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Assistive Technology Devices, Daily Living Activities and Developmental Levels of Students with Physical Disabilities in Biology in Oyo State, Nigeria

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Abstract : This study was designed to investigate the Assistive Technology Device, Daily Living Activities and Developmental Level of the Student with Physically Impaired Student in biology class in selected special school in Oyo state. This study made use of structured questionnaire in gathering the opinion of the participants in the sampled schools. Total numbers of 30 students were selected from three different schools in this study; the instrument used for data collection was questionnaire which was administered personally by the researchers. The method used for data analysis is Chi Square to examine the findings. It was recommended that, government should provide adequate funding to improve availability and affordability of assistive technology for children with disabilities, curriculum developers should enable students with disabilities access to all conventional policies, systems and services (for example, health facilities, schools, transportation and playgrounds) through assistive technology and accessibility measures as required, Government and Non-governmental Organizations (NGOs) should include access to assistive technology in the education policy and programmers among others.

Keywords: Special Education, Assistive Technology, Physically impaired, Science students

Introduction

Education is a fundamental human right. Over the last decade, there has been increased focus on inclusive education, which aims to provide equitable access to education for all students, including those with disabilities (Dey & Bika, 2023). Assistive technology (AT) has been proven effective in enabling students with physical disability (Vincent., 2023). AT consists of devices or software that help individuals work around challenges and enable them to learn, communicate, and function more successfully. These special tools are designed to enhance the academic results, performance, and life-long learning of all individuals not just learners with exceptional needs, but those in the general school system (Akpan & Beard, 2013).

With the use of Assistive technology, people with disabilities and individuals who have specific educational or therapeutic requirements can function more effectively (Lancioni et al., 2013), overcome challenges, and be provided the opportunity to learn and communicate (Adebisi, 2015). In the educational setting, AT offers numerous solutions to persistent problems, providing support to meet students' needs (McKnight and Davies, 2012). The reading, writing, visual, auditory, and communication aids that students are supposed to master within the educational system can be classified as assistive technologies (ATs)There are high-tech and low-tech ATs, including desktop and laptop computers (Hersh, 2020).

The World Health Organization (2020) indicated that ATs that improve mobility, hearing, vision, or communication abilities include wheelchairs, prostheses, hearing aids, visual aids, and specific computer software and hardware. The use of ATs such as braille, audio texts, magnifiers, and screen reading software can help students with visual impairment improve their reading abilities (Muradyan, 2023). The functional performance and academic progress of students with disabilities are improved or maintained using AT (Alnahdi, 2014). Assistive technology devices and services were first defined in federal law in the Individuals with Disabilities Education Act of 1990 (Public Law 101-476). These definitions remained unchanged until 2004 with the passage of the Individuals with Disabilities Education Improvement Act (Public Law 108-446) when an exemption to the definition of an assistive technology device was added to clarify a school system's responsibility to provide surgically implanted technology such as cochlear implants.

Assistive technology is an umbrella term for assistive products and their related systems and services. Assistive products help maintain or improve an individual's functioning related to cognition, communication, hearing, mobility, self-care and vision, thus enabling their health, well-being, inclusion and participation. Improving access to assistive technology can contribute to the achievement of the Sustainable Development Goals and to ensuring that no one is left behind. This is through enabling the inclusion

and participation of assistive technology users in their family, community and all areas of society, including the political, economic and social spheres. (WHO, 2024).Assistive technology (AT) is any device, software, or equipment used to increase, maintain, or improve the functional capabilities of people with disabilities. Screen readers, voice recognition software, reading assistants, and switch devices that replace the need to use a keyboard or mouse are examples of AT. Typically, the accessibility needs of users are grouped into four areas: Visual: People who are blind, low vision, or colour blind. Auditory: People who are deaf or hard of hearing. Motor: People who have limited fine motor control, muscle slowness, or tremors and spasms. Cognitive: People who have learning disabilities, memory impairment, attention disorders, or difficulty with problem-solving and logic.

Assistive technology (AT) is a term for assistive, adaptive, and rehabilitative devices for people with disabilities and the elderly. Disabled people often have difficulty performing activities of daily living (ADLs) independently, or even with assistance. ADLs are self-care activities that include toileting, mobility (ambulation), eating, bathing, dressing, grooming, and personal device care.

Assistive technology can ameliorate the effects of disabilities that limit the ability to perform ADLs. Assistive technology promotes greater independence by enabling people to perform tasks they were formerly unable to accomplish, or had great difficulty accomplishing, by providing enhancements to, or changing methods of interacting with, the technology needed to accomplish such tasks. For example, wheelchairs provide independent mobility for those who cannot walk, while assistive eating devices can enable people who cannot feed themselves to do so. Due to assistive technology, disabled people have an opportunity of a more positive and easygoing lifestyle, with an increase in "social participation", "security and control", and a greater chance to "reduce institutional costs without significantly increasing household expenses (Parantetal, 2017).

In schools, assistive technology can be critical in allowing students with disabilities to access the general education curriculum. Students who experience challenges writing or keyboarding, for example, can use voice recognition software instead. Assistive technologies assist people who are recovering from strokes and people who have sustained injuries that affect their daily tasks. Daily living skills are the activities and habits that are necessary for leading an independent and social life. People who have disabilities may have difficulty developing these daily living skills for a variety of reasons(Calabrò, 2016).

The term “daily living skills” refers to a wide range of personal self-care activities across home, school, work, and community settings. Most daily living skills, like food preparation and personal hygiene, need to be performed on a regular basis to maintain a reasonable level of health and safety. Adaptive functioning, or an individual’s ability to care for self and function independently, is a primary consideration when supporting

individuals with autism and other disabilities. Daily living skill activities include personal hygiene and grooming, dressing and undressing, meal preparation and feeding, mobility and transfer, toileting, housekeeping, laundry, home safety, health and medication management, leisure time and recreation (Springer, 2024).

Daily living skills, sometimes referred to as activities of daily living (ADLs), are routine, self-care tasks in which most people participate daily without assistance. Basic daily living skills include showering and bathing, dressing, eating, using the toilet and transferring between a bed and chair. The daily living skills in the "basic" category include personal hygiene tasks, such as brushing and styling hair. "Transferring" can refer to overall functional mobility, including the ability to get in and out of bed, walk as needed, get up and down from a chair or sofa, and move from one place to another to complete other daily tasks. In addition, self-feeding also is a basic daily living skill.Most daily living skills, like preparing food and taking care of our bodies, need to be completed on a regular basis to maintain a good level of health and safety but, for some people, health conditions or physical and cognitive disabilities often cause difficulties with performing some or all daily living tasks. From the benefits daily living skills bring to the individual to the rewarding effect it has on their social life and employability, learn all about the importance of developing daily living skills and the added independence they can bring for those living with disabilities. Activities surrounding daily living skills include are meal preparation, personal hygiene, home maintenance, money management, dressing and undressing, mobility, education and employment, toileting, laundry, home safety, health and medication management, socialising and recreation (www.connectability.org.au)

Beyond the basic daily living skills, another set of daily tasks also exists. Sometimes referred to as "instrumental" activities, they include managing finances, keeping the family home safe and clean, shopping and preparing meals, communicating via telephone or another method and taking medications as prescribed. Medical insurers, health care providers and other organizations use daily living skills as an important metric for determining the level of care an individual may need now and in the future. According to Investopedia, any providers of long-term care insurance stipulate that payment for supportive living begins when an individual cannot complete at least two of the basic daily living skills. Occupational therapists sometimes use instrumental daily living skills to evaluate an individual's progress or need for continued therapy.

Physical disability may have an impact on some or all activities to a greater or lesser extent. Students with physical disabilities may have problems related to movement, posture (e.g., sitting, standing), grasping or manipulating objects, communication, eating, perception, reflex movements, and/or automatic motricity (e.g., sphincter, intestinal muscles). The initial barrier experienced by many students with physical disabilities is

physically accessing the learning environment itself. For many students with physical disabilities the inaccessibility of buildings and surrounding areas is a problem.

Students with physical disabilities and neurological conditions may also have perceptual difficulties that can take various forms. Some students have difficulty receiving information by hearing or sight, while others can see or hear, but cannot process the information they receive. This can cause difficulties with reading and writing, such as locating the correct place on the page, or moving from left to right when reading and writing.Berry and Domene (2015) observed that students with physical disabilities report that support from postsecondary faculty and staff along with environmental and material supports to be important for achieving success in their postsecondary studies.

Concept of Assistive Technology

The Assistive Technology was defined as "Any item, piece of equipment or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities" (The Assistive Technology Act, 2014). The Assistive Technology Act (2014) was signed on October 25, 2004, by the US Government. The first Assistive Technology law was the Technology Related Assistance for Individuals with Disabilities Act which was signed in 1988, by US Congress. The importance of the Act was that it was the first official document that defines the Assistive Technology, devices and services (Tech Act, 2014).

Assistive Technologies can be in several forms such as no-tech, low-tech, and high-tech. No-tech assistive technology means using strategies that provide opportunity to learner instead of technology such 6th International Computer & Instructional Technologies Symposium,as extended time, coloured folders, chunking materials, and index cards. Low-tech assistive technology means using straightforward tools such as simple speakers, adapted scissors, raised-lined paper, step-by step picture schedules, pencil grips, paper communication boards, calculators. High-tech assistive technology means using especially computer or computer components such as specialized software and advanced hardware devices (Coleman, 2021). Technology has been using for centuries to facilitate life of people with disabilities such as a cane or stick that helps visual impairments (Kelly & Smith, 2021).

There was always a need to devices to remove disabilities. For example, telephone was invented by Alexander Graham Bell while trying to help hearing impairments whose wife and mother were both hearing disabled people (Mueller, Jones, Broderick & Haberman, 2005). The rapid developments in information and communication technologies have already affected our life. People can access the information without any time and space limitations. Especially related with the development of mobile technology everything is accessible at anytime from anywhere. These technologies simplify the life for people both

with and without disabilities (Kuzu, 2011). In the past decade, mobile technology has experienced an impact. MP3 players, digital cameras, GPS devices, PDAs, and so more technologies have become a part of our daily life. Furthermore, at the end they have become an only device, Smartphone. A Smartphone is a device that has other functions then being a phone and has its own operation system that allows installing programs to increase the usable functions of the device (Forf& Rabe, 2021; Kuzu, 2021).

Assistive technology includes technology solutions that are generally considered instructional technology tools, if they have been identified as educationally necessary and documented in the student's IEP. For example, a classroom computer with a word processing program can be considered assistive technology for a student who demonstrates difficulty in writing and spelling if the IEP team has determined that it is educationally necessary. Assistive technology devices can be purchased from a local store or a vendor that specializes in the production and sale of assistive technology devices. These devices often need to be modified or customized to meet the individual needs of a student with a disability. For example, a computer keyboard may need to be adapted through the addition of tactile locator dots for a student with a visual impairment. When determining assistive technology needs, IEP teams should consider commercially available solutions that may be used "as is" or ones that can be modified to meet the student's unique needs. In some situations, it may be necessary to construct a device to meet the student's needs.

A range of assistive technology devices are available. Some are relatively "low technology" and inexpensive. For example, a pencil grip is an assistive technology device that may be used by a student with a physical disability to improve handwritten communication through increasing the student's grasp of and control over his or her pencil. An adapted cup with enlarged handles may be used by a student who has difficulty holding a standard cup. Other devices are more "high technology" tools and are often more expensive. An example of a "high technology" tool is an augmentative communication device in which a student types in messages on a communication display and they are spoken aloud.

Understanding the Importance of Assistive Technology

The use of AT to promote inclusive education for students with disabilities has been shown to have tremendous potential. Researchers have defined AT as including a broad range of tools, gadgets, and software made to accommodate a variety of disabilities, such as visual, auditory, mobility, and cognitive impairments (Viner et al., 2020). Numerous studies have explored the importance of AT, which has completely transformed the learning experiences of students with disabilities, promoting personalized and engaging settings for learning (Alnahdi, 2014).

Assistive technology can close the learning gap for students with disabilities, allowing them to participate actively in the educational process (Akpan & Beard, 2023; Alnahdi, 2024). Specifically, AT can be adapted to individual requirements, allowing students to learn at their own pace and enhancing their academic performance (Adebisi et al., 2022). Moreover, the incorporation in schools of ATs, such as communication tools and adaptive software, has promoted peer relationships and better social inclusion (Dyzel et al., 2020). These beneficial effects go beyond the classroom, supporting students with disabilities in pursuing further education, fulfilling work, and lifelong learning (Dragana et al., 2023).

Assistive technology is essential to improving quality of life for people with disabilities in the areas of healthcare and independent living. For people with limb impairment, advanced prostheses and mobility aids have helped them recover physical function and boost independence (Ward-Sutton et al., 2020). For people with hearing impairment, ATs such as hearing aids and cochlear implants have created new chances for social interaction and successful communication (Drelick et al., 2022). For people with visual disabilities, ATs such as screen readers and magnification software provide access to information and make involvement in many facets of contemporary life possible (Mishra, 2023).

Research Questions

1. How do assistive devices support the daily living activities of students with physical impairment?
2. How does the developmental level of students with physical impairment influence the use of Assistive technology?
3. What is the status of Assistive Technology provision and utilisation in the selected schools in Oyo state?

Method

The research method adopted was descriptive survey research to investigate the Assistive Technology Device, Daily Living Activities and Developmental Level of students with physical impairment in Biology class in Oyo State. Descriptive survey research design was used to illustrate characteristics of a population or phenomenon being studied.

Participants

The population for this study comprised the students with physical impairment in Oyo State.Simple random sampling technique was used to select thirty (30) students from three (3) selected schools for the study. Ten (10)Biology students with physical impairment were selected from SSI, II and SS III from each school.

Instrumentation

A self-structured questionnaire was used for the study to sample the opinion of the students. The questionnaire was divided into two sections A & B. Section A contain

demographic data of the respondents, sections B measure the independent variables in the study, and it is tailored towards the research questions earlier formulated.

Data Collection

The researcher distributed copies of the questionnaire to the selected participants in the selected schools and the questionnaire were collected.In the process of analysing the data, the information was expressed in a tabular form. Chi Square was used for the analysis.

Results

RQ 1. How do assistive technology devices support the daily living activities of students with physical impairment?

S/N	Items	SA (%)	A (%)	D (%)	SD (%)	Total (%)	Mean	Chi-square	Df
1.	Assistive technology devices significantly enhance the independence of physically impaired students in their daily living activities.	19 (63.3)	10 (33.3)	0 (0)	1 (3.3)	30 (100)	3.73	1.745	3
2.	The use of assistive technology devices enables physically impaired students to participate more actively in academic and social settings.	12 (40)	15 (50)	1 (3.3)	2 (6.7)	30 (100)	3.15	43.440	3
3.	Assistive technology devices improve the overall quality of life for physically impaired students by facilitating their access to information and communication.	20 (66.7)	10 (33.3)	0 (0)	0 (0)	30 (100)	3.15	43.440	3
4.	Physically impaired students experience increased confidence and self-esteem when using assistive technology devices to perform daily living tasks.	11 (36.7)	11 (36.7)	3 (10)	5 (16.7)	30 (100)	2.98	43.440	3
5.	Integrating assistive technology devices into the learning environment positively impacts the academic performance of physically impaired students.	17 (56.7)	12 (40)	1 (3.3)	0 (0)	30 (100)	3.50	1.745	3

Sources: Field Survey, 2023.

From the table, item one is clearly shown that 1(3.3%) of the respondents strongly disagreed, 0 (0%) of the respondents disagreed, 10 (33.3%) of the respondents agreed and 19 (63.3%) of the respondent strongly agreed. In a simple sense, assistive technology significantly enhances the independence of physically impaired students in their daily living activities.

From the table, item two is clearly shown that 2 (6.7%) of the respondents strongly disagreed, 1 (3.3%) of the respondents disagreed, 15 (50%) of the respondents agreed and 12 (40%) of the respondent strongly agreed. On this note, the use of assistive technology devices enables physically impaired students to participate more actively in academic and social settings.

From the table, item three is clearly shown that 0 (0%) of the respondents strongly disagreed, 0 (0%) of the respondents disagreed, 10 (33.3%) of the respondents agreed and 20 (66.7%) of the respondent strongly agreed. Also, Assistive technology devices improve the overall quality of life for physically impaired students by facilitating their access to information and communication.

From the table, item four is clearly shown that 5 (16.7%) of the respondents strongly disagreed, 3 (10%) of the respondents disagreed, 11 (36.7%) of the respondents agreed and 11 (36.7%) of the respondent strongly agreed. With these, physically impaired students experience increased confidence and self-esteem when using assistive technology devices to perform daily living tasks.

From the table, item five is clearly shown that 0 (0%) of the respondents strongly disagreed, 1 (3.3%) of the respondents disagreed, 12 (40%) of the respondents agreed and 17 (56.7%) of the respondent strongly agreed. In addition, integrating assistive technology devices into the learning environment positively impacts the academic performance of physically impaired students.

RQ 2. How does the developmental level of students with physical impairment influence the use of Assistive Technology?

S/N	Items	SA (%)	A (%)	D (%)	SD (%)	Total (%)	Mean	Chi-square	Df
6.	Physically impaired students at different developmental levels benefit from the use of Assistive Technology.	15 (50)	12 (40)	1 (3.3)	2 (6.7)	30 (100)	3.50	1.745	3
7.	The developmental level of physically impaired students affects their ability to effectively	19 (63.3)	10 (33.3)	1 (3.3)	0 (0)	30 (100)	3.07	40.560	3

	use Assistive Technology.								
8.	Assistive Technology should be tailored to match the developmental level of physically impaired students.	14 (46.7)	9 (30)	4 (13.3)	3 (10)	30 (100)	2.89	41.754	3
9.	The developmental level of physically impaired students significantly influences the success of their integration and utilization of Assistive Technology.	12 (40)	12 (40)	3 (10)	3 (10)	30 (100)	3.73	43.440	3
10.	The developmental level of physically impaired students plays a crucial role in determining the appropriate types of Assistive Technology for their educational needs.	3 (10)	20 (66.7)	6 (20)	1 (3.3)	30 (100)	3.15	40.560	3

Sources: Field Survey, 2023.

From the table, item six is clearly shown that 2 (6.7%) of the respondents strongly disagreed, 1 (3.3%) of the respondents disagreed, 12 (40%) of the respondents agreed and 15 (50%) of the respondent strongly agreed. In addition, physically impaired students at different developmental levels benefit from the use of Assistive Technology.

From the above table, item seven is clearly shown that 0 (0%) of the respondents strongly disagreed, 1 (3.3%) of the respondents disagreed, 10 (33.3%) of the respondents agreed and 19 (63.3%) of the respondent strongly agreed. With this, the developmental level of physically impaired students affects their ability to effectively use Assistive Technology.

From the above table, item eight is clearly shown that 3 (10%) of the respondents strongly disagreed, 4 (13.3%) of the respondents disagreed, 9 (30%) of the respondents agreed and 14 (46.7%) of the respondent strongly agreed. With this, Assistive Technology should be tailored to match the developmental level of physically impaired students.

From the above table, item nine is clearly shown that 3 (10%) of the respondents strongly disagreed, 3 (10%) of the respondents disagreed, 12 (40%) of the respondents agreed and 12 (40%) of the respondent strongly agreed. The developmental level of physically impaired students significantly influences the success of their integration and utilization of Assistive Technology.

From the above table, item ten is clearly shown that 1 (3.3%) of the respondents strongly disagreed, 6 (20%) of the respondents disagreed, 20 (66.7%) of the respondents agreed

and 3 (10%) of the respondent strongly agreed. The developmental level of physically impaired students plays a crucial role in determining the appropriate types of Assistive Technology for their educational needs.

RQ 3. What is the current status of Assistive Technology provision and utilization in the selected special school in Oyo State?

S/N	Items	SA (%)	A (%)	D (%)	SD (%)	Total (%)	Mean	Chi-square	Df
11.	The special school in Oyo State provides sufficient assistive technology devices to meet the needs of its students.	2 (6.7)	6 (20)	12 (40)	10 (33.3)	30 (100)	2.89	40.560	3
12.	The special school in Oyo State effectively trains its staff and students on the proper utilization and maintenance of assistive technology devices.	3 (10)	0 (0)	14 (46.7)	13 (43.3)	30 (100)	3.07	41.754	3
13.	The special school in Oyo State ensures equal access to assistive technology devices for all its students, regardless of their individual needs and disabilities.	2 (6.7)	2 (6.7)	13 (43.3)	13 (43.3)	30 (100)	3.73	40.560	3
14.	The special school in Oyo State regularly updates its assistive technology inventory to keep up with the latest advancements and meet the changing needs of its students.	1 (3.3)	2 (6.7)	16 (53.3)	11 (36.7)	30 (100)	3.15	41.754	3
15.	The special school in Oyo State actively seeks feedback from students and their families regarding their satisfaction with the assistive technology devices provided and utilized in the school.	3 (10)	0 (0)	16 (53.3)	11 (36.7)	30 (100)	3.15	41.754	3

Sources: Field Survey, 2023.

From the above table, it is clearly shown that 10 (33.3%) of the respondents strongly disagreed, 12 (40%) of the respondents disagreed, 6 (20%) of the respondents agreed and 2 (6.7%) of the respondent strongly agreed. The special school in Oyo State does not provide sufficient assistive technology devices to meet the needs of its students.

From the above table, it is clearly shown that 13 (43.3%) of the respondents strongly disagreed, 14 (46.7%) of the respondents disagreed, 0 (0%) of the respondents agreed and 3 (10%) of the respondent strongly agreed. The special school in Oyo State does not effectively trains its staff and students on the proper utilization and maintenance of assistive technology devices.

From the above table, it is clearly shown that 13 (43.3%) of the respondents strongly disagreed, 13 (43.3%) of the respondents disagreed, 2 (6.7%) of the respondents agreed and 2 (6.7%) of the respondent strongly agreed. With this, the special school in Oyo State does not have equal access to assistive technology devices for all its students, regardless of their individual needs and disabilities.

From the above table, it is clearly shown that 11 (36.7%) of the respondents strongly disagreed, 16 (53.3%) of the respondents disagreed, 2 (6.7%) of the respondents agreed and 1 (3.3%) of the respondent strongly agreed. The special school in Oyo State does not regularly updates its assistive technology inventory to keep up with the latest advancements and meet the changing needs of its students.

From the above table, it is clearly shown that 11 (36.7%) of the respondents strongly disagreed, 16 (53.3%) of the respondents disagreed, 0 (0%) of the respondents agreed and 3 (10%) of the respondent strongly agreed. The special school in Oyo State does not actively seeks feedback from students and their families regarding their satisfaction with the assistive technology devices provided and utilized in the school.

Discussion

From the analysis of the data gotten from the study, it is gathered that Assistive technology devices significantly enhance the independence of physically impaired students in their daily living activities. In the same vein, Rose et al, (2022) opined that Assistive technology is designed for individual use, assistive technologies can be carefully engineered, fitted, and adapted to the specific strengths and functional limitations of an individual student.Information gathered from the respondents revealed that Many countries around the world are focusing on approaches to utilize Assistive technologies in learning and teaching to improve the quality of education by emphasizing competencies such as critical thinking, decision-making, handling of dynamic situations, working as a member of a team, and effective communication (Rwegoshora et al., 2022).

Based on the outcome of the findings, it is clearly stated that students with physical impairment at different developmental levels benefit from the use of Assistive Technology. According to the Equality Act (2010) protects people with physical impairments when their impairment is substantial and long-term. In such cases, there will be a legal obligation to make reasonable adjustments and not to treat less favourably. Assistive Technologies are found useful for students with physical impairment based on availabilities, coordinated assessment of Assistive Technologies, and implementation process. Information gathered from the respondents revealed that according to Equality Act (2010) Some researchers have shown the utilization of Assistive technologies in education has been seen as the method that would help students with disabilities realize their potential and bypass area of instructional difficulties through the new technological tools and revolutionize an outmoded educational system.

The results presented in the research indicated that the special school in Oyo State does not provides sufficient assistive technology devices to meet the needs of its students, Ellis, 2002 expressed that special education teachers do extra work in planning schemes of work using Assistive Technologies as tools for teaching the class contents due to closed curriculum. In the view of CRPD (2006), Turkish Disability Act (2005) and, ANED (2008) each disabled student has right to access assistive technologies related with his/her needs. Assistive technologies are being used by many schools to enrich the educational medium especially for the students with disabilities. However, most of the assistive technologies are too expensive to acquire for schools and individuals. According to Turkish Disability Act (2005), government is responsible for providing these technologies to individuals. Many countries around the world are focusing on approaches to utilize Assistive technologies in learning and teaching to improve the quality of education by emphasizing competencies such as critical thinking, decision-making, handling of dynamic situations, working as a member of a team, and effective communication (Rwegoshora et al., 2022).

However, special education students are often denied their right to education. Students with physical impairment are placed in the same classes as non-disabled students, this may impede the educational progress of students with physical impairment. The inclusion of students with physical impairment in mainstream classrooms with fellow normal students has been identified as a great problem because students with either hearing impaired or blind or mentally retarded cannot learn as normal students. Also, special education classes have not been functioning well because the use of Assistive Technologies for teaching the school contents was not included in the general school curriculum. Ellis, 2002 expressed that special education teachers do extra work in planning schemes of work using Assistive Technologies as tools for

teaching the class contents due to closed curriculum (Ellis, 2002). Another problem is the non-availability and malfunctioning of Assistive Technologies in special schools.

Conclusion

The research examined the use of Assistive Technology Devices, Daily living activities and developmental level of students with physical impairment in biology class in Oyo State. The results obtained from the data gathered and analyzed in this study indicated that there are only a limited number of assistive technology devices available in the metropolis. It was further revealed that only a few of the assistive technologies available are being utilized for special education in the metropolis of Oyo. It was also revealed that very few are being frequently used for the teaching and learning of special students.

Recommendations

Based on the findings and conclusions of this study, the following recommendations were made:

1. Government should provide adequate funding to improve availability and affordability of assistive technology for children with disabilities.

2. Curriculum developers should enable students with disabilities access to all conventional policies, systems and services (for example, health facilities, schools, transportation and playgrounds) through assistive technology and accessibility measures as required.

3. Government and Non-Governmental Organizations (NGOs) should include access to assistive technology in the education policy and programmers.

4. The government should develop a multi-sectoral taskforce across Ministries of education, health and social welfare (or similar ministries) to ensure that children with disabilities have access to appropriate assistive technology.

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