SCHOOL OF LIBRARY ARCHIVES AND DOCUMENTATION STUDIES

(SLADS)

RESEARCH REPORT ON

ASSESSMENT ON THE USE OF ASSISTIVE TECHNOLOGY FOR PUPILS WITH MOBILITY IMPAIRMENT AT A SCHOOL LIBRARY: A CASE STUDY AT UHURU MCHANGANYIKO PRIMARY SCHOOL:

BY

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A Research Report Submitted at School of Library ,archives and documentation studies (SLADS) in Partial Fulfillment of the Requirements for the Ordinary Diploma in Library and Information Management.

August,2026

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CERTIFICATION

I, the undersigned, certify that I have carefully read and examined this research proposal titled **"Assessment on the Use of Assistive Technology for Pupils with Mobility Impairment in a School Library: A Case Study at Uhuru Mchanganyiko Primary School."** I am satisfied that it meets the required academic standards and is approved for submission in partial fulfillment of the requirements for the award of a Ordinary Diploma in Library and Information Management at School of Library and Documentation Studies (SLADS)

Supervisor's Name

NASRA OTHMAN

Signature:

……

Date:

……

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DEDICATION

This research report is dedicated to my beloved family for their unwavering support, encouragement, and prayers throughout my academic journey. All pupils with mobility impairments in Tanzania who strive daily to access quality education despite the challenges they face. The teachers and librarians at Uhuru Mchanganyiko Primary School who work tirelessly to create an inclusive learning environment for all students. Everyone who believes that every child deserves equal access to education and information regardless of their physical abilities.

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Lastly, but not least, I extend my heartfelt gratitude to my family, particularly my parents, siblings, and relatives, for their love, financial support, and prayers throughout my academic life. Your sacrifices have not gone unnoticed.

May God bless you all abundantly.

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LIST OF ABBREVIATIONS

APA American Psychological Association

AT Assistive Technology

CRPD Convention on the Rights of Persons with Disabilities

IFLA International Federation of Library Associations and Institutions

MoEST Ministry of Education, Science and Technology

NECTA National Examinations Council of Tanzania

SLADS School of Library, Archives and Documentation Studies

SPSS Statistical Package for the Social Sciences

UN United Nations

UNESCO United Nations Educational, Scientific and Cultural Organization

URT United Republic of Tanzania

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ABSTRACT

This study assessed the use of assistive technology for pupils with mobility impairments at Uhuru Mchanganyiko Primary School Library in Dar es Salaam, Tanzania. The study was guided by three specific objectives: to assess the level of awareness among pupils with mobility impairments regarding available assistive technologies; to evaluate the effectiveness of assistive technologies in improving access to information and academic performance; and to identify challenges faced by pupils with mobility impairments when accessing and using assistive technologies in the school library.

The study adopted a case study research design with a mixed-methods approach. Data were collected from 15 pupils with mobility impairments through structured questionnaires, from 4 library and special education staff members through semi-structured interviews, and from 3 school administrative officials through key informant interviews. Direct observation of the library facilities was also conducted. Quantitative data were analyzed using descriptive statistics through SPSS, while qualitative data were analyzed thematically.

The findings revealed that while basic structural features like entrance ramps enjoyed universal awareness (100%), awareness of specialized assistive technologies such as adjustable desks (26.7%), accessible shelving (33.3%), and digital learning aids (13.3%) was extremely low. Regarding effectiveness, 60% of students reported that assistive facilities improved their access to books, and 53.3% felt it positively impacted their academic performance. However, physical navigation within the library remained problematic, with 53.3% disagreeing that the library was fully physically accessible. Major challenges identified included poor internal infrastructure and high shelves (80%), inadequate or broken equipment (66.7%), lack of training on tools (60%), lack of personal awareness (53.3%), and technical/digital bottlenecks (26.7%), compounded by chronic budget constraints.

The study concludes that while Uhuru Mchanganyiko Primary School has established a baseline for inclusive education by providing physical entry access to its library, the facility falls short of providing comprehensive, independent inclusive library services.

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Recommendations include redesigning the internal library layout, lowering book shelving, implementing targeted library orientations for students with disabilities, increasing government funding for assistive technologies, and capacity building for school librarians. The study contributes empirical evidence on assistive technology services in primary school library settings in Tanzania.

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TABLE OF CONTENT

CERTIFICATION ..... **i**

DECLARATION AND COPYRIGHT ..... **ii**

COPYRIGHT ii

DEDICATION ..... **iii**

ACKNOWLEDGEMENT ..... **iv**

LIST OF ABBREVIATIONS ..... **v**

ABSTRACT ..... **vi**

LIST OF TABLES ..... **xii**

LIST OF FIGURES ..... **xiii**

CHAPTER ONE **1**

1.0 Introduction **1**

1.3 Objectives of the Study **4**

1.3.1 General Objective **4**

1.4 Research Questions **4**

1.5 Significance of the Study **5**

1.6 Scope of the Study **5**

1.7 Limitations of the Study **6**

1.8 Definition of Key Terms **7**

CHAPTER TWO **9**

LITERATURE REVIEW **9**

2.0 Introduction **9**

2.1 Concept of Assistive Technology in Education **9**

2.2 Assistive Technology in School and Academic Libraries **10**

2.3 Effectiveness of Assistive Technology in Enhancing Academic Performance **11**

2.4 Awareness of Assistive Technology among Students **12**

SLADS Research Hub · SLADS/2026/00015 · repository.slads.sc.tz

2.5 Challenges Facing Students with Mobility Impairments in Using Assistive Technology **13**
2.6 Research Gap **14**
CHAPTER THREE **16**
RESEARCH METHODOLOGY **16**
3.0 Introduction **16**
3.1 Research Design **16**
3.2 Research Approach **17**
3.3 Area of the Study **17**
3.4 Population of the Study **18**
3.5 Sample Size **18**
3.6 Sampling Techniques **18**
3.7 Data Collection Methods **19**
3.7.1 Questionnaire **19**
3.7.2 Interview **20**
3.7.3 Observation **20**
3.8 Data Quality Control **21**
3.9 Data Processing and Analysis **21**
3.10 Ethical Considerations **22**
CHAPTER FOUR **23**
DATA ANALYSIS, PRESENTATION, AND DISCUSSION **23**
4.0 Introduction **23**
4.1 Response Rate **23**
Table 4.1 Response Rate of Respondents (N=15) **23**
4.2 Demographic Characteristics of Respondents **24**
4.2.1 Composition of Respondents by Age **24**
Table 4.2: Respondents Age Group (N=15) **24**

SLADS Research Hub · SLADS/2026/00015 · repository.slads.sc.tz

4.2.2 Distribution of Respondents by Sex 25
Table 4.2: Sex Distribution of Respondents (N=15) 25
4.2.3 Type of Mobility Impairment and Frequency of Library Use 25
Table 4.2.3: Type of Mobility Impairment and Library Use Frequency (N=15) 26
4.3 Awareness of Assistive Technology among pupils 26
Table 4.3: Student Awareness of Specific Assistive Facilities (N=15) 27
4.4 Effectiveness of Assistive Technologies in the Library 28
Table 4.2: Perceived Effectiveness of Assistive Facilities (N=15) 28
4.4 Challenges Faced by Students with Mobility Impairments 29
Table 4.4: Challenges Faced by Students with Mobility Impairments (N=15) 30
4.6 Summary of Key Findings 31
4.6.1 Awareness of Assistive Technology among Pupils 31
4.6.2 Effectiveness of Assistive Technologies in the Library 31
4.6.3 Challenges Faced by Students with Mobility Impairments 32
CHAPTER FIVE 33
SUMMARY, CONCLUSION, AND RECOMMENDATIONS 33
5.0 Summary of the Findings 33
5.1 Conclusion 33
5.2 Recommendations 34
5.2.1 Redesign the Internal Layout of the Library 34
5.2.2 Lower the Book Shelving 35
5.2.3 Implement Targeted Orientations for Students with Disabilities 35
5.2.3 Recommendations for Further Research 35
REFERENCES 36
APPENDIX I 41
APPENDIX II: RESEARCH BUDGET: 46
APPENDIX III 47

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APPENDIX IV..... 48

SLADS Research Hub · SLADS/2026/00015 · repository.slads.sc.tz

LIST OF TABLES

4.1 Respondents Age Group……..…….28

4.2 Sex Distribution of Respondents …….28

4.3 Type of Mobility Impairment……29

4.4 Frequency of Library Use…….,,29

4.5 Student Awareness of Specific Assistive Facilities……...30

4.6 Perceived Effectiveness of Assistive Facilities…….…….31

4.7 Challenges Faced by Students with Mobility Impairments...……..…33

SLADS Research Hub · SLADS/2026/00015 · repository.slads.sc.tz

LIST OF FIGURES

Conceptual Framework for the Study…… 12

Age Distribution of Respondents……. 28

Sex Distribution of Respondents …….29

Type of Mobility Impairment……..29

Frequency of Library Use……30

Awareness of Assistive Facilities…..……..31

Perceived Effectiveness of Assistive Technologies 32

Challenges Faced by Students……33

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CHAPTER ONE

1.0 Introduction

This chapter provides in-depth overview of the completed research by discussing the background of the study, the problem statement, research objectives, research questions, significance, and scope of the study.

1.1 Background of the Study

Education is one of the most significant areas of human capital investment in any nation. The right to education is a fundamental right recognized by international human rights legislation, serving as a multiplier that enables individuals to exercise other human rights including economic, social, civil, political, and cultural rights (Agbon & Mina, 2017). Education fosters social mobility and raises one's self-esteem, making it essential for every human being.

The United Nations Educational, Scientific, and Cultural Organization (UNESCO) has significantly impacted the development of inclusive education for students with special needs worldwide. Inclusive education has been embraced globally to guarantee that all students have access to a high-quality education regardless of their physical condition or disability status. Expanding personal communication experiences of disabled persons and individuals without impairments is now the most significant socio-psychological resource for increasing the quality of inclusive education (Al-Shammari et al., 2019; Sorokoumova et al., 2022).

In Tanzania, the legal framework governing the rights of persons with disabilities has evolved considerably over the past two decades. The Persons with Disabilities Act No. 9 of 2010 represents Tanzania's primary legislative instrument for protecting and promoting the rights of persons with disabilities. The Act mandates that public institutions, including primary and higher education establishments, ensure accessibility and accommodation for persons with disabilities. The National Education and Training Policy of 2014 further reinforces this commitment by emphasizing inclusive education

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and equitable access to educational services at all levels of the Tanzanian education system (United Republic of Tanzania, 2014).

School libraries play a central role in supporting the teaching and learning missions of their parent institutions. Libraries are expected to cater to all users regardless of their physical abilities, ethnicity, gender, or social class. In line with inclusive education principles, school libraries serve all members of the school community, including pupils with mobility impairments who face unique challenges in accessing library services and resources. The International Federation of Library Associations and Institutions (IFLA, 2014) emphasizes that libraries must provide equitable access to information for all users, including those with physical disabilities.

Pupils with mobility impairments represent a vulnerable group that often encounters significant barriers when attempting to access and utilize library services. These barriers include inadequate physical accessibility, insufficient assistive technology, and a lack of trained library staff (Farooq & Manzoor, 2021; Mohapatra, 2018). Assistive technology has emerged as a crucial means of bridging these accessibility gaps, offering tools and devices that enhance the functional capabilities of individuals with physical disabilities (Cook & Polgar, 2015).

At Uhuru Mchanganyiko Primary School, which is a pioneering institution for inclusive education in Tanzania, there was a growing recognition of the need to assess how well assistive technologies served students with mobility impairments. Despite increased awareness of disability rights and inclusive education in Tanzania, empirical evidence on the actual use, availability, and effectiveness of assistive technologies within school library settings remained limited. This study therefore investigated the state of assistive technology provision and utilization at the Uhuru Mchanganyiko Primary School Library with a view to improving inclusive library services for students with mobility impairments.

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1.2 Statement of the Problem

Librarians and information professionals are mandated to provide universal access to information resources to all users regardless of gender, race, ethnicity, class, or physical ability. Tumuhairwe (2013) contended that librarians in public and private sectors, as custodians of information, are obligated to provide information equitably to diverse library users, including people living with disabilities. However, users with mobility impairments continue to be underserved in many educational library environments, particularly in developing countries.

In Tanzania, while legislative frameworks such as the Persons with Disabilities Act (2010) and the National Education and Training Policy (2014) call for inclusive services, many school libraries have not adequately implemented assistive technology solutions to support pupils with mobility impairments. Previous studies by Majinge (2014) and Ndumbaro (2009) highlighted deficiencies in library services for persons with disabilities in Tanzanian institutions, noting that librarians often lack the training and resources necessary to cater effectively to this user group.

At Uhuru Mchanganyiko Primary School, the specific situation regarding the availability, accessibility, utilization, and effectiveness of assistive technologies for students with mobility impairments had not been systematically documented. There was no empirical evidence indicating whether the assistive technologies in place at the Uhuru Mchanganyiko Primary School Library were adequate, accessible, or being utilized effectively to support students with physical mobility challenges. Furthermore, little was known about the level of awareness among students with mobility impairments regarding available assistive technologies, nor the challenges they faced in accessing these technologies.

The absence of this critical information represented a significant gap that hindered informed policy decisions and resource allocation aimed at improving library services for pupils with mobility impairments at the primary level. Without a comprehensive assessment, institutional management could not make evidence-based decisions regarding assistive technology procurement, infrastructure improvement, staff training,

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or policy reform. This study filled this gap by conducting a systematic assessment of the use of assistive technology for pupils with mobility impairments at Uhuru Mchanganyiko Primary School Library.

1.3 Objectives of the Study

1.3.1 General Objective

To assess the use of assistive technology for pupils with mobility impairments at the Uhuru Mchanganyiko Primary School Library.

1.3.2 Specific Objectives

i To assess the level of awareness among pupils with mobility impairments regarding available assistive technologies in the Uhuru Mchanganyiko Primary School Library.

ii To evaluate the effectiveness of assistive technologies in improving access to information and academic performance of pupils with mobility impairments at Uhuru Mchanganyiko Primary School.

iii To identify challenges faced by pupils with mobility impairments when accessing and using assistive technologies in the Uhuru Mchanganyiko Primary School Library.

1.4 Research Questions

(i) What was the level of awareness among pupils with mobility impairments regarding the available assistive technologies in the Uhuru Mchanganyiko Primary School Library?

(ii) How effective are the assistive technologies available at Uhuru Mchanganyiko Primary School in improving access to information and supporting the academic performance of pupils with mobility impairments?

(iii) What challenges pupils with mobility impairments face when accessing and using assistive technologies in the Uhuru Mchanganyiko Primary School Library?

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1.5 Significance of the Study

This study holds significant value for multiple stakeholders within primary education and the library and information science community in Tanzania. The findings served both practical and academic purposes at institutional, national, and disciplinary levels.

First, the study findings informed school management, particularly the management of Uhuru Mchanganyiko Primary School Library, and other education stakeholders on how assistive technology was provided and utilized to support students with mobility impairments. The study revealed whether the library was adhering to inclusive education policies and national accessibility standards as required under the Persons with Disabilities Act (2010) and the National Education and Training Policy (2014).

Second, the study informed school authorities about the challenges faced in ensuring effective access to library resources for primary students with mobility impairments. This helped in devising appropriate strategies geared towards enhancing the provision, accessibility, and effective use of assistive technology at Uhuru Mchanganyiko Primary School Library, ensuring that students with mobility impairments were able to access information resources independently and equitably (Alper & Raharinirina, 2006).

Third, the study contributed to the existing body of knowledge in library and information science by providing empirical evidence on assistive technology services in a primary school library setting in Tanzania. It offered insights into the strengths, weaknesses, shortcomings, and opportunities related to assistive technology services in school libraries within developing countries, where such studies remain scarce (Chataika, 2012).

1.6 Scope of the Study

This study was conducted at the Uhuru Mchanganyiko Primary School Library and focused specifically on assessing the use of assistive technology for students with mobility impairments. The study examined the availability, accessibility, utilization, and effectiveness of assistive technologies designed to support students with mobility impairment challenges in accessing library resources and services.

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The research was confined to the school library environment and did not extend to other school departments or external institutions. The study assessed various forms of assistive technology available within the library, including physical accessibility features such as ramps, wide entrances, adjustable height tables, accessible shelves, and reserved study spaces. In addition, the study examined digital facilities that support access to information, including learning tools, simplified electronic systems, and other services that enhanced independent access for primary students with mobility impairments.

The scope of the study also included examining the level of awareness among students with mobility impairments regarding the availability of assistive technologies in the library, exploring how frequently these students utilized the available facilities, and determining whether such technologies adequately met their academic needs.

1.7 Limitations of the Study

Despite careful planning and preparation, several limitations affected the implementation of this study. These limitations are acknowledged to help readers appropriately interpret and contextualize the study findings.

One major limitation was financial constraint. Since the research was self-funded, limited financial resources restricted the study to only one school library, namely Uhuru Mchanganyiko Primary School. Expanding the research to include multiple institutions for comparative analysis would have required additional funding for transport, data collection, and logistical expenses. As a result, the findings are localized to Uhuru Mchanganyiko Primary School Library and may not be fully generalized to all school libraries in Tanzania.

Time limitation was another significant challenge. The study was conducted within a specific academic timeframe as part of the diploma requirements. This constrained period affected the depth of data collection and analysis. Some respondents, particularly primary school students with mobility impairments, were not easily available due to rigorous school schedules, examinations, or personal commitments, which occasionally delayed the data collection process.

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Additionally, the number of students with mobility impairments within the institution was relatively small, which limited the sample size. A small sample size may affect the statistical generalization of the findings. However, the study compensated for this by collecting detailed qualitative data to ensure a comprehensive understanding of the experiences of the available participants.

There were possible response biases, as some primary-aged respondents provided socially desirable answers rather than expressing their true experiences, which could affect the accuracy of self-reported data. Furthermore, some assistive technologies or infrastructure features might have been under maintenance or temporarily unavailable during the time of observation, which influenced the assessment results.

1.8 Definition of Key Terms

Assistive technology (AT); Assistive Technology refers to any device, equipment, software, or system that is used to improve the functional capabilities of individuals with disabilities (Cook & Polgar, 2015). In this study, assistive technology includes physical accessibility tools such as ramps, elevators, adjustable-height tables, accessible entrances, and digital systems that enable pupils with mobility impairments to access library resources independently.

Mobility impairment; Mobility impairment refers to a physical disability that limits a person's movement, coordination, stamina, or ability to perform physical tasks (World Health Organization, 2011). In this study, mobility impairment includes pupils who use wheelchairs, crutches, walking frames, prosthetic limbs, or those who experience difficulty in walking, standing, or moving within the academic library environment.

Academic library; An academic library is a library established within a higher learning institution to support teaching, learning, research, and academic development (IFLA, 2014). In this study, the term refers specifically to SLADS Academic Library and its facilities, services, infrastructure, and information resources.

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Accessibility; refers to the degree to which library facilities, services, and resources can be easily reached, entered, used, and understood by students with mobility impairments (United Nations, 2006). In this study, accessibility includes physical access such as ramps, doors, and layout as well as service access including availability of supportive technologies and staff assistance.

Utilization; refers to the extent to which students with mobility impairments make use of the available assistive technologies and accessible library services. In this study, it measures the frequency and manner in which pupils use assistive facilities within SLADS Academic Library (Borg et al., 2015).

Inclusive Library Services; Inclusive library services refer to library services designed to accommodate and support all users regardless of disability (IFLA, 2014). In this study, it refers to services provided by SLADS Academic Library that ensure equal access to information for pupils with mobility impairments.

Effectiveness; refers to the extent to which assistive technologies achieve their intended purpose of improving access to information and supporting academic performance for pupils with mobility impairments (Matter & Harniss, 2015).

Awareness; Awareness refers to the level of knowledge that pupils with mobility impairments have regarding the availability and use of assistive technologies within the academic library (Kelly & Smith, 2011).

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CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviews existing literature related to the assessment of the use of assistive technology for pupils with mobility impairments in educational institutions and libraries. The review examines theoretical and empirical studies that explain how assistive technologies support pupils with mobility impairment by improving accessibility, participation, independence, and academic performance in learning environments. It also analyzes the effectiveness of various assistive technologies used in academic settings and identifies challenges affecting their adoption and utilization. The chapter concludes by identifying the research gap that this study addressed.

2.1 Concept of Assistive Technology in Education

Assistive technology encompasses a broad range of devices, software, and equipment designed to enhance the functional capabilities of individuals with disabilities. Cook and Polgar (2015) define assistive technology as any item, piece of equipment, or product system that is used to increase, maintain, or improve the functional capabilities of individuals with disabilities. This definition encompasses both low-technology solutions such as ramps and adjustable desks, and high-technology solutions such as voice recognition software, screen readers, and adaptive input devices.

In the context of inclusive education, assistive technology has been recognized as a critical tool for promoting equitable learning environments. The United Nations Convention on the Rights of Persons with Disabilities (UN CRPD, 2006) specifically calls on signatory states to ensure access to information and communication technologies, including assistive technologies, to enable persons with disabilities to participate fully in educational settings. This international framework has influenced national policies in many countries, including Tanzania, where the Persons with Disabilities Act (2010) mandates accessibility in public learning institutions.

Research has demonstrated that when properly implemented, assistive technology can significantly reduce the barriers faced by students with mobility impairments. Alper and

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Raharinirina (2006) conducted a comprehensive review of literature on assistive technology and found that its use was associated with improved academic participation, greater independence, and higher levels of self-efficacy among students with physical disabilities. Similarly, Boot et al. (2018) emphasized that assistive technology solutions tailored to the specific needs of users with mobility impairments can substantially improve their ability to access educational resources and complete academic tasks.

2.2 Assistive Technology in School and Academic Libraries

Libraries serve as vital information hubs within learning institutions, and their accessibility is essential for supporting the academic success of pupils with disabilities. The International Federation of Library Associations and Institutions (IFLA, 2014) has developed guidelines emphasizing that libraries must provide accessible services and facilities for persons with disabilities, including those with mobility impairments. These guidelines advocate for the provision of accessible physical spaces, adaptive technologies, and trained staff to support users with special needs.

In developed settings, considerable progress has been made in integrating assistive technology into library services. Studies by Nandi (2021) and Kelly and Smith (2011) have documented the various forms of assistive technology commonly found in libraries, including adjustable-height desks and workstations, screen magnification software, simplified digital interfaces, and physical mobility aids such as book trolleys or custom reading spaces. These technologies collectively work to reduce physical and informational barriers, enabling students with mobility impairments to access library resources with greater independence.

However, the situation in developing countries, including many African nations, presents a different picture. Chataika (2012) conducted research on disability inclusion in education in sub-Saharan Africa and found that many institutions lacked the infrastructure, resources, and institutional commitment necessary to provide adequate assistive technology for students with disabilities. The study highlighted that physical inaccessibility, limited budgets, and insufficient awareness were key obstacles to inclusive library services in the region.

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In Tanzania specifically, Majinge (2014) examined library services for people with visual and physical disabilities and found significant deficiencies in assistive technology provision across several public libraries and institutional learning hubs. The study revealed that while some libraries possessed basic accessibility features, comprehensive assistive technology solutions were largely absent, and library staff lacked adequate training to support users with disabilities effectively.

2.3 Effectiveness of Assistive Technology in Enhancing Academic Performance

The effectiveness of assistive technology in enhancing academic performance and information access among pupils with mobility impairments has been a subject of growing scholarly attention. Effectiveness in this context refers to the extent to which assistive technologies improve access to information, participation in academic activities, and overall learning experiences for pupils with physical disabilities in school libraries. Assistive technology is considered effective when it enables students to access library resources independently and efficiently without encountering physical or technological barriers (Cook & Polgar, 2015).

Access to information is enhanced when assistive technologies such as adjustable desks, accessible reading workstations, mobility-support equipment, and adaptive tools allow pupils with mobility impairments to easily reach and use library materials. Boot et al. (2018) demonstrated that these technologies help reduce physical limitations that may prevent pupils from interacting effectively with library services, thereby promoting equal access to educational information. Their study found that pupils who had access to appropriate assistive technologies reported significantly higher levels of satisfaction with library services and better outcomes in learning tasks.

Assistive technology also improved academic participation by enabling pupils with mobility impairments to interact with digital formats, visual catalogues, and electronic learning resources more efficiently. With appropriate tools, pupils can search for information, retrieve materials, and complete academic tasks with greater independence. Borg et al. (2015) observed in their study that this improvement in academic engagement supported better learning outcomes among students with physical

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disabilities. The researchers noted that the combination of physical accessibility features and digital assistive tools produced the most significant improvements in academic participation.

Another important aspect of effectiveness is the ability of assistive technology to promote independence and confidence among pupils with mobility impairments. When young pupils are able to access information resources without relying heavily on assistance from others, they develop greater self-reliance and confidence in their academic abilities. Matter and Harniss (2015) emphasized that this psychological dimension of assistive technology effectiveness is often overlooked in assessments that focus solely on physical or technological outcomes. However, the effectiveness of assistive technology ultimately depends on several interrelated factors, including the availability of appropriate devices, proper training for users, supportive infrastructure, and institutional commitment to inclusive education.

2.4 Awareness of Assistive Technology among Students

pupils awareness of available assistive technologies is a critical determinant of whether these technologies are effectively utilized. Kelly and Smith (2011) found that many pupils with disabilities were unaware of the full range of assistive technologies available to them in library spaces, leading to the underutilization of potentially beneficial resources. Their research indicated that proactive outreach, orientation programs, and disability awareness campaigns were essential for ensuring that students could benefit from available assistive technology provisions.

In the African context, awareness levels among students with disabilities tend to be lower due to limited disability support infrastructure and insufficient communication about available services. Farooq and Manzoor (2021) conducted research on library accessibility in developing country contexts and found that the absence of structured orientation programs for students with disabilities was a recurring barrier to assistive technology awareness and utilization. Many students with mobility impairments reported discovering available assistive technologies only through informal peer-to-peer communication rather than through official library or school channels.

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The relationship between awareness and utilization is therefore direct and significant. Students who are aware of available assistive technologies are more likely to use them, benefiting from improved information access and academic performance. Conversely, low awareness translates into low utilization, meaning that even where assistive technologies are physically available, they may remain underused due to a lack of knowledge among potential beneficiaries (Alper & Raharinirina, 2006).

2.5 Challenges Facing Students with Mobility Impairments in Using Assistive Technology

Despite the recognized importance of assistive technology in supporting students with mobility impairments, several challenges limit its effective use in school libraries. These challenges may be classified into physical, institutional, and socio-psychological categories.

One of the major challenges is the limited availability of assistive technologies in school libraries, particularly in developing countries. In some institutions, the number of assistive devices such as adjustable workstations, specialized seating, and mobility-support equipment is insufficient to meet the needs of all registered pupils with mobility impairments (Cook & Polgar, 2015). As a result, students may experience delays or difficulties when trying to access library services and resources.

Another significant challenge is inadequate infrastructure and physical accessibility within older library buildings. Some libraries may not have ramps, wide pathways, or accessible furniture that can support the use of assistive technologies. Chataika (2012) found that physical barriers within educational buildings were among the most frequently cited obstacles to library access for students with mobility impairments in sub-Saharan African settings. These physical barriers can make it difficult for students to move freely within the library and access information resources independently.

A lack of awareness and training on the use of assistive technologies constitutes another significant barrier. Primary school pupils with mobility impairments may not be fully aware of the assistive technologies available in the library or may lack the necessary physical guidance to operate them effectively. Similarly, school library staff may not

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have adequate training to assist pupils in using these technologies properly (Kelly & Smith, 2011). This dual lack of user and staff training creates a situation where assistive technologies are available in principle but effectively inaccessible in practice.

Financial constraints represent a further challenge, particularly for primary institutions in developing countries. The procurement, maintenance, and upgrading of assistive technologies require sustained financial investment that many public schools in Tanzania struggle to maintain. Mohapatra (2018) noted that budget limitations often result in outdated or insufficient assistive technology provision, further disadvantaging students with mobility impairments.

Attitudinal barriers, including negative or indifferent attitudes from staff and peers, can discourage students with mobility impairments from seeking assistance or utilizing available assistive technologies. Farooq and Manzoor (2021) identified attitudinal barriers as an important but often overlooked dimension of library accessibility, emphasizing the need for regular disability awareness training for all school personnel.

2.6 Research Gap

Although several studies have examined the role of assistive technology in supporting students with disabilities in educational institutions, many focus broadly on higher education or general special needs facilities without specifically examining the experiences of primary school students with mobility impairments in school library settings. Previous research has emphasized the importance of assistive technology in improving access to information, but most of these studies were conducted in developed country contexts where assistive technologies and accessibility infrastructure are generally more advanced (Cook & Polgar, 2015; Alper & Raharinirina, 2006).

In developing countries, including Tanzania, limited research has focused specifically on how assistive technologies are used by young students with mobility impairments within public primary school library environments. Majinge (2014) and Ndumbaro (2009) examined library services for persons with disabilities in Tanzania, but their studies did not focus extensively on the primary school sector or the unique needs of younger children with mobility challenges.

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At Uhuru Mchanganyiko Primary School, despite its reputation as an established center for inclusive primary education, there was limited systematically documented research assessing how assistive technologies in the library space supported primary students with mobility impairments. Most existing studies in Tanzania focus broadly on visual impairments or general classroom inclusion. Furthermore, very little empirical evidence existed regarding pupils awareness of available library tech and the specific day-to-day challenges encountered by pupils with mobility impairments when using the library services at Uhuru Mchanganyiko. This study directly addressed this localized gap.

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CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter describes the methods and procedures used to conduct the study. It outlines the research design, research approach, area of the study, population of the study, sample size, sampling techniques, data collection methods, data quality control measures, data processing and analysis procedures, and ethical considerations that guided the research.

3.1 Research Design

This study adopted a case study research design. A case study design involves an in-depth investigation of a particular phenomenon within its real-life context, typically focusing on a single unit such as an institution, organization, or group (Yin, 2014). The case study design was considered appropriate because it enabled a comprehensive and detailed examination of the use of assistive technology for students with mobility impairments within the specific, real-world context of the Uhuru Mchanganyiko Primary School Library.

A case study design is particularly valuable when the boundaries between the phenomenon being studied and its context are not clearly distinct, and when the researcher seeks to answer 'how' and 'what' questions about a contemporary phenomenon (Yin, 2014). Since this study sought to understand how assistive technologies were being used at Uhuru Mchanganyiko and what factors influenced their utilization, the design was well-suited to its objectives. It allowed for the triangulation of data from multiple sources including students, school library staff, and physical observations, thereby enhancing the reliability of the findings.

A descriptive approach within the case study was used to describe the state of assistive technology availability, accessibility, utilization, and effectiveness at the library. Descriptive research is concerned with describing accurately and systematically the characteristics of a particular situation, population, or area of interest (Creswell, 2014).

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This approach supported the generation of detailed and accurate descriptive data about the school.

3.2 Research Approach

This study employed a mixed-methods research approach that combined both quantitative and qualitative methods of data collection and analysis. A mixed-methods approach is justified when neither qualitative nor quantitative data alone is sufficient to address the research questions, and when the combination of both types provides a more comprehensive understanding of the problem (Creswell & Plano Clark, 2018).

The quantitative component involved the use of structured questionnaires to collect data on the level of awareness, frequency of utilization, and perceived effectiveness of assistive technologies among students with mobility impairments. Quantitative data allowed for the tracking of patterns in assistive technology awareness and use (Bryman, 2016). The qualitative component involved semi-structured interviews with library staff and key school informants, as well as direct observation of library facilities, to gather rich descriptive data on the operational challenges and contextual factors. The integration of both approaches enabled the researcher to obtain a well-rounded understanding of the research problem.

3.3 Area of the Study

The area of study was Uhuru Mchanganyiko Primary School, located in Dar es Salaam, Tanzania. Uhuru Mchanganyiko is historical for being one of the flagship public primary schools in the country to practice inclusive education, accommodating students with various disabilities alongside general education students. It operates a school library designed to serve its diverse pupil and teacher population.

Uhuru Mchanganyiko was selected as the study site because its long-standing commitment to inclusive primary education offered a highly relevant environment for studying how assistive technology is put into practice for young learners. The specific focus allowed for an in-depth examination of primary-level infrastructure and library services within a well-defined public school context.

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3.4 Population of the Study

According to Creswell (2014), a study population refers to the entire group of individuals about whom the researcher wishes to draw conclusions. The target population for this study comprised three main groups: students with mobility impairments registered at Uhuru Mchanganyiko Primary School who utilized the school library, library staff/teachers assigned to library management, and school officials responsible for special needs coordination and infrastructure planning.

Students with mobility impairments constituted the primary target population because they were the direct beneficiaries of assistive technology services and were best placed to provide information on availability, utilization, and real-life effectiveness. Library personnel were included because they played a central role in facilitating daily library operations. School officials provided institutional and policy-level perspectives regarding resource constraints and special needs procurement.

3.5 Sample Size

Due to the specialized nature of the target population at the primary level, a census approach was targeted for the specific core group of library-using pupils with severe mobility impairments to maximize data availability. For the broader student participant survey, a sample size of 10 to 15 students was established to gather foundational student responses.

For library and special education teaching staff, purposive sampling was used to select individuals directly involved in daily service delivery and assistive tool management, resulting in an identification of 3 to 5 library and special education staff members as respondents. For school administration and leadership, 3 to 5 key informants from the school management and special needs department were selected based on their direct relevance to the study's objectives.

3.6 Sampling Techniques

Different sampling techniques were applied to different components of the target population, depending on the nature of the population and the research objectives.

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For the core group of primary students with mobility impairments, a census approach was initially utilized where possible due to the specific, limited number of registered pupils facing severe mobility challenges who frequently interacted with the library space, ensuring all available voices were captured (Bryman, 2016). For general student interaction trends, a random sampling of 10 to 15 students was selected to understand general student patterns.

For library personnel and special education assistants, purposive sampling was employed. Purposive sampling involves the deliberate selection of participants who possess specific characteristics or professional knowledge relevant to the research questions (Creswell, 2014). Library caretakers were selected based on their direct involvement in assisting pupils with special physical needs, ensuring the inclusion of highly experienced informants.

For school officials, a combination of purposive and snowball sampling was utilized. Snowball sampling involves identifying initial administrative contacts and asking them to point out other personnel who handle the localized school budget and infrastructural adjustments for special needs (Bryman, 2016). This was highly useful for identifying staff members who held informal or formal responsibility for coordinating physical accessibility solutions across the compound.

3.7 Data Collection Methods

To ensure comprehensive data collection, this study employed three complementary data collection methods: questionnaires, interviews, and direct observation. This triangulation enhanced the validity and reliability of the findings by allowing the cross-verification of data from multiple sources (Creswell & Plano Clark, 2018).

3.7.1 Questionnaire

A structured questionnaire served as the primary data collection tool for students with mobility impairments. The questionnaire was designed to gather data regarding demographic characteristics, awareness of available library features, frequency of usage, perceptions of how much the library supported their learning, and localized challenges they faced when entering or moving around the library environment.

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The questionnaire was developed based on the study's objectives and adapted to suit primary school understanding, drawing insights from instruments used by Nandi (2021) and Farooq and Manzoor (2021). Closed-ended items were favored to facilitate ease of response for younger participants, utilizing simplified structural options and basic scales. A five-point Likert scale was embedded for items evaluating perceptions of helpfulness and ease of access.

3.7.2 Interview

Semi-structured interviews were conducted with library caretakers, special education teachers, and key school officials. The interview method was selected because it allowed for an in-depth exploration of institutional knowledge, procedural restrictions, budgets, and operational experiences regarding assistive technology provision at the primary level. It provided the flexibility to probe further into resource constraints (Bryman, 2016).

3.7.3 Observation

Direct observation of the Uhuru Mchanganyiko Primary School Library’s physical environment was carried out to independently assess accessibility features and physical infrastructure. Observation provided direct, unmediated evidence that was free from the potential self-reporting biases of participants (Creswell, 2014).

An observation checklist was developed based on national guidelines and established international standards, including IFLA's library accessibility recommendations and the Tanzania Persons with Disabilities Act (2010). The checklist covered physical features such as ramp structural condition, width of doorways, height of reading tables, layout of book shelving, adequacy of lighting, reserved study areas, and any basic digital or simplified electronic tools present. The observation was performed during normal school hours across multiple site visits.

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3.8 Data Quality Control

To ensure the quality of data collected, measures were enacted to support validity and reliability.

Content validity of the questionnaire and interview guide was established by reviewing related educational literature and subjecting the instruments to expert review by experienced researchers in information management. Their professional recommendations were integrated into the finalized instruments. Construct validity was maintained by ensuring tight alignment between each questionnaire item and the research questions, confirming the tools measured the specific variables under study (Bryman, 2016).

3.9 Data Processing and Analysis

Following data collection, data were processed and analyzed using techniques appropriate for both quantitative and qualitative subsets.

Quantitative data from the student questionnaires were coded and entered into the Statistical Package for the Social Sciences (SPSS) software. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were computed to summarize participant traits and Likert-scale trends. These statistics provided an overview of student awareness and resource utilization. The data were presented visually using structured tables and descriptive charts (Bryman, 2016).

Qualitative data from administrative and teacher interviews were transcribed and subjected to thematic analysis. Thematic analysis involves identifying, analyzing, and reporting recurring patterns or themes within qualitative notes (Braun & Clarke, 2006). The transcripts were reviewed systematically to generate initial codes, which were later grouped into thematic categories detailing infrastructure gaps, administrative barriers, and recommendations. Checklist data from direct observations were analyzed descriptively, evaluating the school's layout against standard accessibility requirements.

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3.10 Ethical Considerations

This study was conducted in strict compliance with established ethical principles governing research involving human participants, with heightened care given to the primary school setting.

First, informed consent and administrative assent were obtained before starting data collection. Because the primary student participants were minors, informed institutional consent was secured through school authorities and relevant teachers acting in loco parentis, accompanied by simplified verbal explanations to secure the pupils' willing assent. In accordance with the principles outlined by the American Psychological Association (APA, 2020), participation was completely voluntary, and individuals reserved the right to opt-out at any point.

Second, anonymity and confidentiality were strictly guaranteed. Questionnaires were filled out without names, ensuring no personal identifying details were connected to the quantitative records. For interview text, pseudonyms or generic codes (e.g., 'Special Ed Teacher 1', 'School Official A') were used in all narrative reports to safeguard identity. Data recordings were stored securely.

Third, formal research clearance was sought and obtained from the administrative leadership of Uhuru Mchanganyiko Primary School and relevant local educational officers prior to launching data collection. This process ensured that all school-level inquiries were executed with the full approval of institutional custodians (Yin, 2014).

Fourth, the researcher remained sensitive to the specific physical vulnerabilities of primary students with mobility impairments. Data collection processes were physically adapted to accommodate participant comfort, ensuring that interviews and questionnaire sessions took place in easily accessible, ground-floor rooms without disrupting normal class schedules or causing physical exhaustion.

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CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, AND DISCUSSION

4.0 Introduction

This chapter presents the data analysis, presentation, and discussion of the findings regarding the assessment of the use of assistive technology for pupils with mobility impairments at the Uhuru Mchanganyiko Primary School Library. The findings are organized and presented based on the specific objectives of the study: assessing the level of awareness, evaluating the effectiveness of available assistive technologies, and identifying the challenges faced by pupils with mobility impairments. Data gathered through structured questionnaires, key informant interviews, and direct observations were triangulated to provide a comprehensive analysis.

4.1 Response Rate

The study targeted 15 pupils with mobility impairments for questionnaire administration, 4 library and special education teaching staff members for interviews, and 3 school administrative officials for interviews. All targeted respondents participated in the study, yielding a 100% response rate. This high response rate was achieved through careful coordination with school authorities, scheduling data collection during convenient times, and maintaining regular follow-up with participants. The response rate is considered excellent for educational research and enhances the reliability and validity of the findings (Bryman, 2016).

Table 4.1 Response Rate of Respondents (N=15)

Category	Target respondents	Returned responses	Percentage (%)
Respondents	15	15	100%
Total	15	15	100%

Source: Field data (2026)

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4.2 Demographic Characteristics of Respondents

According to Creswell (2014), demographic characteristics refer to the background information of respondents that helps in understanding the composition of the study population and provides context for interpreting research findings. Demographic characteristics of respondents in this study included respondents' background information such as age, sex, type of mobility impairment, and frequency of library use.

4.2.1 Composition of Respondents by Age

Respondents in the present study were requested to specify their age groups. This aimed to determine the representation of different age categories among respondents involved in the study. A summary of the results is provided in Table 4.1. The study sought to identify age distribution of respondents in order to enrich findings of the study; age of respondents was taken into consideration in this study.

Table 4.2: Respondents Age Group (N=15)

Age	Frequency	Percentage%
Under 10	5	33.3%
10-14	10	66.7%
Total	15	100%

Source: Field data (2026)

Findings from Table 4.2 present the distribution of participants categorized by age. The data reveals that 5 (33.3%) of all respondents were under 10 years old, while 10 (66.7%) of all respondents were between 10 and 14 years old. Majority of the respondents were in the 10 - 14 years age range. This finding implies that Uhuru Mchanganyiko Primary School enrolls older primary pupils with mobility impairments who are likely to use the library more frequently compared to younger pupils who may still be developing basic mobility and reading skills.

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4.2.2 Distribution of Respondents by Sex

The study sought to identify respondents' sex distribution in order to avoid gender discrimination in this study. The researcher included a question which sought to identify respondents' sex distribution; results found are presented in Table 4.2 below.

Table 4.2: Sex Distribution of Respondents (N=15)

Sex	Frequency	Percentage%
Male	9	60%
Female	6	40%
Total	15	100%

Source: Field data (2026)

From the findings of Table 4.2 above on sex distribution of respondents, findings indicated that male respondents were 9 (60%) of all respondents while female respondents were 6 (40%) of all respondents. Majority of respondents (60%) from this study were male. This finding implies that male pupils with mobility impairments at Uhuru Mchanganyiko Primary School were more represented in the library-using population compared to their female counterparts. This could reflect broader gender patterns in primary school enrollment or differences in mobility impairment prevalence between male and female pupils.

4.2.3 Type of Mobility Impairment and Frequency of Library Use

The study mapped the physical profiles of the student participants to better understand their specific mobility challenges within the library space. Table 4.3 presents the findings.

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Table 4.2.3: Type of Mobility Impairment and Library Use Frequency (N=15)

Variable	Frequency	Percentage (%)
Wheel chair users	4	26.7
Crutches/ walking frames	5	33.3
Walking difficulty	6	40.0
Total	15	100

Table 4.2 Frequency of library use

Daily	**3**	**20.0**
Weekly	7	46.7
occasionally	5	33.3
Total	15	100

Source: Field data (2026)

The findings in Table 4.3 reveal that 4 students (26.7%) relied entirely on wheelchairs for movement, 5 students (33.3%) utilized crutches or mobility frames, and 6 students (40.0%) experienced severe walking coordination challenges without external devices. Regarding library visitation habits, 3 respondents (20%) visited the library daily, 7 respondents (46.7%) used it weekly, and 5 respondents (33.3%) used it occasionally or rarely. This indicates that while most pupils with mobility impairments access the library at least weekly, a notable proportion (33.3%) use it infrequently, which may be related to accessibility challenges or other barriers.

4.3 Awareness of Assistive Technology among pupils

The first specific objective of the study was to assess the level of awareness among pupils with mobility impairments regarding available assistive technologies and facilities in the school library. To address this objective, respondents were presented

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with specific assistive facilities and asked to indicate whether they were aware of their availability. The results are summarized in Table 4.4.

Table 4.3: Student Awareness of Specific Assistive Facilities (N=15)

Assistive Facility / Technology	Aware (f)	Percentage (%)	Not Aware (f)	Percentage (%)
Entrance Ramps	15	100.0%	0	0.0%
Wide Entrance Pathways	12	80.0%	3	20.0%
Adjustable/Specialized Desks	4	26.7%	11	73.3%
Accessible Lower Shelving	5	33.3%	10	66.7%
Digital Learning Aids	2	13.3%	13	86.7%
Reserved Study Spaces	6	40.0%	9	60.0%

Source: Field data (2026)

The quantitative data in Table 4.4 reveals that while basic structural adjustments like entrance ramps enjoyed universal awareness (100%), specialized internal adjustments like adjustable desks (26.7%) and digital learning aids (13.3%) suffered from very low visibility among the students. Wide entrance pathways were known to 80% of respondents, while accessible lower shelving was known to only 33.3%. Reserved study spaces were known to 40% of respondents. According to Kelly and Smith (2011), who observed that students with disabilities are often unaware of the full spectrum of assistive provisions in libraries due to a lack of proactive, structured orientation programs.

"The children easily identify the physical ramps because they use them to enter the building every day. However, because we lack a formalized library orientation that

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targets physical adjustments, many children do not realize that certain tables or specific seating spaces are reserved or adjustable for their comfort." (Said one Special Education Teacher)

4.4 Effectiveness of Assistive Technologies in the Library

The second specific objective of the study was to evaluate how effective the existing assistive setups were in improving access to information and supporting the academic performance of the students. Respondents were asked to rate their agreement with several statements on a five-point Likert scale, where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. The results are presented in Table 4.5.

Table 4.2: Perceived Effectiveness of Assistive Facilities (N=15)

Assessment Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Improved my access to books	1 (6.7%)	2 (13.3%)	3 (20.0%)	6 (40.0%)	3 (20.0%)
Helped improve academic performance	0 (0.0%)	3 (20.0%)	4 (26.7%)	5 (33.3%)	3 (20.0%)
Library was physically accessible	2 (13.3%)	6 (40.0%)	2 (13.3%)	4 (26.7%)	1 (6.7%)
Assistive features saved my time	3 (20.0%)	5 (33.3%)	3 (20.0%)	3 (20.0%)	1 (6.7%)

Source: Field data (2026)

The findings show that 60% of the students agreed or strongly agreed that the assistive facilities improved their access to books, and 53.3% felt it positively impacted their academic performance. However, physical navigation inside the room scored lower,

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with 53.3% of respondents disagreeing or strongly disagreeing that the library environment was fully accessible to their physical needs.

“(Direct observation confirmed)” that while the entrance ramp allowed students to enter the library independently, the internal rows between bookshelves were tightly packed. This structural bottleneck made it impossible for wheelchair users to retrieve books from the upper shelves without external assistance. This matches the findings of Boot et al. (2018), who noted that the true effectiveness of assistive technology is compromised when physical or spatial design limitations prevent complete, end-to-end independent operation.

(Said one library staff member shared during an interview) "The ramp gets them through the door, which is an excellent first step. But once inside, the physical layout fails them. They cannot turn their wheelchairs around easily, and they spend too much time waiting for us to pull books down for them."

4.4 Challenges Faced by Students with Mobility Impairments

The third specific objective of the study was to identify the operational, physical, and institutional challenges encountered by students when trying to use the library. Respondents were asked to identify the challenges they faced, with multiple responses allowed. The results are presented in Table 4.6.

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Table 4.4: Challenges Faced by Students with Mobility Impairments (N=15)

Challenge	Frequency	Percentage (%)
Poor internal infrastructure	12	80.0
Inadequate/ broken equipment	10	66.7
Lack of training on tools	9	60.0
Lack of personal awareness	8	53.3
Technical/digital bottleneck	4	26.7

Source: Field data (2026)

The findings show that the physical infrastructure and high shelves stood out as the most dominant challenges (80%). This physical barrier was exacerbated by financial constraints at the institutional level. Inadequate or broken equipment was cited by 66.7% of respondents, while lack of training on tools was reported by 60%. Lack of personal awareness was identified by 53.3% of respondents, and technical/digital bottlenecks were mentioned by 26.7%.

(One administrative official explained the school's fiscal reality during an interview)

"Uhuru Mchanganyiko has always been a hub for inclusive learning, but our budget allocations from public funds do not prioritize specialized library furniture or adaptive technology upgrades. Maintenance of existing tools relies mostly on occasional well-wishers, which makes keeping up with standards very difficult.

This situation mirrors the sub-Saharan analysis provided by Chataika (2012) and Mohapatra (2018), confirming that chronic budget limitations force public educational libraries in developing countries to operate with outdated, insufficient, or deteriorating disability infrastructure.

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4.6 Summary of Key Findings

The study revealed several important findings regarding the use of assistive technology for pupils with mobility impairments at Uhuru Mchanganyiko Primary School Library:

4.6.1 Awareness of Assistive Technology among Pupils

The study assessed the level of awareness among pupils with mobility impairments regarding available assistive technologies in the school library. Under this objective, the study examined five key indicators: (1) awareness of entrance ramps, (2) awareness of wide entrance pathways, (3) awareness of adjustable/specialized desks, (4) awareness of accessible lower shelving, and (5) awareness of digital learning aids. The finding from the study under this objective showed that while basic structural features like entrance ramps enjoyed universal awareness (100%), awareness of specialized assistive technologies such as adjustable desks (26.7%), accessible shelving (33.3%), and digital learning aids (13.3%) was extremely low. Therefore, this justifies that there is a significant gap in awareness of specialized assistive technologies among pupils with mobility impairments at Uhuru Mchanganyiko Primary School Library.

4.6.2 Effectiveness of Assistive Technologies in the Library

The study evaluated the effectiveness of assistive technologies in improving access to information and academic performance of pupils with mobility impairments. Under this objective, the study examined four key indicators: (1) improved access to books, (2) improved academic performance, (3) physical accessibility of the library, and (4) time saved by assistive features. The finding from the study under this objective showed that 60% of students reported that assistive facilities improved their access to books, and 53.3% felt it positively impacted their academic performance. However, physical navigation within the library remained problematic, with 53.3% disagreeing that the library was fully physically accessible, and 53.3% disagreeing that assistive features saved them time. Therefore, this justifies that while assistive technologies have made some positive contributions, the internal layout of the library fails to provide true independence for pupils with mobility impairments.

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4.6.3 Challenges Faced by Students with Mobility Impairments

The study identified challenges faced by pupils with mobility impairments when accessing and using assistive technologies in the school library. Under this objective, the study examined five key indicators: (i) poor internal infrastructure and high shelves, (ii) inadequate or broken equipment, (iii) lack of training on tools, (iv) lack of personal awareness, and (v) technical/digital bottlenecks. The finding from the study under this objective showed that poor internal infrastructure and high shelves (80%) were the most dominant challenges, followed by inadequate or broken equipment (66.7%), lack of training on tools (60%), lack of personal awareness (53.3%), and technical/digital bottlenecks (26.7%). Therefore, these findings justify that physical infrastructure, equipment availability, training, and awareness are the primary barriers to effective use of assistive technologies at Uhuru Mchanganyiko Primary School Library

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CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.0 Summary of the Findings

The study investigated the availability, awareness, effectiveness, and challenges of assistive technology for students with mobility impairments at Uhuru Mchanganyiko Primary School Library.

First, regarding awareness, the study found a stark imbalance. While external architectural adaptations like ramps were recognized by 100% of the students, internal adaptive technologies, specialized study desks, and digital learning tools suffered from low visibility and underutilization.

Second, regarding effectiveness, the existing setups successfully facilitated entry into the library building and contributed positively to the students' motivation and academic results. However, the internal layout failed to provide true independence, as high book shelving and narrow aisles forced students to remain dependent on caretakers or peers to retrieve materials.

Third, the primary challenges identified included restrictive internal space design, a lack of targeted library orientations, insufficient or unmaintained physical equipment, and deep financial limitations that restricted the school's ability to procure modern adaptive learning technologies.

5.1 Conclusion

The study concluded that while Uhuru Mchanganyiko Primary School has established a baseline for inclusive education by providing physical entry access (ramps) to its library building, there is a significant gap in awareness of specialized assistive technologies among pupils with mobility impairments. The low awareness of adjustable desks, accessible shelving, and digital learning aids indicates that the school has not provided adequate orientation or information about the full range of assistive technologies available. This finding is consistent with Kelly and Smith (2011), who observed that students with disabilities are often unaware of the full spectrum of assistive provisions

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due to a lack of structured orientation programs. Therefore, the researcher recommends the implementation of targeted library orientations for students with disabilities. The study also concluded that while assistive technologies have made some positive contributions to improving access to books and academic performance, the internal layout of the library fails to provide true independence for pupils with mobility impairments. The physical navigation challenges, including high shelves and narrow aisles, force students to remain dependent on caretakers or peers to retrieve materials. This finding is consistent with Boot et al. (2018), who noted that the true effectiveness of assistive technology is compromised when physical or spatial design limitations prevent complete, end-to-end independent operation. Therefore, the researcher recommends redesigning the internal library layout and lowering book shelving. The study concluded that physical infrastructure, equipment availability, training, and awareness are the primary barriers to effective use of assistive technologies at Uhuru Mchanganyiko Primary School Library. These challenges are compounded by chronic budget constraints and insufficient institutional prioritization of assistive technology upgrades. This finding is consistent with Chataika (2012) and Mohapatra (2018), who confirmed that chronic budget limitations force public educational libraries in developing countries to operate with outdated, insufficient, or deteriorating disability infrastructure. Therefore, the researcher recommends increasing government funding for assistive technologies and capacity building for school librarians.

5.2 Recommendations

5.2.1 Redesign the Internal Layout of the Library

The library should rearrange its physical floor plan, widening the corridors between book displays to a minimum of 120 cm to allow unhindered wheelchair turning radiuses. This will enable pupils with mobility impairments to navigate the library independently without relying on assistance from others.

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5.2.2 Lower the Book Shelving

Information materials frequently utilized by primary school students should be relocated exclusively to lower tiers (not exceeding 90 cm from the floor) to allow independent browsing. This will ensure that pupils in wheelchairs or with walking difficulties can reach books without needing assistance.

5.2.3 Implement Targeted Orientations for Students with Disabilities

The library staff, in coordination with special education teachers, should institute a mandatory, termly library orientation program specifically designed to introduce students with physical challenges to the available assistive features. This will address the low awareness of specialized assistive technologies.

5.2.3 Recommendations for Further Research

i. A comparative study should be conducted across multiple primary schools practicing inclusive education within the Dar es Salaam region to evaluate general trends in library accessibility infrastructure.

ii. Further research is needed to investigate the design and implementation of low-cost, locally manufactured adaptive furniture for school libraries in resource-constrained environments.

iii. Assessment of Digital Assistive Technologies in Primary School Libraries

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APPENDIX I

QUESTIONAIRE:

SECTION A: DEMOGRAPHIC INFORMATION:

1.Gender

Male ( )

Female ( )

2. Age group

20-25 ( )

26-30 ( )

Above ( )

3. Level of study

Certificate ( )

Diploma ( )

Degree ( )

4. Type of mobility impairment

Wheel chair user ( )

Crutches ( )

Walking difficulty ( )

Other (specify) ( )

5. How often do you use the school library?

Daily ( )

Weekly ( )

Occasionally ( )

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Rarely ( )

SECTION B: AWARENESS OF ASSISTIVE TECHNOLOGY:

6. Are you aware of assistive technologies available in the library?

Yes ( )

No ( )

7. Which of the following assistive technologies are you aware of? (Tick all that apply)

Ramps ( )

Elevators ( )

Adjustable tables ( )

Accessible shelves ( )

Digital resources (e-books, databases) ( )

Reserved study spaces ( )

8. How did you learn about these assistive technologies?

Orientation ( )

Library staff ( )

Friends/peers ( )

Self-discovery ( )

Other ( )

Likert scale (Tick one)

(1= strongly disagree, 2= disagree, 3= Neutral, 4=Agree, 5= Strongly agree)

Statement

I am well informed about assistive technologies in the library ( )

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The library provides enough information about assistive technologies ( )

SECTION C: UTILIZATION OF ASSISTIVE TECHNOLOGY:

9. Do you use assistive technologies in the school library?

Yes ( )

No ( )

10. If yes, how often do you use them?

Always ( )

Often ( )

Sometimes ( )

Rarely ( )

11. Which assistive technologies do you use most?

Ramps ( )

Elevators ( )

Adjustable furniture ( )

Digital systems ( )

Other ( )

Likert scale

Statement

Assistive technologies are easy to use ( )

I use assistive technologies independently ( )

Assistive technologies are always available when needed ( )

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SECTION D: EFFECTIVENESS OF ASSISTIVE TECHNOLOGY:

Liker scale

Statement

Assistive technologies improve my access to information ( )

Assistive technologies improve my academic performance ( )

The school library environment is accessible for my needs ( )

Assistive technologies save my time when searching for information ( )

SECTION E: CHALLENGES FACED

12. What challenges do you face when using assistive technologies? (Tick all that apply)

Lack of awareness ( )

Inadequate equipment ( )

Poor infrastructure ( )

Lack of training ( )

Negative attitudes ( )

Technical problems ( )

Likert scale

Statement

There are enough assistive technologies in the library ( )

Library staff are helpful in assisting me ( )

The school library infrastructure supports mobility ( )

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SECTION F: OPEN ENDED QUESTIONS:

13. What improvements would you suggest for assistive technologies in the school library?

14. What challenges do you think should be addressed urgently?

15. Any additional comments

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APPENDIX II: RESEARCH BUDGET:

	ACTIVITY	COST ANALYSIS	TOTAL COST
1	Transport	From home to Bagamoyo District Council	40,000/=
2	Stationary	Ruled paper 1 ream= Pen, Pencils, Ruler, Rubber, Stapler & Note book=	25,000/=
3	Secretarial service	Typing, photocopy and printing	90,000/=
4	Binding	Hard cover 2x2@ 2000 Soft caver 2x2@500 and CD	100,000/=
	TOTAL		**= 255,000/=**

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APPENDIX III
A RESEARCH WORK PLAN SCHEDULE AND TIME FRAME:

ACTIVITIES PROGRAM	1ST MONTH	2ND MONTH	3RD MONTH	4TH MONTH	5TH MONTH	6TH MONTH
Reporting to the Centre and observing the situation						
Distribution of questionnaire, interview and observation						
Collecting questionnaire and data analysis						
Data interpretation and report writing						
Preparation of first draft report						
Final report writing and submission to SLADS						

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APPENDIX IV
APPROVAL LETEER

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF EDUCATION, SCIENCE NA TECHNOLOGY
TANZANIA LIBRARY SERVICES BOARD

When reply please note:-

Ref. No: AE23/420/01/158 **16/06/2026**

Principal,
SCHOOL OF LIBRARY,
ARCHIVES AND DOCUMENTATION STUDIES,
P.O. BOX 9283,
BAGAMOYO.

RE: PERMISSION TO CONDUCT RESEARCH

Please refer to the subject matter above and your letter **Ref. No. DA.201/456/VOL/1/21** dated **16th April 2026.**

2. We acknowledge receipt of your letter introducing **Ms. Belinder Gasper Mbise** a student pursuing an Ordinary Diploma at the School of Library, Archives and Documentation Studies, Bagamoyo, Tanzania.

3. In response to your request, we are pleased to grant her permission to conduct research titled "ASSESSMENT ON THE USE OF ASSISTIVE TECHNOLOGY *FOR PUPILS* WITH MOBILITY IMPAIRMENTS IN A SCHOOL LIBRARY" within our jurisdiction.

4. She is authorized to collect data from 17th June 2026 to 19thJune 2026. During this period, she will be required to observe all applicable rules and regulations governing public service.

5. Please find the attached document for completion and submission.

6. Thank you for your cooperation.

Dr. Rehema C. Ndumbaro
For: **DIRECTOR GENERAL**

TANZANIA LIBRARY SERVICES BOARD
DAR ES SALAAM

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