



UNIVERSITY of LUSAKA
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SCHOOL OF LAW

**BRIDGING THE DIGITAL DIVIDE: EVALUATING ADAPTIVE TECHNOLOGIES AND
POLICY FRAMEWORKS IN ZAMBIAN HIGHER EDUCATION FOR THE VISUALLY
IMPAIRED UNDER THE PERSONS WITH DISABILITIES ACT 2012**

By:

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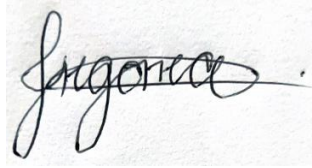
**AN OBLIGATORY ESSAY SUBMITTED TO THE UNIVERSITY OF LUSAKA IN
PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE
BACHELOR OF LAWS (LLB) DEGREE.**

2025

DECLARATION

I declare that this dissertation entitled **Bridging the Digital Divide: Evaluating Adaptive Technologies and Policy Frameworks in Zambian Higher Education for the Visually Impaired under the Persons with Disabilities Act 2012** which is hereby submitted in partial fulfillment of the requirements for the award of a Bachelor's Degree at the University of Lusaka is my own original work and that it has not been previously submitted for the award of a degree at this university or any other tertiary institutions.

I understand what plagiarism entails and I am also aware of the University's policy in this regard. Thus, where other person's work is cited, I have duly acknowledged. The errors and/or omissions in this work are solely mine.

A handwritten signature in black ink, appearing to read 'J. Ngoma', with a horizontal line extending from the end of the signature.

JADE DAHLIA NGOMA

2025

RECOMMENDATION

I, **MILAMBO CHIBBONTA PUPWE** do recommend that this dissertation prepared under my supervision by **Jade Dahlia Ngoma** entitled **Bridging the Digital Divide: Evaluating Adaptive Technologies and Policy Frameworks in Zambian Higher Education for the Visually Impaired under the Persons with Disabilities Act 2012** be accepted for examination. I have checked it carefully and I am satisfied that it fulfills the requirement pertaining to the format laid down in the regulations governing directed research.

A handwritten signature in red ink, consisting of a circular scribble on the left and a long horizontal line extending to the right, ending in a small flourish.

M PUPWE

2025

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DEDICATION

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LISTS OF CONVENTIONS

African Charter on Human and People's Rights

Convention on Rights of Persons with Disabilities

International Covenant on Economic, Social and Cultural Rights

Protocol to the African Charter on Human and People's Rights with Disabilities in Africa

LISTS OF STATUTES

Constitution of Kenya 2010

Constitution of the Republic of South Africa, 1996

Constitution of the Republic of Uganda, 1995

Constitution of Republic of Zambia 1996

Higher Education Act 4 of 2013 of the Laws of Zambia

Persons with Disabilities Act 4 of 2025 of the Laws of Kenya

Persons with Disabilities Act Uganda, 2020

Persons with Disabilities Act 6 of 2012 of the Laws of Zambia

Promotion of Equality and Prevention of Unfair Discrimination Act 4 of 2000

ABSTRACT

This thesis was on the persistent digital divide affecting visually impaired students in Zambia's higher education institutions despite legal frameworks aimed at promoting inclusive education. It was mainly focused on the Persons with Disabilities Act 6 of 2012 which domesticated the United Nations Convention on the Rights of Persons with Disabilities which Zambia has ratified. This research highlighted gaps within the Persons with Disabilities Act when it comes to visually impaired students having access to adaptive technology in higher education. It further evaluated international, regional and sub regional frameworks promoting adaptive technology accessibility, inclusion and non-discrimination noting persistent challenges like conflicts and underfunding. The study accessed Zambia's frameworks, finding progressive provisions for inclusive education and adaptive technology in the Persons with Disabilities Act and Higher Education Act, supported by the following institutions; ZAPD and ZAFOD but undermined by infrastructure gaps, weak enforcement and inadequate training. Lessons have been drawn from Kenya, South Africa and Uganda. The dissertation concluded that while Zambia aligns legally with standards, practical gaps persist, recommending prioritized adaptive technology budgeting, law amendments for mandatory support units and penalties, and comprehensive training to ensure equitable digital access for visually impaired students, fostering inclusive higher education.

CHAPTER ONE

1.0 INTRODUCTION

In a world that is evolving digitally with each passing day, access to information and communication technologies has become crucial for full participation in education, employment and social life. However, although the rest of the world seems to be moving in a digital direction, persons with disabilities particularly the visually impaired have not been sufficiently included in this population. In most higher education institutions, academic resources have been made available through online platforms however, challenges exist when it comes to the visually impaired having access to these resources. In Zambia, challenges such as adaptive technological limitation, infrastructure and gaps in policy implementation have contributed to the persistent digital divide between sighted individuals and the visually impaired which undermines the constitutional and statutory rights to education and non-discrimination.

Zambia enacted the Persons with Disabilities Act No.6 of 2012(herein referred to as the Act) to domestic the United Nations Convention on the Rights of Persons with Disabilities which Zambia ratifies in 2010. Pursuant to Section 21 of the Act the Minister together with the Zambia Agency for Persons with Disabilities and other state institutions are obligated to progressively strive to achieve equalization of opportunities for, and integrate of, persons with disabilities in social and economic structures of society. In particular Subsection (h) which provides that children with disabilities enjoy all human rights and freedoms on an equal basis with other children and have equal opportunities and equal access to education amongst other things¹. Furthermore, sections 22 and 23 provide for an inclusive education system at all levels as well as ordered that the minister responsible for education shall designate public institutions to provide necessary facilities and equipment to enable persons with disabilities to fully benefit from the public educational institutions². Section 40 further provides for persons with disabilities to have access, on an equal basis to others, amongst other things, access to information and

¹ Persons with Disabilities Act 6 of 2012 of the Laws of Zambia

² ibid

communications and other facilities and services open or provided to the public in both urban and rural areas³.

Therefore, it is evident that laws have been put in place to ensure non-discrimination and equal opportunities exist, nevertheless, implementations of these laws remain a challenge and inconsistent as adaptive technologies such as screen readers, refreshable braille displays, voice recognition software and accessible learning management systems are rarely made available or adequate particularly in higher education. As mentioned in the article on “The Utilization of Computers to Improve the Quality of Learning for Students with Visual Impairment at the University of Zambia”⁴ citing the study of Simui, Kasonde-Ngandu, Cheyeka and Makoe (2019), a key factor impeding on the learning of the visually impaired in higher education is the lack of assistive devices for students and skills by lecturers to teach students who are visually impaired.

Due to insufficient implementation, there exists a digital divide which contravenes the domestic law, the Persons with Disabilities Act and international human rights obligations which needs to be closed.

1.1 BACKGROUND OF THE STUDY

The digital transformation of education has become a defining feature of modern academic systems worldwide, offering unprecedented opportunities for learning and participation. In Zambia, institutions of higher learning have increasingly integrated digital platforms, online resources and e-learning tools as part of their academic delivery. However, this shift has not benefited all students equally, visually impaired learners continue to face substantial challenges in accessing digital learning environments due to limited availability of adaptive technologies and the absence of robust, enforceable policy frameworks that support inclusive digital education. Stakeholders such as the Zambian Agency for Persons with Disabilities (ZAPD), the ministry of education and civil society

³ ibid

⁴ K K Muzata, ‘The Utilisation of Computers to Improve the Quality of Learning for Students with Visual Impairment at the University of Zambia’ available at: <https://zajlis.unza.zm/index.php/journal/article/view/54> accessed April 8th 2025

organizations have made efforts to promote inclusive education. However, these efforts are often minimalized and inadequately funded and as a result visually impaired students are left to navigate inaccessible digital systems whilst relying on informal coping mechanisms that place them at a significant disadvantage as compared to their peers.

1.2 STATEMENT OF THE PROBLEM

A notable digital divide persists in Zambia's higher education institutions, specifically affecting the visually impaired population's access to technology education, a critical human right in the digital age. Although there has been rapid technological advancements globally, Zambia's current infrastructure and policy frameworks in relation to higher education sectors remain inadequate to address unique educational needs of visually impaired students. The general student body still remains the primary focus of current digital education policies and investments, which overlook adaptive technologies and specialized training that would assist the visually impaired acquire critical digital literacy skills.

As a result of the inability to access technology education which prevents the visually impaired from fully participating in academic and professional life, a gap not only maintaining educational and economic disparities but also violates human rights. Zambia enacted the Persons with Disabilities Act No. 6 of 2012 to domesticate the Convention on the Rights of Persons with Disabilities which Zambia ratified. Section 21 of this act provides for persons with disabilities to be given equal opportunities and in particular, subsection (h) which provides that children with disabilities enjoy all human rights and freedoms on an equal basis with other children and have equal opportunities and equal access to education amongst other things⁵. In addition section 22 and 23 provide for an inclusive education system at all levels as well as orders that the minister responsible for education shall designate public institutions to provide necessary facilities and equipment to enable persons with disabilities to fully benefit from the public educational institutions⁶. Section 40 further provides for persons with disabilities to have access, on an equal basis to others, amongst other things, access to information and communications and other

⁵ Persons with Disabilities Act 6 of 2012 of the Laws of Zambia

⁶ *ibid*

facilities and services open or provided to the public in both urban and rural areas⁷. However, although provided for, higher education institutions lack of inclusive infrastructure and targeted policies, contradicts these commitments, limiting opportunities for personal development, employment and civic engagement for this vulnerable group.

Therefore, the purpose of this study is to critically analyze the infrastructure surrounding technology education for the visually impaired in Zambia's higher education institutions, identify the main issues and gaps, and propose strategies to bridge the digital divide. By aligning Zambia's higher education legal and institutional framework with the principles of the Persons with Disabilities Act, this research aims to ensure that technology education is recognized and upheld as a fundamental human right.

1.3 GENERAL OBJECTIVE OF THE STUDY

The general objective of this research is to examine the availability and accessibility of adaptive technologies in higher education institutions in Zambia in order to accord visually impaired students the right to digital education as provided for in the Persons with Disabilities Act.

1.4 RESEARCH OBJECTIVES

1. To evaluate how international, regional and sub regional frameworks support the use of adaptive technologies in higher education for visually impaired students.
2. To assess how Zambia's legal and institutional frameworks align with international, regional and sub regional standards on adaptive technologies in higher education.
3. To draw lessons from Kenya, South Africa and Uganda's laws providing for the access of adaptive technologies for visually impaired students in higher education institutions

1.5 RESEARCH QUESTIONS

1. How do international, regional and sub regional frameworks support the use of adaptive technologies in higher education for visually impaired students?

⁷ ibid

2. Does Zambia's legal and policy frameworks align with international, regional and sub regional standards on adaptive technologies in higher education?
3. Drawing lessons from Kenya, South Africa and Uganda's laws providing for the access of adaptive technologies for visually impaired students in higher education institutions

1.6 SIGNIFICANCE OF STUDY

The significance of this research is to contribute to the growing body of academic and legal literature on disability rights in Zambia, particularly in the access to higher education. By focusing on visually impaired students, this study will highlight a group that is often overlooked in the design and implementation of educational technologies and policy frameworks. In addition, this study will provide critical assessment of how well Zambian higher education institutions are complying with their obligations set out in international and regional conventions through the Persons with Disabilities Act. This will assist in identifying existing legal and institutional gaps, and help support the development of more effective mechanisms for enforcement and accountability in promoting inclusive digital education and to align with broader constitutional values of equality, dignity and non-discrimination for all learners regardless of their disabilities.

1.7 SCOPE OF STUDY

The scope of this research focuses on the rights of visually impaired students in higher education to have access and availability to digital education just as the general body of students have. The study will concentration on the implementation of the principles provided in the Persons with Disabilities Act in order to enforce the rights of the visually impaired in Zambia in terms of digital education in higher education institutions.

1.8 DEFINITION OF KEY TERMS

Visually impaired- “a term experts use to describe any kind of vision loss, whether it is someone who cannot see at all or someone who has partial vision loss”⁸

Adaptive Technology- “any item, piece of equipment, or software that is used to increase, maintain, or improve functional abilities of individuals with disabilities.”⁹

Higher Education- “education at a college or university where subjects are studied at an advanced level.”¹⁰

Digital divide- “the gap between those who have access to technology, the internet and digital literacy and those who do not”¹¹

1.9 LITERATURE REVIEW

Kenneth Kapalu Muzata¹² in this article he highlighted how the use of computers would improve the quality of education for visually impaired students at the University of Zambia and brought out the challenges that the students face in using computers as well as benefits that visually impaired students may accrue once empowered with computer skills. This research will also focus on the challenges and benefits visually impaired students face when it comes to digital technology however not only focusing on students at the University of Zambia but different higher education institutions in Zambia and will further discuss the use of technology by the visually impaired is a right under the Persons with Disabilities Act which is being violated.

⁸ Kids Health, available at: <https://kidshealth.org/en/teens/visual-impairment.html> , accessed April 10th 2025

⁹ Lesson 10: Adaptive Technology, available at: <https://www.washington.edu/doit/lesson-10-adaptive-technology>

¹⁰ Cambridge Dictionary, available at: <https://dictionary.cambridge.org/us/dictionary/english/higher-education> accessed April 10th 2025

¹¹ North Carolina Department of Information Technology available at: <https://www.ncbroadband.gov/digital-divide/what-digital-divide> , accessed April 10th 2025

¹² K K Muzata, ‘The Utilisation of Computers to Improve the Quality of Learning for Students with Visual Impairment at the University of Zambia’ available at: <https://zajlis.unza.zm/index.php/journal/article/view/54> accessed April 10th 2025

Dalton H, Kisanga and Sarah E, Kisanga,¹³ the authors in this article conducted research on the role of assistive technology devices in facilitating the participation and learning of students with visual impairment in higher education institutions in Tanzania. They did so by conducting interviews with some students with visually impairment and a few transcribers. They discovered visually impaired students were mostly dependent on sighted or more skilled students when it came to the use of assistive technology. They further recognized that the accessibility of assistive technology for the visually impaired or person with disabilities is a human right just as much as access to medical care is a human right. They observed the university they centered their information around, had limited assistive devices and recommended that higher education institutions should provide adequate and sustainable funding for assistive technology. Highlighting the benefits of assistive technology, the study put forward the need for visually impaired students to be encouraged to make use of modern assistive technology devices available and learn to use them in order to ease their sense of exclusion and dependence on sighted students. Furthermore, the authors put across the need for the inclusion of assistive technology in the national disability policy as a way to serve as a guide for supporting students with learning difficulties therefore forming a ground for stakeholders and people with visually impairment to fight for and defend their rights enshrined in both the constitution, legal instruments and policy documents in Tanzania. Similarly, this research will focus on the assistive or adaptive technology devices provided in higher education institutions here in Zambia and whether they are in compliance with national laws and policies such as the Persons with Disabilities Act.

Samuel Amponsah and Teklu Abate Bekele,¹⁴ the authors of this article did a study engaging fourteen faculty and six administrators from two higher education institutions in Ghana. Their study was focused on exploring challenges and possible strategies for the inclusion of visually impaired students in online learning as online learning has gained

¹³ S E Kisanga and D H Kisanga, "The role of assistive technology devices in fostering the participation and learning of students with visual impairment in higher education institutions in Tanzania" (2020) 17(7) Disability and Rehabilitation: Assistive Technology 791 available at: <https://doi.org/10.1080/17483107.2020.1817989> , accessed April 12th 2025

¹⁴ S Amponsah and A T Bekele 'Exploring strategies for including visually impaired students in online learning' (2023)28 Education and Information Technologies 9355 Available at: <https://doi.org/10.1007/s10639-022-11145-x> accessed April 12th 2025

prominence in higher education institutions globally. The results of their study indicated that general policy frameworks are available in the universities studied, however, they are limited in the importance and significance as the inclusion of visually impaired students are not consider in the online learning. The research indicated that digital technology are available in the universities however, their accessibility and usability remain a challenge for visually impaired students. This study highlighted in order to better the inclusivity of visually impaired students with online learning, higher education institutions need to strategically build the capacities of their faculty and staff to better serve visually impaired students. Similarly, this research will also give speak on how faculty and staff of higher education institutions serve a crucial role to the inclusion of visually impaired students in online learning using adaptive technology.

Tuimur Hilda Ng’etich and Tabot Benedicta Aiyobei,¹⁵ the authors conducted a study on college administrative support in the integration of adaptive technology for visually impaired student teacher training colleges in Kenya. The findings of the study disclosed that the support from college administration for the integration of adaptive technology for visually impaired student teacher training colleges were low and therefore recommended that such support was essential. This research will go further by discussing how important it is for higher education institutions to support the integration of adaptive technology as the use of technology is as much a right to visually impaired students as it is to sighted students.

Magdeline Mashilo and Tiko Iyamu,¹⁶ the authors carried out their study in South Africa as visually impaired students face challenges in education especially when it comes to technology and their accessibility as well as knowledge on how to use the technology. Therefore, although policies have been put in place visually impaired students still face challenges when it comes to technology being made available. This research will look

¹⁵ T H Ng’etich and T B Aiyobei ‘College Administrative Support in Integration of Adaptive Technology for Visually Impaired Student Teachers in Primary Teacher Training Colleges: The Kenyan Experience’ Available at: <http://ir-library.kabianga.ac.ke/handle/123456789/770>, accessed April 13th 2025

¹⁶ M Mashilo and T Iyamu ‘Selecting an assistive technology for visually impaired students in higher institutions’ Available at: https://doi.org/10.48009/4_iis_2024_137, accessed April 13th 2025

into Zambia's implementation of what the law provides when it comes to visually impaired student's usability of technology and ways in which such access may be improved.

Mbulaheni O. Maguvhe and Allan Mutambo, the authors conducted a study on inclusive education provision in Zambia and focused on curriculum reforms in order to include learners with special education needs. The study focused on investigating the extent to which the curriculum had been reformed to facilitate the inclusion of children with special education needs.¹⁷ This research however, will specifically focus on the inclusion of visually impaired students in higher education institutions and their accessibility to adaptive technology.

Naphat Kasebusha and Martin Banda, the authors conducted a case study at two secondary schools in Zambia named Mporokoso and Munali Secondary Schools examining teaching strategies for visually impaired learners. The study was mainly classroom practice based in secondary schools.¹⁸ This research will focus more on the laws put in place in order to align with the needs of visually impaired learners in higher education institutions.

Janet Kaulu, the author did a study on the efficacy of assistive technology on the visually impaired learners' grasping of library information subject to the Zambia Library Cultural and Skills Centre for the visually impaired (ZLCSCVI) in Lusaka in hope of helping the policy makers in Zambia to be aware of the usefulness, ease of use and effectiveness of assistive technology so that they could be in a position to make informed decisions as well as procure effective assistive technology for visually impaired learners.¹⁹ This research on the other hand will focus on visually impaired learner's access to adaptive technology in higher education to support the integration of adaptive technology as the

¹⁷ M O Maguvhe and A Mutambo 'A study of inclusive education provision in Zambia: Curriculum reforms' African Journal of Disability Available at <https://doi.org/10.4102/ajod.v12i0.1067>, accessed on August 9th 2025

¹⁸ N Kasebusha and M Banda 'Teaching Strategies for Learners with Visual Impairment: A case of Mporokoso and Munali Secondary School' available at <https://journals.unza.zm/index.php/ZIJE/article/download/686/577/> accessed on August 9th 2025

¹⁹ J Kaulu 'Efficacy of assistive technology on the visually impaired learners' grasping of library information resources: A case of Zambia Library Cultural and Skills Centre for the visually impaired (ZLCSCVI) in Lusaka, Zambia' (postgraduate thesis) Lusaka Zambia University of Zambia 2019 available at <https://dspace.unza.zm/server/api/core/bitstreams/ab1736ec-2625-4ea7-9071-5b6771a45d49/content> accessed on August 11th 2025

use of technology is as much a right to visually impaired students as it is to sighted students.

1.10 RESEARCH METHODOLOGY

This study will employ the following research methods.

1.10.1 RESEARCH APPROACH

This research will be qualitative method of study because it allows the researcher to use different strategies which focuses on analysis, writings and collection of data which is important for the study.

1.10.2 RESEARCH DESIGN

The research will use descriptive design which will provide a detailed explanation that relates to the current situation and also suggestions on how to achieve the objectives of the research.

1.10.3 DATA COLLECTION TECHNIQUES

Data will be collected through various sources that is relevant to the study such as legislation, academic papers, journal articles, internet sources, legal reports, dissertations and other materials that will be of aid to the research.

1.10.4 DATA ANALYSIS

The data analysis for this research will involve gathering all relevant information from different sources which will involve analyzing statutes and international instruments, evaluating them and selecting provisions that are relevant to the study.

1.11 ETHICAL CONSIDERATIONS

To ensure that ethical standards that have been set are followed, this researcher will draw permission from the University of Lusaka research ethics commission through the school of law. This research will first draw consent from each and every individual who will

participate in the study and lastly this researcher will acknowledge all works of other authors by using OSCOLA referencing.

1.12 RESEARCH OUTLINE

CHAPTER ONE: This chapter will provide an introduction to this research as well as the statement of problem and the background of the study.

CHAPTER TWO: This chapter will evaluate how international, regional and sub regional frameworks support the use of adaptive technologies in higher education for visually impaired students.

CHAPTER THREE: This chapter will assess how Zambia's legal and institutional frameworks align with international, regional and sub regional standards on adaptive technologies in higher education.

CHAPTER FOUR: This chapter will draw lessons from Kenya, South Africa and Uganda's laws providing for the access of adaptive technologies for visually impaired students in higher education institutions

CHAPTER FIVE: This chapter will provide a conclusion about the findings of the four previous chapters and provide a few recommendations in line with the subject of research.

CHAPTER TWO

EVALUATING HOW INTERNATIONAL, REGIONAL AND SUB REGIONAL FRAMEWORKS SUPPORT THE USE OF ADAPTIVE TECHNOLOGIES IN HIGHER EDUCATION FOR VISUALLY IMPAIRED STUDENTS

2.0 Introduction

This chapter will review existing international standards on the integration of adaptive technologies in higher education for people who are visually impaired. It will further review regional standards on higher education and the inclusion of the use of adaptive technologies by visually impaired persons. Lastly it will focus on standards that have been placed in the SADC region in terms of the use of adaptive technology by visually impaired students in higher education.

2.1 United Nations Convention on the Rights of Persons with Disabilities

The United Nations Convention on the Rights of Persons with Disabilities is an international human rights treaty and the purpose of this convention is provided for in article 1 of the convention which is to promote, protect and ensure the full enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity.²⁰

In it fulfilling its purpose, article 9 of the convention provides for accessibility which obligates States Parties to take measures that enable persons with disabilities to live independently and fully participate in society by ensuring equal access to: physical environment which include buildings, roads, transportation, both indoor and outdoor facilities amongst these include schools, housing, medical facilities and workplaces. Furthermore, information and communications, including technology and emergency services. In order to achieve this measures State Parties are to identify and remove obstacles and barriers to accessibility to the aforementioned, provide training for

²⁰ Convention on the Rights of Persons with Disabilities (adopted 12th December 2006, entered into force: 3rd May 2008) available at <https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-rights-persons-disabilities> (accessed on 5th September 2025)

stakeholders on accessibility issues and further offer accessible signage such as braille and live assistance like guides, readers and sign language interpreters. Lastly, State Parties are to facilitate access to new information and communications technologies which includes internet.²¹ Above all, Article 24 of the convention recognizes the right of persons with disabilities to education. Provided in article 24(4) State parties are to take appropriate measures to employ teachers, including teachers with disabilities, who are qualified to teach those who have disabilities in all levels of education. Article 24(5) also provides for inclusive education in tertiary education, vocational training, adult education and lifelong learning without discrimination and on an equal basis with others.²²

The above therefore guides state member's national legislation and policies in order to ensure that persons with disabilities are integrated fully and equally into society, particularly through education and accessibility advancements including adaptive technology. In addition to this, the convention provides for States to take active steps to employ teachers inclusive of teachers with disabilities who are qualified to teach persons with disabilities as well as teach them how to use adaptive technologies.

2.2 United Nations Educational, Scientific and Cultural Organization (UNESCO)

UNESCO is an organization with a mission revolving around promoting access to quality education, encouraging international collaboration in science and safeguarding cultural diversity. This organization advocates for a human right based approach to education that supports and includes learners with disabilities and their use to assistive technology.²³ The organization recognizes every learner matters and matters equally.²⁴ UNESCO supports capacity building among educational institutions and governments to implement inclusive policies and provide accessible learning environments for learners. UNESCO highlights the importance of collaborations and partnerships among stakeholders and

²¹ ibid

²² ibid

²³ UNESCO available at <https://www.unesco.org/en> accessed on 5th September 2025

²⁴ 'Breaking barriers in higher education for and with students with disabilities' available at <https://www.unesco.org/en/articles/breaking-barriers-higher-education-and-students-disabilities> accessed on 5th September 2025

ongoing training for educators to ensure meaningful inclusion of students with disabilities.²⁵

UNESCO produces reports and guidelines that pinpoint challenges that learners face and recommend strategic actions such as universal design, centralized accommodation policies and adequate funding for assistive technologies to ensure access and success in higher education for persons with disabilities.

UNESCO strongly supports for the involvement of people with disabilities in policymaking and educational decision making processes, as they are the only ones who truly know what would be of help to them, therefore, their involvement ensures that their experiences and needs are adequately represented.

2.3 International Covenant on Economic, Social and Cultural Rights

The International Covenant on Economic, Social and Cultural Rights (ICESCR) provides for the recognition of the inherent dignity and of equal and inalienable rights of all members of the human family as the foundation of freedom, justice and peace in the world.²⁶

Article 13 of the covenant mandates state parties to recognize the right to every person's rights to education. Having recognized this right, state parties, have agreed that education shall enable all persons to participate effectively in a free society, promote understanding, tolerance and friendship among all nations and all racial, ethnic or religious groups and further the activities of the United Nations for the maintenance of peace.²⁷

Therefore, although not expressly stated, visually impaired persons have the right to education just as any other person does.

Provided for in Article 13 (2) (c) of the covenant, state parties to the covenant recognize higher education shall be made equally accessible to all.²⁸

²⁵ ibid

²⁶ International Covenant on Economic, Social and Cultural Rights

²⁷ Art 13 of International Covenant on Economic, Social and Cultural Rights

²⁸ Art 13 (2) (c) of International Covenant on Economic, Social and Cultural Rights

An Article was published on the 'Equal Access for Blind and Visually Impaired Students'²⁹ at Berklee College of Music, focusing on one of their students Wayne Percy and how the introduction of a class that gives blind and visually impaired students access to the same tools as their sighted classmates, has been of help. He expressed how helpful the class was and how the use of the adaptive technology made him and others more independent as they did not have to rely on their peers or lecturers to produce standard work. As he expressed it had been a struggle and a source of frustration, putting in the extra effort just to keep up with his classes.

The aforementioned speak on the international standards that have provided for the rights of every person including the visually impaired, to receive education and furthermore have access to the relevant technologies in receiving information and communication as well as how the introduction of adaptive technology in higher education has had a positive impact on visually impaired students.

2.4 African Charter on Human and People's Rights and Protocol to the African Charter on the Rights of Persons with Disabilities

On a regional level, The African Charter on Human and People's Rights consists of African State Members of the Organization of African Unity who are firmly convinced of their duty to promote and protect human and people's rights and freedoms taking into account the importance traditionally attached to these rights and freedoms in Africa.

Zambia has ratified the African Charter on Human and People's Rights, which enshrines the right to education without discrimination in Article 17 of the Charter.³⁰ Although the Charter does not speak specifically to those who are visually impaired yet alone disability, the Charter has been interpreted in light of the Convention on the Rights of Persons with Disabilities to include access to adaptive technologies in education.

Further provided on a regional level is the Protocol to the African Charter on Human and People's Rights on the Rights of Persons with Disabilities in Africa which has the purpose

²⁹ L Mahoney 'Equal Access for Blind and Visually Impaired Students' available at <https://college.berklee.edu/news/2671/equal-access-for-blind-and-visually-impaired-stu> accessed on 10th September 2025

³⁰ Art 17 of the African Charter on Human and People's Rights

to promote, protect and ensure the full and equal enjoyment of all human and people's rights by all persons with disabilities, and ensure respect for their inherent dignity as provided by for in Article 2 of the Protocol.³¹

Article 3 of the Protocol provides for the General Principles of the protocol among them include non-discrimination, full and effective participation and inclusion in society and accessibility.³²

Article 15 assures persons with disabilities the right to barrier-free access to information and communication technologies and systems alongside the physical environment, amongst others. The Protocol mandates State Parties to take deliberate, reasonable and progressive measures to ensure accessibility in both rural and urban areas, recognizing the diversity within the population. Included in these information and communication technologies are, accessible communication formats such as Braille, tactile interpretation, electronic services and the provision of assistive devices and technologies amongst others forms of assistive technologies. The article goes further to mandate the modification of inaccessible infrastructure into accessible infrastructure.³³

The right to education is provided for in article 16 of the Protocol.³⁴ Every person with a disability has the right to education at all levels and therefore should not be discriminated against. In fulfilling such an action, Member states should ensure such education institutions are equipped with teaching aids, material and equipment to support the education of students with disabilities and their special needs.

Article 29 provides for an inclusive environment that enshrines the rights of young persons with disabilities to equal and full participation in society, on par with other youth.³⁵

³¹ Art 2 of the Protocol to the African Charter On Human and People's Rights with Disabilities in Africa

³² Art 3 of the Protocol to the African Charter On Human and People's Rights with Disabilities in Africa

³³ Art 15 of the Protocol to the African Charter On Human and People's Rights with Disabilities in Africa

³⁴ Art 16 of the Protocol to the African Charter On Human and People's Rights with Disabilities in Africa

³⁵ Art 29 of the Protocol to the African Charter On Human and People's Rights with Disabilities in Africa

2.5 Southern African Development Community Protocol on Education and Training

On a SADC level, the overall aim of the Southern African Development Community is to achieve Regional Integration and eradicate Poverty within the Southern African region.

Since the 1960's, enrolment rates in education throughout Southern African have increased at all levels, from primary through to tertiary and post graduate. However, although these improvements are encouraging, the SADC region still falls behind in international and continental averages. Nevertheless, SADC remains committed to improving access to quality education in the region, as evidenced by its Protocol on Education and Training which was established in 1997.³⁶

The SADC Regional Indicative Strategic Development Plan (RISDP) 2020-2030, has strategized to increase access to quality and relevant education and skills development, which is inclusive of science and technology for SADC citizens.³⁷

In spite of the region trying to enhance education, the SADC region still faces challenges together with other countries globally in relation to ensuring access, equity, quality, efficiency, relevance and democracy in their educational and training policies. Some specific challenges the sector is facing also include inequitable access to education, especially affecting disadvantaged groups such as women, disabled people and people from rural areas amongst others.³⁸

2.6 Challenges faced by Member State Parties

On the International plane, in 2018, Norway responded to the Convention on Rights of Persons with Disabilities Committee's draft General Comment no.6³⁹ on article 5 of the

³⁶ 'Education and Skills Development SADC' available at <https://www.sadc.int/pillars/education-skills-development> accessed 10th September 2025

³⁷ *ibid*

³⁸ *ibid*

³⁹ H Fuentes and J Araya 'Response to the CRPD Committee's Draft General Comment no. 6 Article 5 Equality and non-discrimination' available at

<https://www.regjeringen.no/contentassets/26633b70910a44049dc065af217cb201/crpd-2019-concluding-observations-engl-version-fra-komiteen.pdf> accessed on 10th September 2025

Convention which provides for equality and non-discrimination⁴⁰. Norway encouraged the committee to reassess some of its interpretations on institutionalization in their letter and further provided how visually impaired persons experience discrimination in Norway. Focusing on the education sector. The visually impaired children were being exempted from mandatory subjects in school due to denial of reasonable accommodation for them. Many therefore, do not graduate leaving them with no opportunity to pursue higher education.

Apart from being exempted from mandatory subjects, visually impaired children in Norway would receive textbooks later than other learners and sometimes will use different textbooks all together. Education institutions in addition, discourage visually impaired students from pursuing higher education due to the lack of knowledge.⁴¹

Another sector amongst other sectors that Norway highlighted which amounted to discrimination was the technology sector in that technology was not in line with principles of universal design therefore the visually impaired were not reasonable accommodated for in the use of technology. With the Norway government digitalizing more of their services, this created a risk in that visually impaired persons were at risk of reduced access to services. The Government therefore needed to systematically ensure relevant training to ensure equality under the law.⁴²

The Committee in response to the above made the following recommendations in order for Norway to curb the discrimination and inequality it was facing. These included: that Norway should, adopt legal and other measures necessary to provide for explicit protection from multiple and intersectional forms of discrimination based on age, disability, national origin, sex, gender, ethnicity and migratory status and for effective

⁴⁰ Convention on Rights of Persons with Disabilities

⁴¹ H Fuentes and J Araya 'Response to the CRPD Committee's Draft General Comment no. 6 Article 5 Equality and non-discrimination' available at

<https://www.regjeringen.no/contentassets/26633b70910a44049dc065af217cb201/crpd-2019-concluding-observations-ndelig-versjon-fra-komiteen.pdf> accessed on 10th September 2025

⁴² *ibid*

sanctions against perpetrators; take effective measures to provide legal aid in all discrimination cases; amend their Equality and Anti-Discrimination Act in order to expand the range of remedies available to complainants in disability related discrimination cases before the Equality and Anti-Discrimination Tribunal; carry out campaigns in order to inform persons with disabilities of their rights to mention a few.⁴³

On the regional plane, the African Commission on Human and Peoples' Rights held its 58th Ordinary Session meeting from the 6th to 20th April 2016 in Banjul, Islamic Republic of the Gambia.⁴⁴ The Commission highlighted Article 17 of the African Charter on Human and Peoples' Rights guaranteeing one's right to education and that States must ensure that everyone has access to education⁴⁵. Article 13 of the International Covenant on Economic, Social and Cultural Rights was also one of the articles highlighted which also guarantees one's right to education⁴⁶. However, although there are existing legal frameworks for the protection of the right to education. Many children in different sectors including those with disabilities have not been given equal opportunity. Some concerns discussed were the prevalence of internal conflicts, political crisis and instability in some African countries which have a negative impact on the realization of the right to education in Africa, particularly for children. Another concern was that states have no adequate resources available in their budgets to realize their right to education, including equal access an opportunity to quality education.⁴⁷

The commission therefore, in order to guarantee the full scope of the right to education focused on inclusivity and non-discrimination urged African State Parties to; set out adequate finance and other resources in education budgets in order to ensure free and compulsory primary education for all children without distinction; provide comprehensive education opportunities across all levels of education including higher education; they are

⁴³ Committee on the Rights of Persons with Disabilities 'Concluding observations on the initial report of Norway' available at <https://www.regjeringen.no/contentassets/26633b70910a44049dc065af217cb201/crpd-2019-concluding-observations-endelig-versjon-fra-komiteen.pdf> accessed on 16th September 2025

⁴⁴ 'Resolution on the Right to Education in Africa-ACHPR/Res.346(LVIII)2016' available at <https://achpr.au.int/en/adopted-resolutions/346-resolution-right-education-africa-achprres346lviii2016> accessed on 16th September 2025

⁴⁵ African Charter on Human and People's Rights

⁴⁶ International Covenant on Economic, Social and Cultural Rights

⁴⁷ n43

to guarantee equal opportunity and physical and economic accessibility to education for all persons without discrimination; offer high quality, appropriate educational programs that meet the needs of all societal sectors especially the vulnerable groups which include persons with disabilities amongst other sectors; implement reasonable accommodation measures specifically for persons with disabilities, in order to safeguard full inclusion and quality education on an equal basis with other community members and lastly, make certain that the privatization of education does not increase the discrimination in access or quality particularly affecting different societal sectors including persons with disabilities⁴⁸.

The above recommendations given by the commission in its entirety falls in line with the principles outlined in Article 24 of the United Nations Convention on the Rights of Persons with Disabilities⁴⁹ which provides the fundamental principles of inclusivity, equity and quality education with necessary accommodation to enable the full participation of persons with disabilities in all levels of education. Additionally, despite the fact that the meeting above was held in 2016, the same challenges still persist in Africa today.

2.7 Conclusion

The International, regional and sub regional frameworks as a whole provide a strong basis for facilitating the rights of visually impaired students in higher education having access to adaptive technology and information. The International level having the strongest frameworks which is the Convention on the Rights of Persons with Disabilities, sets the foundation in that higher education institutions must provide learning in accessible formats including the use of adaptive technologies to ensure equality of opportunity.⁵⁰ Meanwhile, United Nations Educational, Scientific and Cultural Organization promotes and reports on the access to quality education by all as a human right and the importance of the involvement of persons with disabilities in policymaking and educational decision making processes.⁵¹ Lastly, the right to education and access

⁴⁸ ibid

⁴⁹ Art 24 Convention on Rights of Persons with Disabilities

⁵⁰ Convention on the Rights of Persons with Disabilities

⁵¹ UNESCO available at <https://www.unesco.org/en> accessed on 11th September 2025

to higher education for every person is also provided in the International Covenant on Economic, Social and Cultural Rights.

At the regional level, The African Charter on Human and Peoples Rights guarantees the right to education⁵² while the Protocol to the African Charter on the Rights of Persons with Disabilities in Africa expands these obligations in the African region. Article 24 of the Protocol explicitly requires states to provide inclusive education with accessible formats and assistive technologies, while Article 29 highlights access to information, communication, science and technology for youth with disabilities.⁵³

Furthermore, within the SADC region, the Protocol on Education and Training emphasizes equitable access to education and a structured plan to increase quality education in Southern Africa.

The aforementioned therefore provides the international, regional and sub regional standards for visually impaired students in higher education institutions and their right to adaptive technologies.

⁵² African Charter on Human and People's Rights

⁵³ Art 29 Protocol to the African Charter On Human and People's Rights with Disabilities in Africa

CHAPTER THREE

ASSESSING ZAMBIA'S LEGAL AND INSTITUTIONAL FRAMEWORKS IN ALIGNMENT WITH INTERNATIONAL, REGIONAL AND SUB REGIONAL STANDARDS ON ADAPTIVE TECHNOLOGIES IN HIGHER EDUCATION

3.0 Introduction

This chapter is focused on assessing how Zambia's legal and institutional frameworks align with international, regional and sub regional standards on adaptive technologies in higher education. In response to the international and regional standards set, Zambia enacted The Persons with Disabilities Act and the Higher Education Act which will be looked at in depth in relation to the use of adaptive technology by the visually impaired in higher education. This chapter will also look at the institutions that are in place in order to implement the laws set.

Fundamentally, The Persons with Disabilities Act No. 6 of 2012 was enacted in order to domesticate the United Nations Convention of the Rights of Persons with Disabilities, which Zambia ratified in 2010. The act promotes the participation of persons with disabilities with equal opportunities in different spheres of life. Amongst these include ensuring persons with disabilities have access to education, information, communication and technology. As well as to provide regulation and registration of institutions to provide services to persons with disabilities.⁵⁴

3.1 Constitution

First and foremost, the constitution being the supreme law of the land provides for protection against discrimination in article 23 which provides that "no law shall make any provision that is discriminatory either of itself or in its effect."⁵⁵ As well as "no person shall be treated in a discriminatory manner by any person acting by virtue of any written law or in the performance of the functions of any public office of any public authority."⁵⁶ Article

⁵⁴ Persons with Disabilities Act 6 of 2012

⁵⁵ Constitution of the Republic of Zambia 1996

⁵⁶ *ibid*

23(3) goes further to define discriminatory to mean, “affording different treatment to different persons attributable, wholly or mainly to their respective description by race, tribe, sex place of origin, marital status, political opinions colour or creed whereby person for such description are subjected to disabilities or restrictions to which persons of another such description are not made subject or are accorded privileges or advantages which are not accorded to persons of another such description.”⁵⁷ This provision provides that no law enacted shall be discriminatory as well as no person acting under the law such as public officers or public authority shall treat persons differently according to their respective descriptions which also includes persons with disabilities. Therefore, the Constitution sets the fundamental standing in that amongst other respective descriptions, abled and disabled persons are to be accorded the same treatment under the law.

3.2 Persons with Disabilities Act No.6 OF 2012

The Persons with Disabilities Act continues the Zambia Agency for Persons with Disabilities and further provides it functions. The Act centers on the rights of persons with disabilities in Zambia. The following provisions of the Persons with Disabilities Act are in line with persons with disabilities, in this thesis focusing on the visually impaired, being accorded the right to education, access to adaptive technology and equal opportunity just as any other abled person which laws align with the international and regional standards set in the above chapter.

Section 20 of the Persons with Disabilities Act (hereinafter referred to as the Act) provides that the “minister responsible for persons with disabilities shall in consultation with the relevant ministers, take policy measures in order to achieve the full social integration of persons with disabilities in society by ensuring that they are provided and have access to habilitation and rehabilitation services, education, health, training and employment, and shall create an environment to enable persons with disabilities to lead independent and meaningful lives.”⁵⁸

⁵⁷ ibid

⁵⁸ Persons with Disabilities Act 6 of 2012

The Act provides that the minister shall, in collaboration with the Agency and other State institutions, progressively strive to achieve equalization of opportunities for, and integration of, persons with disabilities in social and economic structures of society whenever they are developing and implementing national policies and plans pursuant to Section 21 (1).⁵⁹In such national policies and plans amongst others, pursuant to section 21(2)(a) the minister is to incorporate measures that not only promote but also protect the full and equal enjoyment of all human rights and fundamental freedoms by persons with disabilities and to promote respect for their inherent dignity.⁶⁰

Pursuant to section 22 of the Act, it is mandated that the education system, at all levels including higher education, must be inclusive. Therefore, persons with disabilities must not be excluded from any part of the education system due to their disability. In doing so, the Minister together with the Minister of Education, are mandated to set up measures that ensure persons with disability have the access to quality education at all levels as able students do. This includes the right learning resources in order to enable persons with disabilities to participate effectively in society.⁶¹

Provided in section 23, the Minister of Education is obligated to designate public educational institutions to provide the tools, equipment and facilities needed for students with disabilities to fully benefit from their education. In doing so, the government is assigned with establishing special schools for persons with disabilities who cannot be included in the mainstream of inclusive educational settings.⁶²

In addition, the government is to establish libraries designed to meet the needs of persons with disabilities as far as practicable pursuant to section 26 of the Persons with Disabilities Act.⁶³

Last but not the least, provided for in section 40, persons with disabilities are to have access, on an equal basis to others, amongst other things, access to information and

⁵⁹ ibid

⁶⁰ ibid

⁶¹ ibid

⁶² ibid

⁶³ ibid

communications and other facilities and services open or provided to the public in both urban and rural areas.⁶⁴

With reference to the above, The Persons with Disabilities Act is widely aligned with international standards, particularly the United Nations Convention on the Rights of Persons with Disabilities. The Act has encompassed the key principles of the convention being, the principles of equality, non-discrimination, accessibility as well as inclusive education.⁶⁵ The Act guarantees the rights of persons with disabilities to participate fully in society and mandates reasonable accommodation in education, employment and public life. However, the Act falls short when it comes to the implementation and enforcement of these principles as the Zambia Agency for Persons with Disabilities has limited power and resources.

3.3 Higher Education Act 2013

The Higher Education Act provides for the quality assurance and quality promotion in higher education as well as the establishment, governance and regulation of public higher education institutions and the registration and regulation of private higher education institutions among others.⁶⁶ The Higher Education Act in itself does not explicitly provide for provisions in relation to the inclusion of persons with disabilities. However, it is not read in isolation. Instead, it operates together with the provisions set out in the Persons with Disabilities Act.

As the Persons with Disabilities Act guarantees the right of persons with disabilities to have the access to quality education at all levels as able students do. Specifically, it mandates reasonable accommodation of an individual's requirements, as well as individualized support to ensure effective participation of students with disabilities, in this case, the visually impaired, within higher education programs.⁶⁷ The Higher Education Act encompasses both public and private institutions. Private higher institutions pursuant to section 16(3) of the Higher Education Act may be inclusive or for learners with special

⁶⁴ *ibid*

⁶⁵ *ibid*

⁶⁶ Higher Education Act 4 of 2013

⁶⁷ Persons with Disabilities Act 6 of 2012

education needs therefore the act provides for private higher education institutions whose purpose is of serving learners who have special education needs.⁶⁸

3.4 Institutions

Additionally, in order to fulfil the international standards set out, Zambia has institutions that are responsible for the implementation of the laws that promote and protect the rights of persons with disabilities, and these include the following:

3.5 Zambia Agency for Persons with Disabilities

The Zambia Agency for Persons with Disabilities (hereinafter referred to as ZAPD) was established under the Persons with Disabilities Act 1996, and further continues under the Persons with Disabilities Act 2012. ZAPD is the main institution responsible to implement the rights of persons with disabilities provided for in the Act. ZAPD's functions are provided for in section 14 and amongst them include, to develop and implement measures to achieve equal opportunities for persons with disabilities by ensuring, to the maximum extent possible, that they obtain education and employment, participate fully in sporting, recreation and cultural activities and are afforded full access to community and social services.⁶⁹ Therefore, the agency is mandated to promote and protect the rights of persons with disabilities within society. Furthermore, the agency is mandated to plan, coordinate and regulate services for Persons with Disabilities.

ZAPD recently commended Government's efforts in promoting inclusion this past October 2025 for its continued commitment to promoting inclusive opportunities for persons with disabilities across the country. ZAPD also commended the government his Excellency, President Hakainde Hichilema for his dedication to advancing the disability inclusion agenda and this was evident in the recent disbursement of K2, 000, 000 to various disability groups in cooperatives for empowerment initiatives.⁷⁰ This support as ZAPD mentioned does demonstrate the Government's resolve to ensuring that persons with

⁶⁸ Higher Education Act 4 of 2013

⁶⁹ Persons with Disabilities Act 6 of 2012

⁷⁰ ZAPD Press releases or statements " ZAPD Commends Government's Effort in Promoting Inclusion" available at <https://zapd.org.zm/category/press-releases-statements/> accessed on 20th October 2025

disabilities are active participants in national development⁷¹ as the Persons with Disabilities Act provides for in Section 21(1) in that the minister shall, in collaboration with the Agency and other State institutions, progressively strive to achieve equalization of opportunities for, and integration of, persons with disabilities in social and economic structures of society whenever they are developing and implementing national policies and plans.⁷²

ZAPD also extended their congratulations to the Teaching Service Commission and the Ministry of Education for the recruitment of more than 60 qualified teachers with disabilities during the current replacement exercise.⁷³ This shows that Zambia is pushing to prioritize inclusivity in getting qualified teachers to teach persons with disabilities, improving their academic journeys as teachers play a crucial role in a way one is bring up in society.

3.6 Zambia Federation of Disability Organizations (ZAFOD)

Zambia Federation of Disability Organization is a national umbrella Civil Society Organizations of and for the Persons with Disabilities. ZAFOD is mandated to advocate for the promotion and protection of the rights of Persons with Disabilities, to strengthen the capacity of Organizations of Persons with Disabilities affiliated to ZAFOD and disability networks countrywide, carry out research to feed into advocacy work as well as raise awareness on barriers that prevent persons with disabilities from meaningful participation in public life.⁷⁴

3.7 Ministry of Community Development and Social Services

The Ministry of Community Development and Social Service in Zambia is the ministry responsible for the implementation of most of the programs set out to uplift the rights of

⁷¹ ibid

⁷² Persons with Disabilities Act 6 of 2012

⁷³ ZAPD Press releases or statements “ ZAPD Commends Government’s Effort in Promoting Inclusion” available at <https://zapd.org.zm/category/press-releases-statements/> accessed on 20th October 2025

⁷⁴ Zambia Federation of Disability Organizations (ZAFOD) available at <https://zafod.org.zm/about/#> accessed on 17th September 2025

persons with disabilities. The Ministry is the overall overseer of the Zambia Agency for Persons with Disabilities.⁷⁵

3.8 Infrastructure Compliance

The infrastructure dimension of compliance with the Persons with Disabilities Act No.6 of 2012 is essential to bridging the digital divide for visually impaired students in Zambia. Though the Act obligates the government and institutions of the higher learning to ensure equal access to education, information and communication technologies, the reality on the ground demonstrates limited progress.

Sections 22 and 23 of the Persons with Disabilities Act as stated above require the Minister of education to designate public institutions to provide the necessary facilities and equipment to enable persons with disabilities to benefit fully from education. Similarly, section 40 explicitly guarantees access to information and communication service on an equal basis with others.⁷⁶ The said obligations go beyond the scope of mere policy commitments, they impose a legal duty on both the state and institutions of higher learning to develop infrastructure that accommodates visually impaired students.

However, although provided for by the Act and national policies, infrastructure in many higher education institutions is still focused on the general student population, with little provision for adaptive technology which leads to the digital divide persisting. The lack of enforcement mechanisms to compel universities to prioritize disability-inclusive infrastructure in a world that has gone digital, has meant that the legal obligations remain under implemented.

The majority of Zambian universities do not have completely accessible classrooms. Specialized equipment and adaptable software are frequently absent from physical venues like libraries and computer laboratories. The lack of digital resources and assistive technology severely hinders the educational experience of visually impaired students,

⁷⁵ Ministry of Community Development and Social Services Statutory Mandate available at https://www.mcdss.gov.zm/?page_id=4231 accessed 17th September 2025

⁷⁶ Persons with Disabilities Act 6 of 2012

according to Muzata's research at the University of Zambia.⁷⁷ This implies a failure on the part of the institution to comply with the Act's infrastructure standards.

Furthermore, accessibility is rarely considered in the design of e-learning platforms that have become widely used in the digital transition that has happened worldwide. The inaccessibility of many Zambian learning management systems with screen readers and braille translation software has restricted the ability of visually impaired students to participate in online learning.

Above all, as the National Policy of Persons with Disabilities provides although certain equipment may be made accessible, many visually impaired students do not use them and this can be because they were not trained to use such technology at an earlier stage of life therefore they may question why they should start now. Therefore, it is not sufficient to just provide the equipment, a further step has to be taken which is visually impaired persons should be taught the benefits of the use of such technology and taught the skill in order to develop it and therefore appreciate their benefits. As provided for in the Persons with Disabilities Act Part V, Division 1, teachers must be trained and qualified to teach persons with disabilities using adapted equipment and in addition how to use such adapted equipment.⁷⁸

3.9 Conclusion

This chapter has examined the legal frameworks concerning adaptive technologies, inclusive education, and the rights of visually impaired students in higher education, particularly in Zambia. The review has revealed that while Zambia has enacted progressive legislation such as the Persons with Disabilities Act No. 6 of 2012, compliance remains limited in practice. The Act mandates equal access to education, information, and digital resources, yet higher education institutions continue to face challenges in providing the necessary adaptive technologies and infrastructural support. From the legal perspective, scholars agree that Zambia has aligned its statutory

⁷⁷ K K Muzata, 'The Utilisation of Computers to Improve the Quality of Learning for Students with Visual Impairment at the University of Zambia' available at: <https://zajlis.unza.zm/index.php/journal/article/view/54> (accessed August 17th 2025)

⁷⁸ Persons with Disabilities Act 6 of 2012

framework with international and regional instruments such as the Convention on the Rights of Persons with Disabilities and the African Charter on Human and People's Rights however, weak enforcement mechanisms and inadequate resource allocation undermine meaningful implementation. From the infrastructural perspective, persistent gaps exist in the availability of screen readers, braille devices, accessible e-learning platforms, and adequately trained educators capable of supporting visually impaired learners. These gaps reflect a divide between legislative intent and institutional realities.

CHAPTER FOUR

DRAWING LESSONS FROM KENYA, SOUTH AFRICA AND UGANDA IN IMPLEMENTING ADAPTIVE TECHNOLOGIES FOR VISUALLY IMPAIRED STUDENTS IN HIGHER EDUCATION INSTITUTIONS

4.0 Introduction

The prior chapters have focused on international and regional standards set in accordance to enhance inclusive education with the use of adaptive technology by visually impaired students in higher education, as well as how Zambia's domestic laws align with the said international and regional standards set. This chapter will focus on laws set in certain African developing countries in relation to visually impaired students having access to adaptive technology in higher education institutions, and further drawing lessons from the selected countries that may contribute significantly to Zambia.

4.1 Kenya Persons with Disabilities Act No. 4 of 2025

Kenya enacted the Persons with Disabilities Act to align with Article 54 of the Kenyan Constitution which provides for the rights of persons with disabilities which amongst others is the right to access educational institutions and facilities for persons with disabilities that are integrated into society to the extent compatible with the interests of the persons.⁷⁹

The Persons with Disabilities Act therefore provides for persons with disabilities pursuant to section 20(1) the right to education in any institution of learning and access to an inclusive quality education on an equal basis with others. Section 20(2) goes further and states no person shall be excluded from the education system on the basis of disability.⁸⁰

Furthermore, Section 20 (8) (b) states that the council in consultation with relevant Government establishments are to ensure that learning institutions are to provide individualized support measures, appropriate equipment and specifically mentions that assistive devices, adaptive technologies as well as other supportive services in

⁷⁹ Constitution of Kenya 2010

⁸⁰ Persons with Disabilities Act 4 of 2025 of the Laws of Kenya

environments that maximize academic and social development, consistent with the goal of full inclusion of students with disabilities.⁸¹

Section 8 (c)(iv) requires Ministry of education to formulate strategies to implement inclusive education through amongst others the establishment of at least one assessment center in each county to support educational institutions within the country, by ways of teacher trainers, educational aids, equipment and materials.⁸²

4.1.1 Lessons to be drawn from the Kenya Persons with Disabilities Act

As brought out above, the Kenya Persons with Disabilities Act, that provides for the rights of persons with disabilities in the aforementioned jurisdiction, it is a detailed piece of legislation that provides insightful lessons to Zambia's Persons with Disabilities Act. The following are the lessons to be drawn:

4.1.2 Legislative Specificity

Kenya's legal framework is more explicit in its recognition of adaptive and assistive technologies as essential tools of inclusion, whereas Zambia's framework is general.

As provided above in section 20 (8) (b) the council in consultation with relevant Government establishments are to ensure that learning institutions are to provide individualized support measures, appropriate equipment and specifically mentions that assistive devices, adaptive technologies as well as other supportive services in environments that maximize academic amongst other sectors to ensure persons with disabilities, in this thesis the visually impaired fully participate in education.⁸³

Whereas, Zambia's Persons with Disabilities Act does rightly provide for the Government to ensure inclusive education at all levels and that reasonable accommodation of individual requirements shall be provided, however it does not explicitly mention adaptive or assistive technologies as part of those accommodations.⁸⁴

⁸¹ Persons with Disabilities Act 4 of 2025 of the Laws of Kenya

⁸² *ibid*

⁸³ *ibid*

⁸⁴ Persons with Disabilities Act 6 of 2012 of the Laws of Zambia

Therefore, while both countries commit to inclusive education, Kenya's statute expressly mentions adaptive technology as a legal requirement that way it holds much weight and is not excluded for any reason as the law itself expressly provides for it. Whereas Zambia's statute leaves interpretation to policy and practice making it more likely to carry less weight and the persons responsible for providing such equipment at a discretion of what needs to be provided and adaptive technologies might not be prioritized due to it not being expressly mentioned. Therefore, legislative specificity may bar such circumstances from occurring.

4.1.3 Establishment of Assessment Centers

Kenya's Act provides for the ministry of education to establish assessment centers in each county within the country, this therefore provides the centers with the specific mandate of supporting education institutions by ways of teacher trainers, educational aids, equipment and materials. The establishment of such a center then provides a body with the responsibility of ensuring education institutions adequately accommodate for persons with disabilities through having qualified teachers, the right equipment and materials that aid with them receiving education which is their right just as any other.

Zambia adapting such an establishment in each of its provinces would benefit the country as a whole as each province would have a center responsible for overseeing that the education institutions account for every individuals needs including the visually impaired and not only concentrate on certain parts of the country whilst visually impaired students resident in every part of the country. Therefore, such an establishment would cater for each individual's right to adaptive technology in order to enhance their education.

4.2 South Africa

Starting from the highest law of the land, Article 9 (3) of South Africa's Constitution provides equality in that the state may not unfairly discriminate directly or indirectly against anyone on one or more grounds, and amongst these grounds include disability.⁸⁵ Therefore all are to be treated equally without discrimination.

⁸⁵ Constitution of the Republic of South Africa, 1996

Article 29 of the South Africa Constitution further provides for the right to education and states everyone has the right to a basic education, including adult basic education as well as further education which the state, through reasonable measures, must make progressively available and accessible.⁸⁶ Persons with disabilities, the visually impaired are covered in this article as they are guaranteed the right to education and the government is mandated to take reasonable measures in order to give effect to this right. Such reasonable measures include the access to adaptive technology such as screen readers, braille displays, magnification software and e-learning platforms.

The Promotion of Equality and Prevention of Unfair Discrimination Act of South Africa reinforces this by mandating equality as provided in section 9 (c) no person may unfairly discriminate against any person on the grounds of disability including failing to eliminate obstacles that unfairly limit or restrict persons with disabilities from enjoying equal opportunities or failing to take steps to reasonably accommodate the needs of such persons.⁸⁷ In a world that resorts to technology in every aspect, from social life, academics and entertainment persons with disabilities are not to be left behind, this section therefore entails states are to take measures such as making available adaptive technology to ensure that persons with disabilities, the visually impaired are catered for and enjoy equal opportunity as any other person.

The Strategic Policy Framework on Disability for the Post School education and Training System requires Disability Support Units in all public higher education institutions to obtain adaptive technology, conduct needs assessments and train staff.⁸⁸

University of Kwazulu-Natal (UKZN) in South Africa provides a disability support unit which provides a variety of services, initiatives and programs that are aligned towards equal access and participation for students with disabilities.⁸⁹ Some services provided by

⁸⁶ ibid

⁸⁷ Promotion of Equality and Prevention of Unfair Discrimination Act 4 of 2000 of the Laws of South Africa

⁸⁸ Strategic Policy Framework on Disability for the Post School Education and Training System 2018

⁸⁹ University of Kwazulu-Natal "Disability Support Unit" available at <https://dsu.ukzn.ac.za/services/> accessed on 25th October 2025

the unit include but are not limited to; provision of assessment to determine the needs of students with disabilities, advocacy and advice on any issues related to disability, ensuring physical and information accessibility as well as support in applying for assistive devices and technology to mention a few.⁹⁰

As part of a major 2025 project, UKZN equipped five visually impaired students namely Bright Sello, Thandeka Ngcobo, Londiwe Ndaba, Siboniso Mabuza and Thembisa Xolo with envision smart AI glasses making UKZN the first South African university to do so. These AI glasses use high definition camera and AI algorithms to provide real-time audio feedback for reading printed or digital text, recognizing faces, navigating environments, locating objects or people and describing surroundings in over sixty languages. The selection process considered factors like impairment severity, academic needs, independence levels, tech literacy and financial circumstances.⁹¹

An article on this initiative included words from one of the students Bright Sello, a fourth year student who received the AI Glasses and the help he has received with the glasses. Bright Sello expressed “For the first time, I feel like I won’t be left behind. I can do things on my own-read my notes, follow slides in lectures and recognize my friends. I can finally have control. I often sat in class unable to follow because I couldn’t read the screen or see what the lecturer was pointing to. I relied heavily on classmates or tutors after hours which made me feel like I was always behind”.⁹²

Bright Sello’s words confirm, that the visually impaired have been left behind and rely heavily on their peers in order to progress in their academics. However, the having access to adaptive technology and with the introduction of the AI Glasses the visually impaired have been assisted to a great extent and this results in the visual impaired embracing the right to enjoy equal opportunity just as anyone else as provided in section 9 (c) of the Promotion of Equality and Prevention of Unfair Discrimination Act, persons with

⁹⁰ University of Kwazulu-Natal “Disability Support Unit” available at <https://dsu.ukzn.ac.za/services/> accessed on 25th October

⁹¹ N Mthembu “UKZN Empowers Visually-Impaired Students Towards Independence with AI Glasses” available at <https://www.goodthingsguy.com/lifestyle/ukzn-empowers-visually-impaired-students-ai-glasses/> accessed on 25th October

⁹² ibid

disabilities are not to be unfairly discriminated upon and failing to eliminate obstacles that unfairly limit or restrict persons with disabilities from enjoying equal opportunities or failing to take steps to reasonably accommodate the needs of such persons also amounts to unfair discrimination.⁹³

4.2.1 Lessons to be drawn from South Africa's Framework

South Africa just as Kenya and Zambia, has its foundation of non-discrimination on grounds of disability set out in its constitution. Furthermore, education in each of the countries is a right provided for in each of the countries' constitutions and therefore all have a right to education at every level. The following lessons are to be drawn from South Africa;

4.2.2 Disability Support Units in Universities

As the South African Strategic Policy Framework on Disability for the Post School education and Training System requires Disability Support Units in all public higher education institutions. Zambia could adopt this in that all higher education institutions would be mandated to have a well-functioning disabilities supports unit. This would ensure that each university will have a unit that will be responsible for the oversight of persons with disabilities in every university and have the mandate to ensure they are provided with the correct equipment that will provide them with equal opportunities to any other abled persons.

4.2.3 Integrating Adaptive Technology into the Curriculum

As UKZN took upon the initiative of introducing the AI glasses that have changed the lives of the five students who received them,⁹⁴ Zambia can engage in such programs in order to provide such adaptive technology for visually impaired students in hopes of providing for more than five but the majority of the visually impaired in order to make visually impaired student's lives less stressful in having to rely on their peers to keep up in their

⁹³ Promotion of Equality and Prevention of Unfair Discrimination Act 4 of 2000 of the Laws of South Africa

⁹⁴ S Mlambo "AI Glasses Change Lives of UKZN Students" IOL News (Durban 14 March 2024) available at <https://www.iol.co.za/news/south-africa/kwazulu-natal/ai-glasses-change-lives-of-ukzn-students-123456789> accessed 2nd November 2025

academics as well as ensuring the visually impaired catch up in the digital era as Bright Sello testified in South Africa, he felt left behind in his studies prior to receiving the AI glasses.⁹⁵

4.3 Uganda

The constitution of Uganda provides for the right of non-discrimination in Article 21 (1) and (2) that states “All persons are equal before and under the law in all spheres of political, economic, social and cultural life and in every other respect and shall enjoy equal protection of the law. Without prejudice to clause (1) of this article, a person shall not be discriminated against on the ground of sex, race, colour, ethnic origin, tribe, birth, creed or religion, social or economic standing, political opinion or disability.” Therefore, it is prohibited for persons with disabilities to be discriminated upon on grounds of their disabilities as also provided for in the countries mentioned above.⁹⁶

Article 30 of the Ugandan Constitution concisely provides that “All persons have a right to education” this article provides for “all” having the right to education therefore including the visually impaired regardless of their disabilities.⁹⁷

The Person with Disabilities Act of Uganda falls in line with the Article 21 of the Constitution as it provides for the Respect and promotion of rights and freedom of person with disabilities in section 3 which states “A person with a disability shall enjoy the fundamental and other human rights and freedoms enshrined in the Constitution” therefore one shall not be discriminated upon in any aspect.⁹⁸

Uganda’s Persons with Disabilities Act then goes further and provides for non-discrimination in the provision of education services pursuant to section 6(1) which states “An institution of learning shall not discriminate against a learner with a disability, on the basis of the disability”.⁹⁹ Additionally, section 6(4) mandates an institution of learning that

⁹⁵ Bright Sello, Interview with News24 (Johannesburg, 15 March 2024) available at <https://www.news24.com/news/bright-sello-ai-glasses-testimony-123456789> accessed on 2nd November 2025

⁹⁶ Constitution of the Republic of Uganda, 1995

⁹⁷ *ibid*

⁹⁸ Persons with Disabilities Act of Uganda, 2020

⁹⁹ *ibid*

enrolls a learner with a disability to “provide an inclusive education system for the learner and make the necessary structural adjustments to the buildings and premises of the institution to enable access to the building or premises by a learners with a disability, within three months from the date of admission of the learner”.¹⁰⁰ This provision provides a timeframe in which an institution ought to make provision for structural adjustments upon the admission of a person with a disability in order to fulfil their needs being within three months from the date of the admission of the learner.

Furthermore, section 6(5) of the Persons with Disabilities Act provides in addition to Section 6(4) above, “an institution of learning which is owned or aided by the Government that enrolls a learner with a disability, shall provide sign language services, learning instructional materials and assistive devices, suitable for the learner and required for examination by the learner”¹⁰¹ therefore, a public institution is required to provide materials that will assist the learner and amongst these include assistive devices.

Pursuant to section 15(1) (b) of the Act “The Government shall promote the use of information assistive devices and technology”.¹⁰²

The Uganda Persons with Disabilities Act to the point of visually impaired having access to adaptive technology in higher education institution, provides a detailed layout as in accordance to its Constitution, persons with disabilities are not to be discriminated on the basis of the disability and when it comes to education, institutions are not to discriminate against a learner with a disability due to their disability. The Act also provides for the right a person with disabilities has to inclusive education and the use of assistive devices in advancing their academics.

In achieving what the law provides in Uganda, staff at Makerere University and Kyambogo University undertook training under a five year project designed to enhance the teaching and learning of visually impaired students in Uganda, through the use of assistive technologies, and in addition 100 university students who are visually impaired have also been trained and supported. An online course titled ‘Supporting Learning of Students

¹⁰⁰ ibid

¹⁰¹ ibid

¹⁰² ibid

with Visual Impairment’ was developed increasing awareness and understanding at Universities of the needs of learners with visual impairments.¹⁰³

Makerere University and Kyambogo University’s initiative to train its staff and 100 of its students implements the laws in that staff are well equipped with the use of adaptive technology therefore it is easier to lecture visually impaired students and provide the students with quality education which they are entitled to. The access and use of adaptive technology therefore becomes easier as lecturers are there to guide the students in how such adaptive technology operates therefore reducing the number of dropouts due to being left out and falling behind in comparison to any other person.

4.3.1 Lessons from Uganda

Having looked into Uganda’s legislation just as all the countries cited above, prohibits the discrimination of persons with disabilities and provides that persons with disabilities have the right to education and equal opportunity just as the abled do, the following are lessons Zambia can draw from Uganda;

4.3.2 Integrate Adaptive Technology in Curricula and Teacher Training

Uganda’s initiative such as the five year project at Makerere University and Kyambogo University training their staff on the use of adaptive technology for visually impaired inclusion would be on great essence for Zambia to implement as many visually impaired students do not make use of the limited adaptive technology they are available not because they do not want to, however because they do not know how to use them. Therefore having staff who are trained in using such technology will provide great assistance to the visually impaired. Therefore, Zambia can make it a requirement for higher education institutions to provide staff training on how to operate adaptive technology in their curricula in order for the institutions to enhance visually impaired participation.

¹⁰³ R Namisango “Inclusive education: Using assistive technologies to manage the learning needs of students with visual impairments at Makerere and Kyambogo University” available at <https://news.mak.ac.ug/2025/03/inclusive-education-using-assistive-technologies-to-manage-the-learning-needs-of-students-with-visual-impairments-at-makerere-and-kyambogo-universities> accessed on 27th October 2025

4.4 Conclusion

In conclusion, this chapter has analyzed Kenya, South Africa and Uganda's legal provisions that provide for visually impaired students having the right to higher education and therefore having access to adaptive technology in order to acquire equal opportunity as any abled student does in a world that has gone digital. It has also goes a step further and provides ways in which the countries have not only implemented the said provisions but have actually brought them to life by implementing what is enshrined hence putting them at a level our country is not at and for that reason it is only but prudent for our country to draw lessons from the three countries supra.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter summarizes all the contents discussed in the previous chapters of this thesis. Moreover, this chapter will equally provide for recommendations that are suitable to aid in the resolution of the problem identified in this thesis which is bridging the digital divide; evaluating the adaptive technologies and policy frameworks in Zambian higher education for the visually impaired under the Persons with Disabilities Act 2012.

5.1 General Conclusion

For a world that has turned to technology for almost any and everything such as, communication, bank transactions, academics, social life, entertainment and much more, persons with disabilities such as the visually impaired have been at a disadvantage and left behind. This thesis has evaluated Zambia's laws that provide for persons with disabilities having the right to access adaptive technology in order to acquire equal opportunity accorded to abled students particularly in higher education institutions which mainly focused on the Persons with Disabilities Act. This thesis has also look at Kenya's South Africa and Uganda's laws in relation to visually impaired having access to adaptive technology in higher education and in so doing so, lessons have been drawn as to ways Zambia can bridge the digital divide that exists for visually impaired students.

5.2 Summary of Chapters

This research paper contains five chapters which have evaluated the legal frameworks on the use of adaptive technologies by the visually impaired in Zambian Higher Education focusing on the Persons with Disabilities Act.

5.2.1 Chapter One

The first chapter highlighted the global digital evolution in education and how this evolution has excluded the visually impaired students, particularly in Zambian Higher

Education institutions. This had been so as online resources remain inaccessible due to limited adaptive technologies. This chapter mentions how Zambia's Persons with Disabilities Act domesticates the United Nation Convention on the rights of Persons with disabilities with reference to article 21 which provides for equal opportunity for persons with disabilities, article 22 and 23 which provides for inclusive education and facilities as well as article 40 in relation accessing information. However, despite these provisions, implementation gaps create a digital divide, which violates the right to education and non-discrimination. The background discusses how digital platforms in Zambian higher education adds to inequalities for visually impaired students, who rely on informal coping mechanisms amid underfunded stakeholder efforts, such as the Zambian Agency for persons with disabilities and the Ministry of education. The statement of problem emphasizes the inadequacy of current policies focusing on general students which leads to educational and economic disparities and human right violations for visually impaired individuals. Furthermore, chapter one provides for the general objectives of the thesis which is the evaluation of international, and regional legal frameworks in relation to the rights of visually impaired students having access to adaptive technology in higher education institutions as well assessing Zambia's alignment and drawing lessons from Kenya, South Africa and Uganda's laws. Lastly, chapter one provides literature review on related studies.

5.2.2 Chapter Two

This chapter examined international, regional and SADC standards promoting the use of adaptive technologies by visually impaired students in higher education focusing on the accessibility, inclusion and non-discrimination. The chapter focused on the following international conventions and bodies; the United Nations Convention on the Rights of Persons with Disabilities, United Nations Educational, Scientific and Cultural Organization (UNESCO), and the International Covenant on Economic, Social and Cultural Rights. Under the regional framework, focus was on the African Charter on Human and People's Rights and the Protocol to the African Charter on the Rights of Persons with Disabilities as well as the Southern African Development Community Protocol on Education and Training. The Chapter also provided for some challenges raised by member state

Norway, to the Convention on Rights of Persons with Disabilities Committee on the basis of discrimination towards visually impaired individuals in schools as well as the committee's response. Additionally, the chapter includes insights from the African Commission on Human and Peoples Rights 58th session in Banjul, Gambia held in 2016 emphasizing educational rights noting persistent barriers like conflicts, instability and insufficient budgets that deny equal access particularly for students with disabilities.

5.2.3 Chapter Three

This chapter evaluated Zambia's alignment with international and regional standards on adaptive technology for visually impaired students in higher education institutions focusing on key laws and organizations. The key laws in this chapter were the Constitution, Persons with Disabilities Act and Higher Education Act. The key organizations were the Zambia Agency for Persons with Disabilities, Zambia Federation of Disability Organizations (ZAFOD) and the Ministry of Community Development and Social Services. Additionally, the chapter highlighting gaps in infrastructure compliance. Additionally the chapter affirms that the progressive legislation aligns with the Convention of Rights of Persons with Disabilities and the African Charter which were provided for in chapter two however it also points out limited compliance due to weak enforcement as well as limited resources which reflects a divide between the intent and reality of visually impaired students. Lastly, the chapter provides the availability of adaptive technology in Zambia higher education institutions.

5.2.4 Chapter Four

This chapter builds on the prior discussion of international and regional standards and Zambia's alignment to these standards by examining legal frameworks and practical implementations. This chapter analyzed the legal frameworks and implementation of Kenya, South Africa and Uganda's provisions on adaptive technology access for visually impaired students in higher education institutions in order to draw lessons for Zambia's Persons with Disabilities Act. The chapter mainly focused on the countries constitutional provisions on non-discrimination, educational rights as well as on their Person with Disabilities Acts on provisions providing for inclusive education, the use of adaptive

technology as well as training for persons with disabilities and staff members on how to operate adaptive technology in order to enhance visually impaired participation. The chapter also provided recommended lessons Zambia can draw in order to enhance its laws on visually impaired students accessing adaptive technology.

5.3 Recommendations

Having discussed the Persons with Disabilities Act in depth when it comes to visually impaired students attending higher education having access to adaptive technologies in order to receive equal opportunities as sighted individuals, this research paper proceeds to make recommendations accordingly:

5.3.1 Prioritization of Budgeting

Zambia's Agency for Persons with Disabilities together with the government and higher education institutions should prioritize and dedicate funds towards procuring adaptive technology and ensure such adaptive technology is maintained in order to be kept in use for a long time as the rest of the world has surely gone the digital route, it is only fair no one is left behind including the visually impaired.

5.3.2 Stiffing the Laws providing for access to adaptive technology to include:

- i. A provision mandating higher education institutions to have a disability support unit who will support every need of persons with disabilities attending that institution.
- ii. A provision that specifies that institutions should provide adaptive technology for person with disabilities.
- iii. A provision that mandates Ministry of Education to establish assessment centers in each province within Zambia which will be responsible of ensuring education institutions adequately accommodate for persons with disabilities as is provided in Kenya's laws.¹⁰⁴ Such centers would support education institutions by providing them with teacher trainers, educational aids, necessary equipment and materials.

¹⁰⁴ Persons with Disabilities Act 4 of 2025 of the Laws of Kenya

- iv. A provision that provides penalties for institutions that do not provide adaptive technology.

5.3.3 Provide Comprehensive Training for Staff and Students

For higher education institutions to integrate into their curricula specialized training of lecturers and visually impaired students on how to use adaptive technology and this can also be done through hosting workshops as untrained staff hinders effective implementation.¹⁰⁵ Early intervention in lower education institutions would assist build foundational skills.

5.3.4 Establish Partnerships for Affordable and user friendly Technology Procurement

ZAPD together with education institutions and the government should establish partnerships with international organizations such as the United Nations Educational, Scientific and Cultural Organization and the World Health Organization and other tech companies in order to procure and customize affordable user friendly adaptive technologies, including AI screen readers, glasses and text to speech software that will benefit visually impaired students.

5.3.5 Encourage Research on Adaptive Innovations

In order to close the digital divide that exists within Zambia, between visually impaired having access to adaptive technology in higher education a way to help close the gap would be to foster ongoing innovation in which the government should fund applied research on integrating relevant adaptive technologies particularly for visually impaired students in higher education.¹⁰⁶ This would help build culturally relevant assistive technologies to ensure the technology that Zambia needs is the actual technology

¹⁰⁵ K N Jonathan “Enhancing Cognition of Students with Visual Impairments via Human Computer Interface Blueprint for SDG4” available at <https://edinburgjournals.org/journals/index.php/journal-of-information-technolog/article/view/520> accessed on 1st November 2025

¹⁰⁶ J Kaulu “Efficacy of Assistive Technology on the Visually Impaired Learners” Grasping of Library Information Resources: A Case of Zambia Library, Cultural and Skills Centre of the Visually Impaired (ZLCSCVI) in Lusaka, Zambia (MA dissertation, University of Zambia 2019) available at <https://dspace.unza.zm/server/api/core/bitstreams/ab1736ec-2625-4ea7-9071-5b6771a45d49/content> accessed on 2nd November 2025

available as well as collaborative studies to bridge global gaps in inclusive education strategies.¹⁰⁷

5.3.6 Host Regional Conferences and Collaborate on Digital Accessibility Initiatives

The government should also host or attend events such as the Inclusive Africa Conferences¹⁰⁸ and workshops on digital accessibility, in order to collaborate with other African stakeholders to share best practices in adaptive technology for higher education. This would promote knowledge exchange between the countries on technology for visually impaired learners in how to use such technology as well as ways in which to procure such technology which would align with the Persons with Disabilities Act's goals for equal opportunities between visually impaired students and the abled students in higher education.

¹⁰⁷ Ruth Nambeye, "Effects of Integrating Assistive Technologies in Learning Mathematics Among the Visually Impaired Learners in Lusaka District, Zambia (2025) available at <https://ijriar.com/docs/2025/2025-jul-sep/IJRIAR-02.pdf> accessed on 1st November 2025

¹⁰⁸ The Annual Inclusive Africa Conference available at <https://inclusiveafrica.org/theconference> accessed on 1st November 2025

BIBLIOGRAPHY

ARTICLES AND JOURNELS

Amponsah S and Bekele T A, 'Exploring strategies for including visually impaired students in online learning' (2023)28 Education and Information Technologies 9355 Available at: <https://doi.org/10.1007/s10639-022-11145-x>

Kasebusha N and Banda M 'Teaching Strategies for Learners with Visual Impairment: A case of Mporokoso and Munali Secondary School' available at <https://journals.unza.zm/index.php/ZIJE/article/download/686/577/>

Kisanga E S and Kisanga H D, "The role of assistive technology devices in fostering the participation and learning of students with visual impairment in higher education institutions in Tanzania" (2020) 17(7) Disability and Rehabilitation: Assistive Technology 791 available at: <https://doi.org/10.1080/17483107.2020.1817989>

Maguvhe O M and Mutambo A 'A study of inclusive education provision in Zambia: Curriculum reforms' African Journal of Disability Available at <https://doi.org/10.4102/ajod.v12i0.1067>

Mahoney L 'Equal Access for Blind and Visually Impaired Students' available at <https://college.berklee.edu/news/2671/equal-access-for-blind-and-visually-impaired-stu>

Mashilo M and Iyamu T, 'Selecting an assistive technology for visually impaired students in higher institutions' Available at: https://doi.org/10.48009/4_iis_2024_137

Muzata K K, 'The Utilisation of Computers to Improve the Quality of Learning for Students with Visual Impairment at the University of Zambia' available at: <https://zajlis.unza.zm/index.php/journal/article/view/54>

Nambeye R, "Effects of Integrating Assistive Technologies in Learning Mathematics among the Visually Impaired Learners in Lusaka District, Zambia (2025) available at <https://ijriar.com/docs/2025/2025-jul-sep/IJRIAR-02.pdf> accessed on 1st November 2025

Ng'etich H T and Aiyobei B T, 'College Administrative Support in Integration of Adaptive Technology for Visually Impaired Student Teachers in Primary Teacher Training

Colleges: The Kenyan Experience' Available at: <http://ir-library.kabianga.ac.ke/handle/123456789/770>

Strategic Policy Framework on Disability for the Post School Education and Training System 2018

THESIS

Kaulu J 'Efficacy of assistive technology on the visually impaired learners' grasping of library information resources: A case of Zambia Library Cultural and Skills Centre for the visually impaired (ZLCSCVI) in Lusaka, Zambia' (postgraduate thesis) Lusaka Zambia University of Zambia 2019 available at <https://dspace.unza.zm/server/api/core/bitstreams/ab1736ec-2625-4ea7-9071-5b6771a45d49/content>

INTERNET SOURCES

Breaking barriers in higher education for and with students with disabilities' available at <https://www.unesco.org/en/articles/breaking-barriers-higher-education-and-students-disabilities>

Cambridge Dictionary, available at: <https://dictionary.cambridge.org/us/dictionary/english/higher-education>

Education and Skills Development SADC' available at <https://www.sadc.int/pillars/education-skills-development>

Fuentes H and Araya J 'Response to the CRPD Committee's Draft General Comment Committee on the Rights of Persons with Disabilities 'Concluding observations on the initial report of Norway' available at <https://www.regjeringen.no/contentassets/26633b70910a44049dc065af217cb201/crpd-2019-concluding-observations-english-version-fra-komiteen.pdf>

Jonathan N K "Enhancing Cognition of Students with Visual Impairments via Human Computer Interface Blueprint for SDG4" available at <https://edinburgjournals.org/journals/index.php/journal-of-information-technolog/article/view/520>

Kids Health, available at: <https://kidshealth.org/en/teens/visual-impairment.html>

Lesson 10: Adaptive Technology, available at: <https://www.washington.edu/doit/lesson-10-adaptive-technology>

Ministry of Community Development and Social Services Statutory Mandate available at https://www.mcdss.gov.zm/?page_id=4231

Mlambo S “AI Glasses Change Lives of UKZN Students” IOL News (Durban 14 March 2024) available at <https://www.iol.co.za/news/south-africa/kwazulu-natal/ai-glasses-change-lives-of-ukzn-students-123456789>

Mthembu N “UKZN Empowers Visually-Impaired Students Towards Independence with AI Glasses” available at <https://www.goodthingsguy.com/lifestyle/ukzn-empowers-visually-impaired-students-ai-glasses/>

‘Resolution on the Right to Education in Africa-ACHPR/Res.346(LVIII)2016’ available at <https://achpr.au.int/en/adopted-resolutions/346-resolution-right-education-africa-achprres346lviii2016>

Namisango R “Inclusive education: Using assistive technologies to manage the learning needs of students with visual impairments at Makerere and Kyambogo University” available at <https://news.mak.ac.ug/2025/03/inclusive-education-using-assistive-technologies-to-manage-the-learning-needs-of-students-with-visual-impairments-at-makerere-and-kyambogo-universities>

North Carolina Department of Information Technology available at: <https://www.ncbroadband.gov/digital-divide/what-digital-divide>

Sellot B, Interview with News24 (Johannesburg, 15 March 2024) available at <https://www.news24.com/news/bright-sellot-ai-glasses-testimony-123456789>

The Annual Inclusive Africa Conference available at <https://inclusiveafrica.org/theconference> accessed on 1st November 2025

UNESCO available at <https://www.unesco.org/en>

University of Kwazulu-Natal “Disability Support Unit” available at <https://dsu.ukzn.ac.za/services/>

Zambia Federation of Disability Organizations (ZAFOD) available at <https://zafod.org.zm/about/#>

ZAPD Press releases or statements “ZAPD Commends Government’s Effort in Promoting Inclusion” available at <https://zapd.org.zm/category/press-releases-statements/>

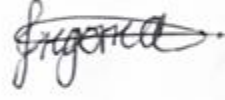
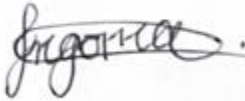
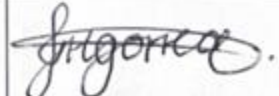


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L400B / Dissertation II – DIRECTED RESEARCH (OBLIGATORY ESSAY)

RESEARCH CLEARANCE FORM

NAME: JADE DAHLIA NGOMA STUDENT NUMBER: LLB212484065
SUPERVISOR: MRS. PUPWE TOPIC: BRIDGING THE DIGITAL
DIVIDE: EVALUATING ADAPTIVE TECHNOLOGIES AND POLICY
FRAMEWORKS IN ZAMBIAN HIGHER EDUCATION FOR THE VISUALLY
IMPAIRED UNDER THE PERSONS WITH DISABILITIES ACT 2012

Stage	Supervisor's Comments	Supervisor's Signature & Date	Student's Signature & Date
Research Proposal	Approved	 7/8/25	 7/8/25
Chapter 1 – Introduction	Approved	 27/8/25	 27/8/25
Chapter 2 –	Approved	 6/10/25	 6/10/25

Chapter 3 –	Approved	13 25/9/25	Jugonca 25/9/25
Chapter 4 –	Approved	13 5/11/25	Jugonca 5/11/25
Chapter 5 – Conclusions & Recommendations	Approved	13 12/11/25	Jugonca 12/11/25
Abstract, Table of Contents, Bibliography and Appendices	Approved	13 13/11/25	Jugonca 13/11/25
First Draft	Approved	13 13/11/25	Jugonca 13/11/25
Second Draft	Approved	13 13/11/25	Jugonca 13/11/25
Final Draft	Approved	13 13/11/25	Jugonca 13/11/25

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FRAMEWORKS IN ZAMBIAN HIGHER EDUCATION FOR THE VISUALLY IMPAIRED

UNDER THE PERSONS WITH DISABILITIES ACT 2012 By: JADE DAHLIA

NGOMA LLB212484065 AN OBLIGATORY ESSAY SUBMITTED TO THE

UNIVERSITY OF LUSAKA IN PARTIAL FULFILMENT OF THE REQUIREMENTS

FOR THE AWARD OF THE BACHELOR OF LAWS (LLB) DEGREE. 3 5 6 7 8 9 10 12 15 16 17

18 19 20 22 23 24 25 26 27 30 31 32 33 34 35 37 39 40 41 44 46 47 2025

DECLARATION I declare that this dissertation entitled Bridging

the Digital Divide: Evaluating Adaptive Technologies and Policy

Frameworks in Zambia Higher Education for the Visually Impaired

under the Persons with Disabilities Act 2012 which is hereby

submitted in partial fulfillment of the requirements for the

award of a Bachelor's Degree at the University of Lusaka

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previously submitted for the award of a degree at this

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plagiarism entails and I am also aware of the University's policy in this regard.

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47 Thus, where other person's work is cited, I have duly acknowledged. 6 7 8