educational Intervention. *Creative Education*, 13, 821-845: <https://doi.org/10.4236/ce.2022.133054>
13. Kibet, P. J., Kisilu, A., Mwangi, B.N. (2020). Influence of Learning Environment on Inclusion of Visually Impaired Learners in Public Primary Schools in Bungoma South Sub County. *International Journal of Recent Innovations in Academic Research*, 4(6): 1-8. <https://scholar.ggoogle.com>
14. Kisanga, S., & Kisanga, D. (2020). The role of assistive technology devices in fostering the participation and learning of students with visual impairment in higher education institutions in Tanzania. *Disability and Rehabilitation: Assistive Technology*, 0(0), 1–10. <https://doi.org/10.1080/17483107.2020.1817989>.
15. M'birithu, E.K.mwirichia, S. Gichohi, M.P. (2024). Influence of teachers' characteristics on teaching and learning management for pupils with intellectual disability in special schools, Meru County. *International journal of professional practice*: [https://ijpp12\(2\);27-42](https://ijpp12(2);27-42)
16. S.Mizunoya et al. (2018). Disability and school attendance in 15 low- and middle-income countries. *World dev.*
17. Mnyanyi, C. B. (2023). Intervention services for people with disabilities in Tanzania (1961-2022). *African journals online*: <https://google.scholar.com>
18. Muthoni, M.L., Otube, N., Murugami, M., (2020). Teachers' perception of transition preparedness by learners with physical disabilities towards employment: Joytown, Joyland and Mombasa special secondary schools, Kenya. *Kenyatta university*: <https://Ir-library.ku.ac.ke>
19. Mwantimwa, K. (2021). Exploring usage of assistive technology resources by students with disabilities. *Journal of Disability Studies*: <https://pubs.iscience.in/jds>
20. Nizeyimana, P., Kagambe, E., Kasiita, T., Kisembo, M., Aturinda, J. & Kang'ahi, M. (2024). Assessment of Access and Participation of Students with Special Needs in Public Universities of Uganda. *East African Journal of Education Studies*, 7(3), 463-478. <https://doi.org/10.37284/eajes.7.3.2172>.
21. Nteziryayo, J.P. (2022). Analysis of educational assessment services for students with special needs in gatagara schools in Rwanda. *Med Kenyatta University*. [Ir-library.ku.ac.ke](https://ir-library.ku.ac.ke)
22. Owino, C.O., Bunyasi, B.A., & Kamau-Kangethe, R.W. (2022). Instructional Methods Adaptation and Implementation of Competency-Based Curriculum for Early Years Learners with Disabilities in Primary Schools In Nairobi City County, Kenya. *World Journal of Innovative Research (WJIR)*. ISSN: 2454-8236, Volume-13, Issue-6, December 2022 Pages 01-09 1 www.wjir.org
23. Owino, C.O., Kamau-Kang'ethe, R, W. & Mwoma, T. B. (2019). Determinants of teachers' preparedness towards the implementation of inclusive education in lower grades primary schools in Awendo Migori, Kenya. *Kenyatta University*: <https://ir-library.ku.ac.ke/handle/123456789/19840>
24. Owino, C.O., Wandera, S.D. (2024). Teachers' use of assistive technology to implement inclusive education among pre-primary learners with visual impairments in Kenya. Unpublished. *Kenyatta university repository*
25. Shabiha, A., Gul, I., Naz, F.L., Noureen, S. (2021). Challenges faced by special needs students in inclusive classrooms at the university level. *Palach's journal of archaeology of Egypt/Egyptology PJAEE* 18(18), 847-857. ISSN 1567-214x: <https://scholar.google.com>
26. UNESCO (2014). Global Education for All Meeting: UNESCO, Muscat Oman 12-14 may 2014. 2014 GEM final statement: The Muscat Agreement. Geneva: UNESCO.
27. UNICEF & WHO (2015). Assistive technology for children with disabilities: Creating opportunities for education, inclusion and participation. A discussion paper: <http://www.unesdoc.unesco.org/disabilities>
28. UNICEF & WHO. (2022). Global report on assistive technology. Geneva: License CC BY-NC-SA 3.0 IGO. <https://creativecommons.org/licenses/by-nc-sa/3.0/igo>.
29. United States Department of Education. (2004). Individuals with disabilities education improvement act of 2004 (IDEA 2004). Retrieved from: <http://idea.ed.gov/>.
30. Vincent, D. A., Okeowo, R. O., & Ariyo, S., (2024). The use of assistive technology in technical colleges for students with disabilities in Ondo State. *Journal of Educational Research and Practice*, 14, 52–67: <https://doi.org/10.5590/JERAP.2024.14.1.04>

-
31. WHO (2022) global report on health and equity for persons with disability. Geneva.
<https://creativecommons.org/licenses/by-nc-sa/3.0/igo>
 32. Yi feng, L. yang Zhou R., Suguru, M., Amaro, D. (2020) how various types of disability impact children school attendance and completion. International journal of educational development:
<https://doi.org.10.1016/J.ijedudev.2020.102222>