



Inclusive Pedagogy for Students with Hearing Impairments in Secondary Education:
A Comparative Study about Uganda and Germany

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DECLARATION

Declaration of own work

I, Kajumba Ketu (immatriculationnumber 5934367) hereby declare that this dissertation titled “*Inclusive Pedagogy for Students with Hearing Impairments in Secondary Education: A Comparative Study about Uganda and Germany*” is my own work and that it has not been presented and will not be presented to any other university for similar or any other degree award. No commercial recruitment or consulting services were used in connection with this doctoral project. All sources cited or quoted in this dissertation have been indicated and acknowledged with a comprehensive list of references.

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TABLE OF CONTENTS

ACKNOWLEDGEMENT.....	ii
LIST OF TABLES.....	x
LIST OF FIGURES	xi
ABBREVIATIONS AND ACRONYMS.....	xiii
ABSTRACT	xv
ZUSAMMENFASSUNG	xvi
CHAPTER ONE.....	1
INTRODUCTION TO THE PROBLEM	1
1.1 Background to the study	1
1.2 Statement of the problem.....	6
1.3 Research gap, research questions and significance of the study	7
1.3.1 Research gap.....	7
1.3.2 Significance of study	8
1.4 Definition of key terms	9
1.5 Summary.....	13
CHAPTER TWO.....	14
THEORETICAL, CONCEPTUAL AND EMPIRICAL PERSPECTIVES ON INCLUSIVE PEDAGOGY PRACTICES AND CHALLENGES.....	14
2.1 Theoretical perspectives	14
2.1.1 The Theory of Universal Design for Learning (UDL)	15

2.1.2 The Theory of inclusive special education	16
2.1.3 Comparison of UDL and Inclusive Special Education in Supporting Inclusive Pedagogy	18
2.2 Conceptual perspectives on inclusive pedagogy	20
2.3 Empirical perspectives on inclusive pedagogy approaches, challenges and recommendations	21
2.3.1 Inclusive pedagogy approaches as practiced in schools	21
2.3.2 Challenges to implementing Inclusive pedagogy in schools	30
2.4 Summary	40
CHAPTER THREE	41
METHODOLOGY	41
3.1 Research philosophy	41
3.2 Research design and approach	42
3.3 Study participants and sampling strategy	44
3.4 Data collection methods and instruments	48
3.4.1 Interviewing	48
3.4.2 Observation	51
3.5 Data analysis and interpretation	52
3.6 Quality control	56
3.7 Ethical considerations	59
3.8 Limitations encountered	61
3.9 Summary	62

CHAPTER FOUR	63
INCLUSIVE PEDAGOGY APPROACHES AND CHALLENGES IN SECONDARY SCHOOLS IN UGANDA AND GERMANY	63
4.1 A case description.....	63
4.1.1 The status of special needs children	64
4.1.2 The regulatory framework for inclusive education in Uganda.....	64
4.1.3 The Education system in Uganda	65
4.1.5 Description of study participants in secondary schools in Uganda.....	69
4.2 Findings: Inclusive pedagogy approaches in secondary schools in Uganda	70
4.2.1 Differentiation of learners, instructional and assessment methods.....	71
4.3 Challenges to inclusive pedagogy in secondary schools in Uganda.....	86
4.3.1 Inappropriate curriculum design	86
4.3.2 Inadequate teachers to match the higher number of students with HIs.....	88
4.3.3 Unfavourable classroom environment	90
4.3.4 Difficulty in managing inclusive classes with students of diverse special needs.....	93
4.3.5 Inadequate teacher's competence in inclusive pedagogy	95
4.3.6 Difficulty in interpretation of oral to sign language translation.....	98
4.3.7 Limited parent support to the learners.....	99
4.3.8 Parents' low prioritization of students with hearing impairments	100
4.4. Inclusive pedagogy approaches in secondary schools in Germany	103
4.4.1 A case description.....	104

4.4.2 Findings: Inclusive pedagogy approaches in secondary schools in Germany	110
4.4.2.1 Differentiation of learners, teaching and assessment methods	110
4.4.2.2 Parents engagement with teachers	115
4.4.2.3 Teacher-student relationships.....	117
4.4.2.4 Reflective and flexible teaching methods	121
4.4.2.5 Collaborative or supportive teaching.....	124
4.4.3 Findings: Inclusive pedagogy challenges in secondary school in Germany ..	126
4.4.3.1 Class size	127
4.4.3.2 Classroom structures	128
4.4.3.3 Teacher competence.....	129
4.5 A comparative analysis and discussion of inclusive pedagogy approaches in Uganda and Germany	130
4.5.1 Differentiation of learners, instruction methods, and materials	133
4.5.2 Use of group work, progressive and multi-dimensional approach to assessment	134
4.5.3 Parent, student and teacher engagement	134
4.5.4 Use of reflective and flexible teaching approach.....	135
4.5.5 Building a good teacher-student relationship.....	136
4.5.6 Use of collaborative teaching	136
4.6 A comparative analysis and discussion of the challenges to implementation of inclusive pedagogy.....	137
4.6.1 School related challenges.....	138

4.6.2 Teacher related challenges	140
4.6.3 Parent related challenges.....	141
4.7 Discussion: Relating the results of inclusive pedagogy approaches to theoretical and empirical perspectives	144
4.7.1 Differentiation of learners, instruction methods and materials	144
4.7.2 Use of group work, progressive and multi-dimensional approach to assessment	145
4.7.3 Parents, students and teachers' engagement	146
4.7.4 Use of reflective and flexible teaching approach.....	146
4.7.5 Building a good teacher-student relationship.....	147
4.7.6 Use of collaborative teaching	148
4.8 Discussion: Relating results in inclusive pedagogy challenges with theoretical and empirical perspectives	149
4.8.1 School related challenges.....	149
4.8.2 Teacher related challenges	150
4.8.3 Parent related challenges.....	151
CHAPTER FIVE	153
CONCLUSION, RECOMMENDATIONS AND CONTRIBUTIONS OF THE STUDY	153
5.1 Conclusion.....	153
5.1.1 Inclusive pedagogy approaches in secondary schools in Uganda and Germany	154
5.1.2 Inclusive pedagogy challenges in secondary schools in Uganda and Germany	156
5.2 Recommendations.....	157

5.2.1 Inclusive pedagogy approach in secondary schools in Uganda and Germany	158
5.2.2 Inclusive pedagogy challenges in secondary schools in Uganda and Germany	158
5.3 Contributions of the study	161
5.4 Areas for further research	162
5.5 Conclusion, Practical and Theoretical Implications of this Thesis.....	164
5.5.1 Theoretical Implications.....	168
5.5.2 Practical Implications	168
REFERENCES	170
Appendix: I Interview guide for Teachers.....	i
Appendix II: Interview guide for students.....	v
Appendix III: Interview guide for students with hearing impairment.....	x
Appendix IV: Observation Schedule	xi
APPENDIX V: AN INFORMED CONSENT FORM FOR STUDY PARTICIPANTS	xiv
Appendix VI: Regionales Landesamt für Schule und Bildung Osnabrück	xviii
Appendix VII: Kommission für Forschungsfolgenabschätzung und Ethik.....	xx
Appendix VIII: Audit Trail confirmation	xxiv
Appendix IX: Map of Uganda with pins on all the schools that received inclusive education at intervention for children with visual and hearing disabilities.	xxv
Appendix X: Map of Africa showing location of Uganda	xxvi
Appendix XI: Map of Uganda showing location of Wakiso district, the study area.....	xxvii
Appendix XII: Map of Germany showing location of Lower Saxony, the study area	xxviii

Appendix XIII: Map of Europe showing location of Germany, the study area	xxix
APPROVAL	A
DEDICATION.....	B

LIST OF TABLES

Table 2.1: Summary of the inclusive pedagogy approaches derived from previous empirical studies	22
Table 2.2: Summary of inclusive pedagogy challenges derived from previous studies	31
Table 3.1: Sample size selections for the study	48
Table 4.1: Education qualifications for secondary school teachers in Uganda.....	68
Table 4.2: Description of the study participants: teachers and students in Uganda.....	69
Table 4.3: Description of the study participants: teachers and students	109

LIST OF FIGURES

Figure 2.1. The link between UDL principles and the theory of Inclusive Special Education.....	19
Figure 3.1: Maps of (A) Showing map of Uganda in Africa (B) showing location of studied schools in Uganda	45
Figure 3.2: Map showing location of the selected schools in Lower Saxony, Germany	47
Figure 4.1: The structure of education system in Germany	105
Figure 4.2: A conceptual view of the school, teacher and parents related challenges to implementation of inclusive pedagogy	143

LIST OF APPENDICES

Appendix: I Interview guide for Teachers.....	i
Appendix II: Interview guide for students.....	v
Appendix III: Interview guide for students with hearing impairment.....	x
Appendix IV: Observation Schedule.....	xii
APPENDIX V: AN INFORMED CONSENT FORM FOR STUDY PARTICIPANTS	xiv
Appendix VI: Regionales Landesamt für Schule und Bildung Osnabrück	xviii
Appendix VII: Kommission für Forschungs folgenabschätzung und Ethik.....	xx
Appendix VIII: Audit trial confirmation	xxiv
Appendix IX: Map of Uganda with pins on all the schools that received inclusive education at intervention for children with visual and hearing disabilities.	xxv
Appendix X: Map of Africa showing location of Uganda	xxvi
Appendix XI: Map of Uganda showing location of Wakiso district, the study area.....	xxvii
Appendix XII: Map of Europe Showing location of Germany.....	ccxii

ABBREVIATIONS AND ACRONYMS

APE	Adapted Physical Education
BDA	British Deaf Association
BTJET	Business, Technical, Vocational Education and Training
CAST	Centre for Applied Special Technology
CPL	Continuous Professional Learning
EOC	Equal Opportunities Commission
ESPs	Education Sector Plans
GOU	Government of Uganda
GPE	Global Partnership for Education
HI	Hearing Impairment
IE	Inclusive Education
IEP	Individual Education Plan
ITE	Initial Teacher Education
LHIs	Learners with Hearing Impairments
NCDC	National Curriculum Development Centre
NPA	National Planning Authority
OECD	Organization for Economic Cooperation and Development
PE	Physical Education teachers
PFM	Public Finance Management
SASL	South African Sign Language
SEN	Special Education Need

SEND	Special Educational Needs and Disability
SNE	Special Needs Education
UACE	Uganda Advanced Certificate of Education
UBOS	Uganda Bureau of Statistics
UCE	Uganda Certificate of Education
UDL	Universal Design for Learning
UN	United Nations
UNCRPD	United Nations Convention on the Rights of Persons with Disabilities
UNCST	Uganda National Council for Science and Technology
UNEB	Uganda National Examinations Board
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund
UNISE	Uganda National Institute of Specialised Education
UPE	Universal Primary Education
USE	Universal Secondary Education
WHO	World Health Organization

ABSTRACT

Efforts to achieve inclusive education remain limited in many education systems particularly for learners with hearing impairments (LHIs), who are often underserved in secondary schools. This study explores inclusive pedagogy practices and challenges in secondary schools through a comparative analysis of Uganda and Germany. It addresses three research questions: (1) What inclusive pedagogy approaches do teachers use in classes with learners with hearing impairments (LHIs)? (2) What challenges do teachers face in these inclusive classrooms? (3) What recommendations can enhance inclusive pedagogy for LHIs?

Using a comparative case study design, the research analyzed the perspectives of 19 teachers and 7 students across four schools in Uganda and Germany, selected through purposive sampling. Data was generated through interviews and classroom observations. Thematic analysis was applied to interpret the data, guided by the Universal Design for Learning (UDL) and the theory of inclusive special education.

The findings reveal diverse inclusive pedagogy approaches, including differentiation of learners, teaching methods, and materials; group work; and multi-dimensional assessments in both countries. However, Germany employs additional practices, such as regular parent-teacher engagement, collaborative teaching, and fostering strong teacher-student relationships.

Challenges in implementing inclusive pedagogy are pervasive in both contexts but more pronounced in Uganda. School-level challenges include undifferentiated curricula, inadequate teacher training, limited capacity building, and low motivation for teachers. Teacher-related challenges stem from insufficient skills and training opportunities, while parent and student challenges include inadequate support and prioritization for LHIs.

The study recommends increased government funding to improve learning environments, enhance teacher training in special needs pedagogy, and foster research and innovation in inclusive education. Policies should address teacher motivation through incentives, promote parent-teacher collaboration, and adapt examination regulations to account for the unique needs of LHIs. Schools are urged to provide equal opportunities for all learners, ensure access to quality education, and continue implementing effective inclusive practices. The cross-country comparison underscores the value of context-sensitive policy and practice to improve inclusion for LHIs in secondary education.

ZUSAMMENFASSUNG

Die Bemühungen um eine inklusive Bildung sind in vielen Bildungssystemen nach wie vor begrenzt. Diese Studie untersucht die Praktiken und Herausforderungen der inklusiven Pädagogik in Sekundarschulen durch eine vergleichende Analyse von Uganda und Deutschland. Sie befasst sich mit drei Forschungsfragen: (1) Welche inklusiven pädagogischen Ansätze verwenden Lehrkräfte in Klassen mit hörbeeinträchtigten Schüler*innen? (2) Welchen Herausforderungen sehen sich die Lehrkräfte in diesen inklusiven Klassen gegenüber? (3) Welche Empfehlungen können die inklusive Pädagogik für hörbeeinträchtigte Schüler*innen verbessern?

Unter Verwendung eines vergleichenden Fallstudiendesigns wurden die Perspektiven von 19 Lehrer*innen und 7 Schüler*innen aus vier Schulen in Uganda und Deutschland analysiert, die durch gezielte Stichproben ausgewählt wurden. Zur Interpretation der Daten wurde eine thematische Analyse durchgeführt, die sich am Universal Design for Learning (UDL) und der Theorie der inklusiven Sonderpädagogik orientiert.

Die Ergebnisse zeigen verschiedene integrative pädagogische Ansätze, einschließlich der Differenzierung von Lernenden, Lehrmethoden und -materialien, Gruppenarbeit und mehrdimensionalen Bewertungen in beiden Ländern. In Deutschland werden jedoch zusätzliche Praktiken angewandt, wie z. B. die regelmäßige Einbeziehung von Eltern und Lehrer*innen, gemeinsamer Unterricht und die Förderung enger Lehrer*in-Schüler*in-Beziehungen.

Die Herausforderungen bei der Umsetzung einer inklusiven Pädagogik sind in beiden Kontexten allgegenwärtig, in Uganda jedoch stärker ausgeprägt. Zu den Herausforderungen auf Schulebene gehören undifferenzierte Lehrpläne, unzureichende Lehrer*innenausbildung, begrenzter Aufbau von Kapazitäten und geringe Motivation der Lehrkräfte. Zu den Herausforderungen auf Lehrkräfteebene gehören unzureichende Fähigkeiten und Ausbildungsmöglichkeiten, während zu den Herausforderungen auf Eltern- und Schüler*innenebene eine unzureichende Unterstützung und Prioritätensetzung für hörbeeinträchtigte Schüler*innen gehören.

Die Studie empfiehlt eine Aufstockung der staatlichen Mittel zur Verbesserung des Lernumfelds, zur Verbesserung der Ausbildung von Lehrkräften in der Sonderpädagogik und zur Förderung von Forschung und Innovation im Bereich der integrativen Bildung. Die Politik sollte die Motivation

der Lehrkräfte durch Anreize erhöhen, die Zusammenarbeit zwischen Eltern und Lehrer*innen fördern und die Prüfungsvorschriften an die besonderen Bedürfnisse der hörbeeinträchtigten Schüler*innen anpassen. Die Schulen werden aufgefordert, allen Lernenden gleiche Chancen zu bieten, den Zugang zu qualitativ hochwertiger Bildung zu gewährleisten und weiterhin wirksame, integrative Praktiken anzuwenden.

CHAPTER ONE

INTRODUCTION TO THE PROBLEM

Inclusive pedagogy is quite paramount to the realization of inclusive education goals set out in the current United Nations 2030 Agenda for Sustainable Development. Previous studies such as Mabasa-Manganyi, 2023; Cotán et al., 2021; Mukelabai et al., 2021; OECD report, 2020); Lakkala et al., 2019 indicate that although inclusive education has attracted varying practices in different countries and contexts of children with special needs, it faces critical challenges which could differ across education systems in different country contexts hence the need for comparative analysis. This study therefore set out to undertake a comparative analysis of inclusive pedagogy practices and challenges in secondary schools in Uganda and Germany with a view to provide recommendations to foster inclusive pedagogy in the two country contexts. This chapter is divided in five sections. The first section presents the background to the study anchoring inclusive pedagogy in the global perspectives and in the context of Uganda and Germany. This opens into the research problem which is presented in section two. The third section presents the research gap and opens into the research purpose and research questions which are presented in the fifth section. The chapter ends with a definition of the key terms and a summary of the chapter.

1.1 Background to the study

Inclusion of people with special needs has become one of the priorities of the social policy in the African and in the European Union. However, students with hearing impairments and their specific needs are often overlooked in comparison with more visible disabilities. The main purpose of this study is to look into and compare inclusive pedagogy for students with hearing impairments in Uganda and Germany, to contribute empirically grounded findings to the research on inclusive pedagogy of which there is a lack in the disability research field.

In addition, education of children and adolescents with special needs is increasingly shifting from the special school to the all-inclusive school. This trend can be observed worldwide but mainly in countries of Europe (Leonhardt & Pospischil 2018) and several industrial nations outside Europe (Felder 2018, Leonhardt 2022) are restructuring their school systems. Until recently these students attended highly differentiated special needs schools. These countries are now striving to create an all-inclusive structure in mainstream schools whereas in many African countries, existing inclusive schools are undergoing structural changes to accommodate more students with special

needs in the currently existing mainstream schools. The first step in this direction was already taken following the Salamanca Conference in 1994, gaining impetus following the UN Convention on Rights of Disabled Persons in 2006. Creation of inclusive school systems largely depends on the availability of professional staff. How unevenly distributed this appears on the globe is exemplified by the overview of professional teachers for the persons with hearing impairment as presented in the world report on hearing in 2021.

Hearing impairment remains among the key disabilities in school going children in Uganda and Germany. Students with hearing impairments account for 12.4 % of the children with disabilities in Uganda. The last National Population and Housing Census which was conducted in 2014 estimated a disability prevalence rate of 12.4 percent among the population aged 5 years and above (males 49.3%; females 50.7%) (UBOS,2016). The various forms of disability estimated are difficulties in seeing (6.5%), difficulties in remembering (5.4%), difficulties in walking (4.5%) and difficulties in hearing (3.1%) (UBOS, 2016). In Germany according to a study by the Kultusministerkonferenz (KMK 2024) the disabilities by proportion among pupils include learning: (39.1%), intellectual development: (18.0%), emotional and social development (17.6%), language: (10.1%), physical and motor development: (6.7%), hearing: (3.5%), sick people: (1.9%), seeing (1.6%), focus of support overlapping or without allocation (1.3%), learning, language, emotional and social development (0.3%) . In 2022, 595,700 pupils with special educational needs were taught in Germany of these, around 39.1% had a special educational focus on learning and around 60.9% had other special educational focuses (KMK 2024). In addition to the focus on learning, intellectual development, language and emotional and social development were the most strongly represented special educational needs, with the latter focus showing an increase of 37.4% of pupils and an increase in the proportion of all pupils with special educational needs from 15.2% to 17.6% since 2013. According to World Health Organization (2018), 6.1% of the world population, equivalent to 467 million persons live with hearing problems. The number is projected to rise to 630 million by 2030 and over 900 million by 2050 (WHO, 2018a). Children account for 34 million (7%) of the people with hearing impairment. Both Uganda and Germany remain among the countries facing a problem of hearing impairment among the school going children. In Uganda specifically, up to 71% of the children in primary school face difficulties seeing without glasses while 36% face a challenge of self-support (Moyi, 2012). In Germany, 6.6% of all students have an identified need for special education.

Disabilities, and hearing impairments specifically, bear a negative implication on education inclusivity of children within the school going age. According to WHO and UNICEF (2015), children with disabilities may be unable to go from home to school, see what is written on the blackboard, hear and understand the teacher, read the textbooks, use sanitation facilities, participate in sports and recreation, and interact with classmates. Similar findings were reported by UNESCO (2004, 2010) while Moyi (2012) considers this institutionalized discrimination, neglect and stigmatisation by schools and society. The Global Initiative on Out of School Children (2015) reports that even if children with disabilities can gain access to school, they are particularly disadvantaged by non-inclusive teaching methods, inflexible curricula and examination systems. In Uganda for example, only 6 percent of children with special needs enrol into the secondary school, far below the national average of 25 percent who finish primary school and get on with their studies in secondary education (UBOS, 2014). As of 2020, only 41 (approximately 24%) of the schools could accommodate learners with hearing impairment (World Bank, 2020). Children with special needs access education in three types of schools in Uganda: special schools, units attached to mainstream schools and all-inclusive schools that allow access to children with or without disabilities. However, these types of schools are limited and does not match the number of special needs students. There are currently 17 special schools, 84 attached units, and 27 all-inclusive secondary schools in Uganda (MOES, 2024).

In Germany however, the drop-out rates and levels of illiteracy among children with hearing impairments are not as high as in Uganda (Opio & Mohamed, 2019). According to a study by the Federal Statistical Office of Germany (Statistisches Bundesamt- StBA, 2019) the number of students with special needs in general and vocational education schools reached 474,463 in the year 2017/18. Among them, 306,431 went to special needs schools and the rest went to general schools. Among the 306,431 students who went to special needs schools around 4% are deaf. On the other hand, around 5% of the students who joined general schools are deaf. In 2017, the number of students who completed the special needs schooling is 52 685 among them 37.6% are females. Disabilities therefore undermine achievement of equity and quality education goals with an ultimate negative impact on productivity of human potential and realization of sustainable development (UNICEF, 2012; UNESCO, 2009; World bank 2005).

In view of the adverse impacts of disabilities and the learning challenges faced by children with disabilities, the concept of inclusive pedagogy emerged globally in the 19th century when the pioneers of special education argued for and helped develop provisioning for children and young

people who were excluded from education (Reynolds & Ainscow, 1994). It was integrated in the UN development agenda far back in 1948 and sustained up to 2007 specifically under the Universal Declaration of Human Rights in 1948, the Convention on the Rights of the Child in 1989, the Salamanca Statement and Framework for Action in 1994, the Convention of Rights for People with Disabilities in 2006 and finally the 2007, the UN Nations Declaration on the Rights of Indigenous People. These frameworks underscored the right to education for all gender groups including children with special needs. It was promoted by United Nations Educational, Scientific and Cultural Organization (UNESCO) in many countries with the aim to respond to the needs of all children (UNESCO, 2015).

Inclusive pedagogy remains on the current United Nations 2030 Agenda for Sustainable Development which pledges to leave no one behind. The Agenda promises a "just, equitable, tolerant, open and socially inclusive world in which the needs of the most vulnerable are met". To help build that better world, SDG 4 calls upon all member states to ensure 'inclusive and equitable quality education as well as promote 'lifelong learning for all'. Countries are further called upon to put in place strategies or measures to promote inclusive pedagogy (UNESCO, 2015). Consequently, the concept of inclusive pedagogy was adopted and has taken centre stage in education frameworks in many countries around the world. Inclusive education for learners of all kinds remain a key objective towards which nearly all education policy makers world over are aiming to attain (Ainscow, Dyson & Weiner, 2013).

Like elsewhere in the world, Uganda and Germany have mainstreamed inclusive education in their development agenda by ratification to the UN 2030 SDGs. In Uganda, like many African countries, prompting inclusive education dates back in 1860 during the times of Christianity movements when the missionaries, the Irish Dominican nuns, and later the Dutch Reformed Church opened different schools for learners with hearing impairment (Mokala, 2021). This followed exclusion and marginalisation of the deaf dating back from developed countries including the Netherlands, Germany and the United States. Since then, the Government of Uganda remains committed to achieve inclusive education including improving inclusion of children with hearing impairment. This is evident from specific policies and guidelines for instance, The White Paper on Education (1992) and the Constitution of the Republic of Uganda (1995), Article 30 (p. 29) which states that, "All persons have a right to education." The Universal Primary Education (UPE) policy provides opportunities to all school-age children irrespective of disability and/or any other unique needs to get free education (UPE Guidelines, 1997). Similarly, the Children Act 2016,

specifically Article 4(j), requires that every child is treated equally. The Disability Act, 2006 further shows government's commitment to providing education for learners with disabilities. Uganda has also committed herself to the implementation of Sustainable Development Goals (SDGs) 2030. SDG 4, which promotes inclusive and equitable quality education for all. Structurally, commitment to inclusive pedagogy in Uganda features in establishment of the first special school in the 1950s and the Uganda National Institute of Specialised Education (UNISE) in 1991 to train the teachers who would help such students (Nalule, 2022).

In Germany which is one of the two major countries under focus in this comparative study, the federal government ratified the UN-Convention on the Rights of Persons with Disabilities in 2009. This was followed with a policy on the implementation of inclusive education in Germany in 2009. This inclusive education framework therefore implies that German schools are obliged to implement inclusive education. Amidst this institutional framework, implementation of inclusive education in German schools is advancing rather slowly, with strong differences between the types of schools that exist in the stratified German school system. Led by primary schools, the implementation is also advancing in secondary schools with lower and middle educational tracks (Haupt- and Realschule), as well as in comprehensive schools. Schools with academic tracks (Gymnasium) are far off in this development, as there are hardly any, promoting inclusive education in their classrooms (Giese et al., 2022).

However, inclusive pedagogy remains extremely difficult to attain in schools that must deal with learners with hearing impairments (LHIs). Even countries that have invested the necessary human and financial resources into the provision of inclusive education are not exceptional. This is also the case in Germany. A variety of studies have delved into the question of slow progress in achieving inclusive education and identified a variety of challenges which conceptually relate to the teachers and the learning environment. Teachers' challenges include their skills, attitude, or commitment to design and adopt inclusive approaches (Mbabaali, 2019; Opio & Mohamed, 2019; Emong & Eron, 2016; Kuhl et al., 2013; Florian & Black-Hawkins, 2011). The learning environment within which the teachers operate is characterized by inadequate special needs teachers, huge workload, inadequate learning facilities, infrastructure and teaching materials. Overall, these challenges impact negatively on enrolment as well as transition and completion rates of children with hearing impairments (Leni, 2018). Consequently, there is a continuous search for pedagogy and approaches to meet the inclusive pedagogy goals with teachers taking centre stage developing and implementing the inclusive pedagogy practices (Ainscow, 2023).

Despite the vast number of empirical studies, there is limited empirical knowledge on the challenges as well as the approaches which can effectively foster the inclusivity of children in specific contexts (Hernández-Torrano et al., 2020; Van Mieghem et al., 2020; GPE, 2018; Messiou, 2017; De Vroey et al., 2016). For example, a report commissioned by the Global Partnership for Education (GPE) (2018, vii) took stock of how disability and inclusive education are included in education sector plans (ESPs) in 51 of the 65 GPE developing country partners. It reported that 41 of these countries were implementing a segregated or special education approach for children with disabilities and were investing in developing specialised facilities to address student needs. It is also evident that children with hearing impairments remain more excluded than that gender groups with different special needs such as the girl child, children with physical impairments, and children from economically disadvantaged families (GPE,2018). In the specific contexts of Uganda and Germany, inclusive education has had slow progress with limited understanding of the challenges and practices in the context of children with hearing impairments (Emong & Eron, 2016; UBOS, 2014). Against this background, this study set out to explore teachers' use of inclusive pedagogy for students with hearing impairments focusing mainly on the pedagogical approaches and challenges looking forward to recommending approaches which can fast-track inclusive pedagogy in this context.

1.2 Statement of the problem

Inclusive pedagogy is paramount to the realization of inclusive education goals set out in the current United Nations 2030 Agenda for Sustainable Development. Like elsewhere in the world, Uganda and Germany have demonstrated commitment and mainstreamed inclusive pedagogy in their education frameworks towards realization of the much desired inclusive and equitable quality education as well as promoting lifelong learning for all. Despite the institutional framework and initiatives, inclusive pedagogy remains extremely difficult to attain in schools that must deal with learners with hearing impairments (LHIs). This is also the case for countries which have invested the necessary human and financial resources into the provision of inclusive education. Uganda and Germany are not exceptional. This situation undermines achievement of equity and quality education goals with an ultimate negative impact on productivity of human potential and realization of sustainable Development (UNICEF, 2012; UNESCO, 2009; World Bank, 2005; OECD, 2004). Extant literature identifies challenges conceptually relating to the teachers and the learning environment which undermine progress towards achieving inclusive pedagogy (Florian & Black-Hawkins, 2011; Emong & Eron, 2016; Mbabaali, 2019; Opio & Mohamed, 2019; Kuhl

et al., 2013), However, there is limited empirical knowledge on the challenges as well as the practices which can effectively foster the inclusivity of children in specific contexts (Hernández-Torrano et al., 2020; Messiou, 2017; De Vroey et al., 2016; Van Mieghem et al., 2020 and GPE, 2018). Besides, there is a continuous search for context-specific approaches which can effectively meet the inclusive pedagogy goals (Ainscow, 2023). The study set out to explore the inclusive pedagogy for students with hearing impairments focusing mainly on the pedagogical approaches and challenges looking forward to recommending approaches which can fast-track inclusive pedagogy in this context.

1.3 Research gap, research questions and significance of the study

The section identifies a problem of implementing inclusive pedagogy and highlights previous attempts in many studies to understand the inclusive pedagogy approaches and challenges in various contexts. Building on this, the next section identifies the prevailing knowledge gap which the study sought to bridge as further attempts to expand the body of knowledge on inclusive pedagogy. The identified knowledge gaps provide insight into the research purpose and specific objectives as well as the key research questions all which are presented in the subsequent section.

1.3.1 Research gap

The literature presented above indicates that inclusive pedagogy remains a critical area of interest to promote inclusive education towards realization of the global and national development aspirations in many countries particularly under the UN development Framework. The literature further indicates that despite the significance of Inclusive Pedagogy and efforts in many countries to promote the education frameworks through a variety of interventions, little has been achieved particularly with regard to inclusion of children of special needs in access to quality education. It also emerges that promoting inclusive education has attracted varying practices in different countries and contexts of children with special needs. Besides, the literature observes that promoting inclusive pedagogy remain challenging in different contexts. In the specific context of Uganda and Germany, the literature observes that despite the progresses made in mainstreaming inclusive pedagogy in these countries' education frameworks, the delivery of the curriculum is yet to effectively mainstream inclusive pedagogy with limited understanding of the challenges at play in different context.

In addition, there is limited empirical knowledge on the approaches which have proven effective in promoting inclusive pedagogy in the context of these countries. Arguably, the two countries can

lend lessons to each other given difference in level of advancement of their education systems. In a bid to expand this body of knowledge therefore, this study set out to analyse the inclusive pedagogy approaches with focus on children with hearing impairments. Specifically, the study looks forward to identifying the challenges which undermine inclusive pedagogy as well as practises and recommendations which can effectively promote it in this context. The research objectives and questions were set to identify gaps in existing knowledge and establish clear and achievable targets for the research.

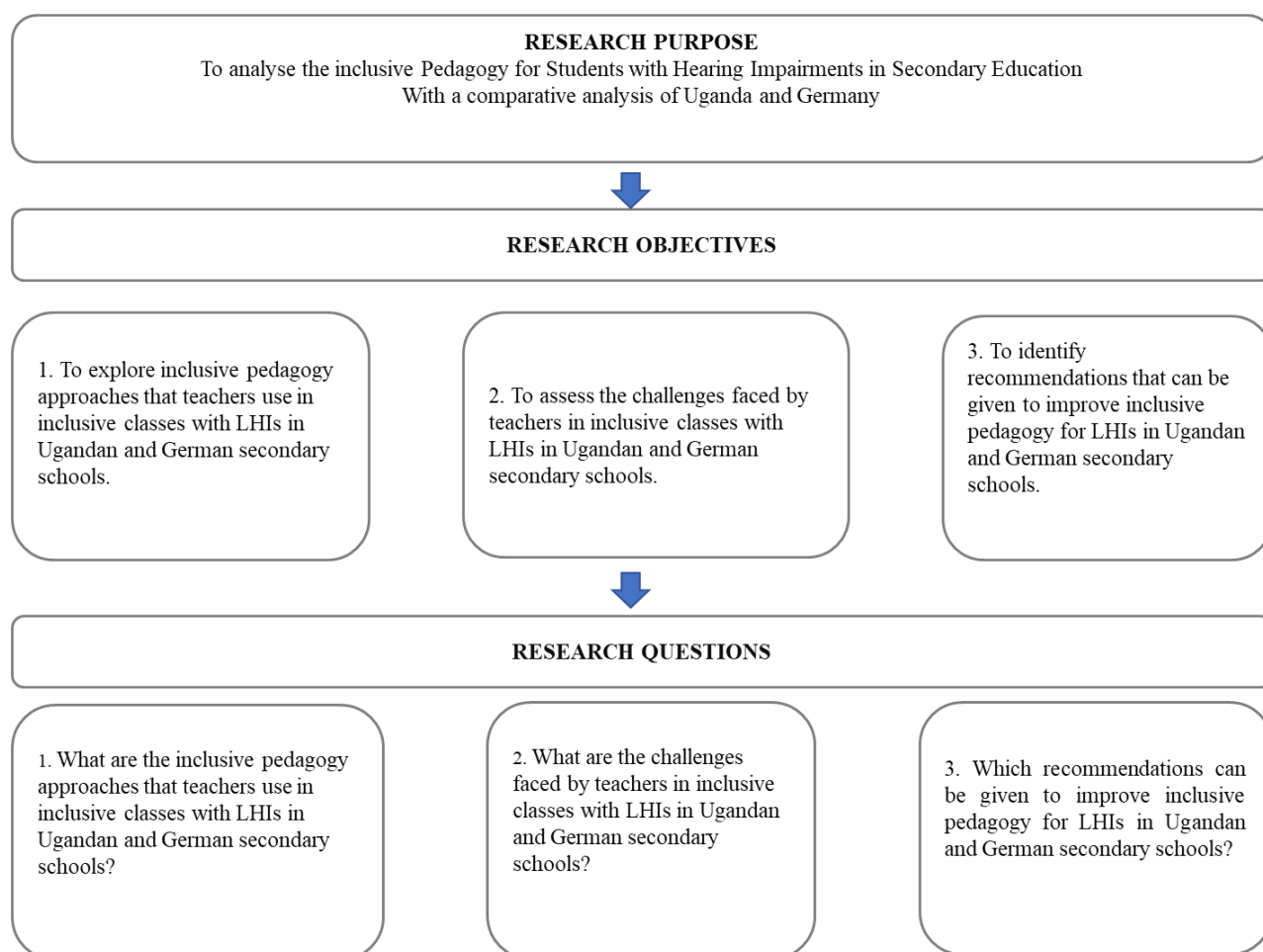


Figure 1.1: Research purpose, Objectives and questions

1.3.2 Significance of study

Both Uganda and Germany education systems have a strategic focus on promoting inclusive education through ensuring the delivery of inclusive and quality education for all and this has been indicated in policies and plans to support inclusive education. For example, provision of Universal Secondary Education programme and the Universal Primary Education programme, in March

2019, the KMK presented “Recommendations on school education, counselling and support for children and young people with special educational needs LEARNING” (*‘Empfehlungen zur schulischen Bildung, Beratung und Unterstützung von Kindern und Jugendlichen im sonderpädagogischen Schwerpunkt LERNEN’*). These recommendations take into account the development of an inclusive education system in Germany, the need for subsidiary special educational support and the relationship to general pedagogy and lifelong learning (KMK, 2020).

In both countries commendable effort has been made to build an institutional framework to promote inclusive education. In addition, both countries have a significant number of students with special needs and specifically hearing impairments. The education system at secondary school level has provided for inclusive classes and teachers are striving to promote inclusive pedagogy. This study analysed the inclusive pedagogy approaches and challenges and provides recommendations on the approaches which can be adopted to foster inclusive pedagogy in both countries. The study also provides recommendations to address the challenges towards effective implementation of inclusive pedagogy in the schools. This emerging knowledge bears significance in the following ways:

To the policy makers and implementers of inclusive pedagogy in the schools specifically teachers, the emerging knowledge from the study is expected to inform the design and implementation pedagogical methods which can promote effective teaching and learning of the students with special needs with more focus on those with hearing impairments. To the academia, findings from this study have expanded the existing body on knowledge and understanding of inclusive pedagogy practices, challenges and measures for improvement in the context of students with special needs. This has ultimately contributed to the existing theoretical and empirical debates on how best inclusive education can be promoted in specific contexts towards realization of education equity goals in the current agenda of sustainable development.

1.4 Definition of key terms

This section provides a definition of key terms which largely relate with the key concepts investigated in the study as well as the study context. The section specifically provides a definition of “inclusive education” which is a global view or context within which the study is nested. The section further defines “hearing impairment” which is a type of disability the study focuses on as in the broader context of inclusive education. Other term defined in this are: curriculum,

assessment and teaching which are key concepts related with inclusive pedagogy in the conceptual perspective of this study.

Inclusive education

Inclusive education can have a different meanings in different contexts and hence the need to understand it in different context of the challenges which exclude or constrain learners from learning effectively. For example, inclusive education has been defined to mean efforts to reduce exclusion in school curricula, cultures, and communities (Florian, 2015). This view of inclusive education is also widely shared by scholars such as Slee (2018) and Messiou (2017). These definitions however remain silent on the disability of the learners among the potential causes of exclusion. A more meaningful definition to the context of this study about students with hearing impairments is provided by the WHO (2021) which defines inclusive education as a strategy to ensure that all children including those with disabilities, have access to quality education that meets their diverse learning needs and prepares them for life, work and citizenship. The current study therefore follows the definition by Florian (2015) and WHO (2021) and defines inclusive education as the education system which facilitates effective learning of all students with hearing impairments.

Hearing impairment

There is general consensus regarding the meaning of hearing impairment that it is a partial or total inability to hear from one or both ears. For example, the WHO (2018a) defines hearing impairment as the complete or partial loss of the ability to hear from one or both ears. This means such level of hearing impairment puts an individual to a level of below normal hearing. They either find difficulty to hear or cannot completely hear. This view of hearing impairment is also shared by the Ugandas' Ministry of Education and Training (2018) which defines learners with hearing impairment as those learners with hearing level that is below what is normal. Notably, this view of hearing impairment is applicable to the context of students with hearing impairment in Uganda and Germany where students find difficulty hearing or cannot totally hear. Hence, the current study adopted the definition by WHO, (2018a) to define hearing impairment as a disability situation of learners who find difficulty hearing (partially impaired) or cannot hear at all (deaf).

Pedagogy

In view of Kapur (2020), pedagogy is an essential part of the teaching-learning methods and instructional strategies. It is the act of teaching mainly involving conventional and modern methods of facilitating learning, also using charts, images, pictures, diagrams, articles, modules. It is theory and practice, and student-centred to facilitate learning. In view of Kapur (2020), pedagogy takes into account different aspects including the social, cultural, critical and Socratic. Social pedagogy seeks to develop social skills of students to support them through their life, critical pedagogy which seeks to help students to question, challenge the domination and undermine the beliefs or practices alleged to dominate. Culturally responsive pedagogy seeks to respond to the cultural differences among students, while Socratic pedagogy seeks to build the social and intellectual skills of students to sustain their living conditions in an effective manner. These four perspectives or aspects of pedagogy are also observed by Persuad (2022). This conceptual meaning of pedagogy is relevant to the context of teaching in secondary schools in Uganda and Germany which seeks to build the knowledge, skills and abilities of learners across the four pedagogical dimensions. Hence, the current study adopted the conceptual view of Persuad (2022) to define pedagogy as the teaching-learning methods and instructional strategies or methods used by teachers to enhance their learners with and without hearing impairments, across the social, cultural, critical and Socratic dimensions.

Inclusive pedagogy

Inclusive pedagogy is an approach that aims to make learning accessible and welcoming to all students (Morina, 2020). In this study, the concept is used to examine how teachers in secondary schools in Uganda and Germany design and implement teaching strategies that support learners with hearing impairments.

Curriculum

There is a general consensus that curriculum is defined as a central order for teaching and learning which takes into consideration the structure, organization, goals, methods, materials and assessment to effectively support instruction and learning (Das & Bordoloi, 2023; Maryanti et al., 2021; Ssentanda, 2021). This view on the meaning of curriculum makes a lot of sense in the context of the current study in inclusive secondary schools with learners with hearing impairments. Specifically, the learning instruction and process across all secondary schools in Uganda and Germany is guided by the curriculum which should ideally highlight the structure, organization,

goals, methods, materials and assessment. Based on the similar conceptual view of the term curriculum by Maryanti et al. (2021), Das and Bordoloi (2023), Ssentanda (2021), this study defined the term “curriculum” as the way learning is structured and organized in terms of learning content, as well as materials and methods for instruction and assessment of learners with and without hearing impairments.

Assessment

Assessment is universally defined by many scholars such as Watson (2017), Pacheco et al. (2019) as a teaching procedure which seeks to understand the state or condition of learning. It involves collecting evidence both graded or un-graded about students’ learning progression in a course. Assessment can be formative or summative utilizing various methods such as discussions, observations, exams, reflection, questions and in-class students’ response. In the context of this study in inclusive secondary schools and specially accommodating students with hearing impairments, this study adopted the definition of Watson (2017) and Pacheco et al. (2019) to define assessment as a teaching procedure which teachers use to determine the extent of progression in learning among students with and without hearing impairments either during teaching or at the end of the teaching lesson or topic (formative) and at the end of every level of education (summative).

Teaching

Teaching in education is universally defined as the concerted sharing of knowledge and experience, which is usually organized within a discipline and, more generally, the provision of stimulus to the psychological and intellectual growth of a person by another person or artefact (Perko et al., 2020). In other words, this author considers teaching as the learner-centered activity in which the instructor ensures that learning is made possible for novice learners and supports, guides, and encourages them in their active and independent creation of new knowledge. The existing definitions on the meaning of teaching share key elements of a process which involves interface between the teacher and learner and actions which stimulate learning. This understanding makes sense in the context of the current study where students go to school to interface with teachers and acquire academic knowledge and experiences. Hence, the current study borrows insights from the defining by Perko et al. (2020) to define teaching as the process through which a teacher interfaces with students or learners and shares knowledge and experience to stimulate the psychological and intellectual growth of the learners with and without hearing impairments to meet the desired learning outcomes.

1.5 Summary

The chapter has attested that hearing impairment remains among the key disabilities in school going children in Uganda and Germany. The chapter has further provided empirical attest to the negative impact of hearing impairments on inclusive education. More important the chapter has provided a global context of inclusive pedagogy and traced its history. The chapter has further placed inclusive pedagogy in the existing empirical literature from a wider perspective and in the context of secondary school students with hearing impairments in Uganda and Germany. The problem of inclusive pedagogy has been presented highlighting its impact on achievement of sustainable development goals and rights of children. In view of the inclusive pedagogy problem and the existing contextual gaps in empirical knowledge regarding the inclusive pedagogy strategies, challenges and measures for improvement, the rationale for the study has been derived. This has opened insight into three research objectives and questions which guided the study.

Building on this chapter are the five chapters in which the entire thesis has been structured. The next chapter presents the conceptual and empirical perspectives on inclusive pedagogy. Specifically, the chapter presents a scholarly view of the meaning and dimensions of inclusive pedagogy and hearing impairments. The conceptual perspective also extends to the meaning of these concepts in the context of this study in Uganda and Germany. This chapter further provides a critical review of the studies which have explored the problem of implementation of inclusive pedagogy identifying the gaps in the study with regard to the strategies and challenges. The chapter further presents the key theories opening insight into the potential strategies and challenges in implementation of inclusive pedagogy. The critical analysis of the theories identifies their interrelatedness and suitability for the study. The third chapter presents the research design and methodology identifying with justification, the research philosophy, study respondents, data collection and analysis methods as well as ethical considerations. The fourth and fifth chapters present key findings regarding the strategies and challenges of inclusive pedagogy in Uganda and Germany respectively. The last chapter presents a comparative analysis of the inclusive pedagogy strategies and challenges across Uganda and Germany. The chapter further presents the discussion of findings, draws conclusions and recommendations towards measures for improved implementation of inclusive pedagogy among secondary students with hearing impairment in Uganda and Germany. The chapter further presents the contributions of the study.

CHAPTER TWO

THEORETICAL, CONCEPTUAL AND EMPIRICAL PERSPECTIVES ON INCLUSIVE PEDAGOGY PRACTICES AND CHALLENGES

The chapter is divided into four main sections. The first section presents a review of theoretical perspectives on inclusive pedagogy identifying its guiding principles and approaches. The second section presents the conceptual perspectives on inclusive pedagogy entailing its meaning and dimensions. The third section presents an empirical review of the various studies which have explored the inclusive pedagogy practices providing a critical review of the contexts, methods and findings as way of opening into the research gap. The third section further presents a critical review of the challenges undermining effective implementation of inclusive pedagogy as well as the recommendations. The fourth section is a summary opening insights into the knowledge gaps which leveraged the study.

2.1 Theoretical perspectives

This part of the study presents a theoretical framework for inclusive pedagogy. This section is meant to provide theoretical insights into inclusive pedagogy in terms of where it is positioned in the general framework of inclusive education. There are many theories that support or contradict inclusive pedagogy and not one would be a fit for all, for example, Behaviourism (Watson & Skinner, 1938), social constructivism (Vygotsky, 1896), connectivism (George Siemens & Stephen Downes, 2005), theory of inclusive special education (Hornby, 2015) and the Universal Design for Learning (Ronald Mace, 1980). However, the analysis of inclusive pedagogy practices, challenges and recommendations in this study draws theoretical insights from the Universal Design for Learning (UDL) as well as the theory of inclusive special education (Hornby, 2015). Hence, they were relevant in guiding analysis of inclusive pedagogy approaches towards attaining inclusive education. These theories are selected because they focus on inclusive pedagogy in the classroom setting as a way of promoting inclusive education which is relevant to the current study which focuses on analysis of inclusive pedagogy. In contrast, the behavioural theories focus more on the behaviour of learners and how they develop. This section presents a discussion of the theories with a focus on their guiding principles or approaches to inclusive education and their relevance to the study.

2.1.1 The Theory of Universal Design for Learning (UDL)

The theory of Universal Design for Learning (UDL) was developed by Ronald Mace in 1980s and was by advanced by Higbee (2009). UDL advocates for a universally designed learning environment centred on the course and curriculum design process covering aspects of learning outcomes, competence standards, teaching and learning activities, as well as measurement through assessment method. The theory advances the need to support the delivery of a curriculum that is completely accessible, meaningful, and a naturally challenging learning experience that meets the needs of every student (CAST, 2018). Since its inception in the 1990s UDL has been expanded reflecting significant developments in neuroscience, technology and the dynamic classroom experience. It identifies the need for the curriculum and instruction to provide equitable opportunities to reach high standards across variable students. The theory further provides a framework for inclusion of learners encompassing three elements, that is multiple means of engagement to support affective learning, multiple means of representation to support the ways in which we assign meaning to what we see, and multiple means of action and expression to support strategic ways of learning (Meyer, Rose and Gordon, 2014).

The fundamental goal of UDL is to anticipate and redress barriers to learning, through pedagogical design tailored to the learners' needs and abilities. The barriers could be physical, cognitive, cultural, social, and/or emotional. It identifies the need for effective instructional plans, focused on engagement and using flexible materials in meaningful ways which are inclusive for all learners. Notably, UDL observes that creating such an inclusive environment can be quite challenging particularly when pedagogy is guided by ill-defined goals and equipped with only conventional instructional methods, using inaccessible resources, and inflexible ways of demonstrating knowledge and understanding. UDL fundamentally emphasizes flexibility in methods to support all learners, flexibility in materials considering available technologies, flexibility in assessment techniques to provide accurate information to inform instruction and evaluate learning (Higbee, 2009).

The theory encourages practitioners or teachers to build reciprocity towards an inclusive mindset in which all learners are equal members. To this end, the theory advocates for out-door learning encouraging and supporting opportunities for peer interactions, supporting and constructing communities of learners engaged in common activities or interests (CAST, 2018). Reciprocal social relationships mean that all members of a group are seen as valuable and with skills to share

(Jorgensen, 2018). Among the multiple methods of instruction, UDL identifies discussion, readings, digital texts, and multimodal presentations to cater for varied learners, capabilities and needs. Outdoor learning can present learning materials through a variety of media (visual, auditory, or tactile), and provide multiple examples that can be modified in complexity to reach every learner in the class. The theory has been previously applied in analysis of inclusive education practices and challenges.

In the context of this study which focuses on inclusion of learners with hearing impairments, UDL provides useful insights into the practices which teachers need to adopt to ensure inclusion of this specific needs group of learners. Arguably, children with hearing impairments need to be offered a learning environment with equitable opportunities to achieve their learning goals. It lends a view that the framework for inclusion in the secondary schools under study need to offer a learning environment with multiple means of engagement, multiple means of representation and multiple means of action and expression to support strategic ways of learning. But more important the multiple means need to take into consideration the special needs and abilities of students with hearing impairments. The reciprocal social relationships advocated by the UDL lends insight that the design of the curriculum and instruction in the context of students with hearing impairments must value this group of learners and recognize their potential (Jorgensen, 2018). UDL also opens insight into various practices which can foster universal learning for different learners, hence underscoring the need to analyse the extent to which the schools under study have adopted similar methods and what seems to work for them in their context. However, in relation to its relevance in guiding this study, the UDL theory is universal to all categories of learners unlike the theory of inclusive special education which largely focuses on learners with special needs. Hence the inclusive special education took centre-stage in guiding this study as discussed below.

2.1.2 The Theory of inclusive special education

The theory of inclusive special education was developed by Hornby from a synthesis of the philosophy, policies and practices of inclusive and special education. (Hornby, 2015). The theory provides a clear vision of effective education for all children with Special Education Needs. The theory takes into account the educational improvement for Special educational needs and disability (SEND) students and the transformation of mainstream learning. The theory identifies the procedures and evidence-based teaching strategies to meet learning needs for children with Special Education Needs (SEN). It identifies place options ranging from mainstream classes to special

schools (Hornby, 2015). The theory identifies three key elements of inclusive special education. They are (i) the need for evidence-based practices for both special education and inclusive education, (ii) the need for a range of placement options from mainstream classes to special schools, and (iii) the need for an organizational framework for providing optimal education for all children with special needs from national to school levels. These elements are further discussed here under and finally related to this study as a matter of their contextual applicability:

(i) The theory of inclusive special education identifies the need for evidence-based practices for special education and inclusive education. The practices are characterized by individualized assessment and planning and specialized instruction (Hornby, 2015). Standard practices in special education include mastery learning assessment strategies, individual education programs (IEP), and differentiated instruction, which focus on student strengths and help teachers adapt different instructional needs (Carroll, 1989). Inclusive education, in contrast, is characterized by a philosophy of acceptance and belonging, school-community collaboration, and valuing the education of all learners in diverse, mainstream classrooms (Hornby, 2015). Hornby (2015) posited that implementing the preeminent, evidence-based practices inherent in both special education and inclusive education foster acceptance of diverse abilities and the use of strengths-based approaches for all students.

(ii) The theory provides for a continuum of placement options from mainstream classes to special schools. To this end, Inclusive special education acknowledges a wide range of needs and preferences of children with SEND. Those with fewer needs can be effectively educated in conventional environments with minimal assistance, while those with higher levels of SEND can better benefit from more specialized settings. Hornby (2015) posited that a continuum of options should be offered that include mainstream classrooms with support from specialist teachers or teaching assistants, resource rooms or special classes within mainstream schools to separate special schools (Hornby, 2015).

(iii) The theory identifies the need for an organization to provide Optimal Education for All Children. The organization is characterized by a comprehensive national policy oriented to the “inclusive special education and backed by legislation that specifies the rights of children with SEND and their families”, contextualizing and implementing the policies in the schools, instituting special education teams including school staff trained in inclusive special education, psychologists, and other pertinent specialists/ Researched-based practices of inclusion should

guide all schoolwide activities and the educator should be able to identify children with SEND and ensure that the teaching and assessment strategy is developmentally appropriate for each learner (Hornby, 2015) .

In relation to this study on inclusive pedagogy practices and challenges in the schools in Uganda and Germany, the theory of inclusive special education arguably puts across assumptions which were deemed relevant to this study. As assumed by the theory, this study similarly recognizes that children with hearing impairments need special teaching practices different from the general learners. The theory further identifies standard practices inherent in both special education and inclusive education which necessitated to be testing practices in the context of schools which accommodate students with hearing impairments to ascertain those which are being practiced and whose which would be applicable but missing in the pedagogy program. The theory provides the need for a variety of options in placing children with special needs depending on their magnitude of special needs or providing them special attention in terms of specialized teachers and methods within the general classroom environment. This opened insight into analysis of the way students with hearing impairments in the context of this study are placed either in special classes or the general classrooms. Similarly, it identifies the need to analyse the organization of inclusive pedagogy at school level through its assumption that promoting inclusive pedagogy necessitates contextualizing and implementing the national inclusive pedagogy policies in the schools. From this perspective therefore, the theory opened insight into the need for analysis of way schools in this study had operationalized national policies on inclusive pedagogy as well as identify the supporting structures, human resources and practices put in place to effectively mainstream and implement inclusive pedagogy.

The theory has proven effective in guiding analyses of inclusive pedagogy practices in previous studies such as Curry et al. (2023) in the context of Belizean Primary Schools and Dell et al. (2015) in context of pedagogical and practical considerations. The studies notably identify that some practices recommended by the theory are not implemented which other are implemented with positive results hence suggesting potential for applying the theory in other contexts.

2.1.3 Comparison of UDL and Inclusive Special Education in Supporting Inclusive Pedagogy

Inclusive pedagogy aims to create accessible learning environments for all students, including those with hearing impairments. Two prominent frameworks that support inclusive education are Universal Design for Learning (UDL) and Inclusive Special Education. While both frameworks

share common goals of enhancing accessibility and participation for all learners, they differ in their theoretical foundations, approaches to curriculum design, and teacher roles. This comparison explores the similarities and differences between these two theories in the context of supporting inclusive pedagogy for students with hearing impairments.

Both theories emphasize the importance of personalized learning and supportive environments. However, UDL focuses on creating flexible, adaptable curricula from the outset, allowing teachers to design inclusive lessons that meet diverse needs. In contrast, Inclusive Special Education emphasizes integrating students with disabilities into general education classrooms, with a focus on modifying existing curricula and providing specialized support. While UDL encourages flexibility and proactive planning, Inclusive Special Education requires specialized training for teachers and a strong collaboration between educators, parents, and the community.

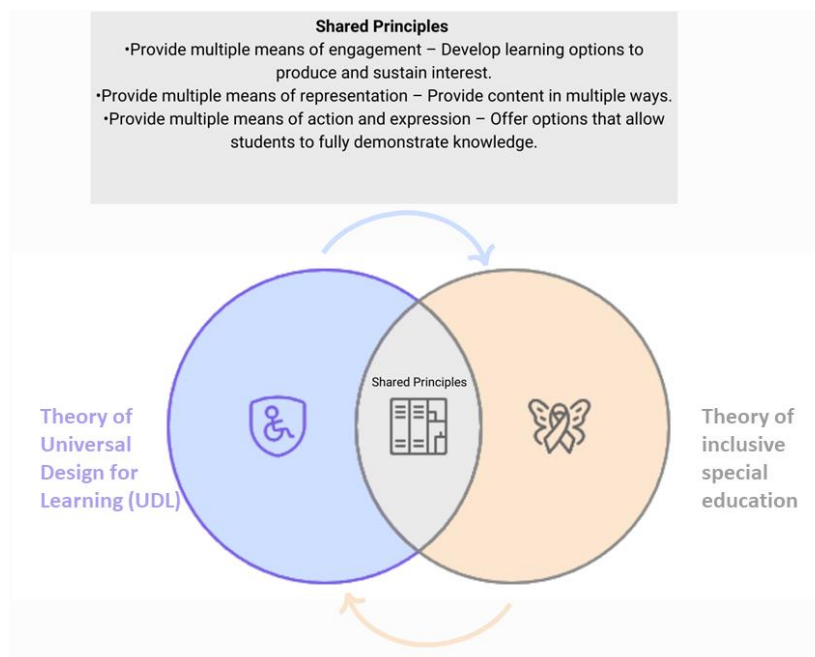


Figure 2.1. The link between UDL principles and the theory of Inclusive special Education as adapted from (Hornby,2015)

In summary, the chapter has opened insights into the various theoretical perspective surrounding implementation of inclusive pedagogy including Behaviourism, liberation, social constructivism and connectivism. More important the analysis has delved deeper into the Universal Design for Learning theory and the inclusive special Education theory are arguably more appropriate and therefore adopted to guide the study for two reasons. First, both theories were open insight into the various practices or approaches which are ideal to foster inclusive pedagogy within the school and classroom setting consistent with the levels of analysis in this study. The two theories provide

perspectives of inclusive pedagogy and resonate well with the global inclusive education principles and goals. However, both theories lack specific focus on practices and challenges regarding inclusion of students with hearing impairments. In attempt to expand their relevance and application in varying contexts, the theories were applied in the context of this study with teachers for learners with hearing impairments in secondary schools in Uganda and Germany.

2.2 Conceptual perspectives on inclusive pedagogy

This section presents a conceptual perspective on inclusive pedagogy focusing on three key elements; (i) the meaning of inclusive pedagogy from the perspective of different scholars; (ii) the inclusive pedagogy methods identified from previous studies; (iii) the meaning of inclusive pedagogy and its analysis dimensions in the context of the current study.

Inclusive pedagogy has been widely defined by various scholars such as Florian (2014) and Moriña (2020). In view of Florian (2014), inclusive pedagogy is a method of teaching and learning in which teachers respond to the individual differences of their students in order to avoid excluding certain students. Inclusion means developing actions based on universal design for learning providing room for all learners (Evans et al., 2015). Florian (2015) further defined inclusive pedagogy as a shift in pedagogical thinking away from conventional approaches that work for most learners existing alongside something additional or different for those (some) who experience difficulties, towards one that involves providing rich learning opportunities that are sufficiently made available for everyone, so that all learners are able to participate in classroom life. Inclusive pedagogy leverages on the assumption that every learner is unique and that learning must be improved for all students (Florian, 2015). The Brown University's Sheridan Center for Teaching and Learning (2020) conceptualizes inclusive pedagogy as an explicit intellectual and affective inclusion of all students in school through course content, assessment, and/or pedagogy. Notably, these definitions recognize three main elements, namely pedagogy, curriculum and assessment, as fundamental components for the development of inclusive teaching strategies.

Inclusive pedagogy methods have been widely conceptualized into three dimensions that is; the curriculum design, teaching or delivery methods and learners' assessment methods. An inclusive curriculum relates with design of pedagogical content, teaching methods, assessment methods and provision of facilities and equipment which put consideration into the diversity of learners (Florian, 2015). In terms of content delivery in class, inclusive teaching methods entails the way teachers relate with different learners in terms of their communication and interactions (Moriña,

2020). Specifically, inclusive teaching methods are those which create a favourable classroom climate characterized by positive emotions, affection and motivation when relating or communicating with different categories of learners of different attributes (Moriña, 2020). Along the three stages of the teaching process i.e curriculum design, delivery of content and assessment learning, inclusive pedagogy is characterized by five elements. They are (i) identification of the special groups or individual learners and aligning or grouping the learners; (ii) investigation of the different attributes of the learners and planning for possible actions or methods which can be applied to foster learning in the different groups, notably, the planned methods, the delivery and assessment levels; (iii) engaging them to ensure they appreciate their position, their grouping and the special consideration before integrating them; (iv) aligning the curriculum, teaching and assessment methods with the needs of the different groups within the same classroom setting; and (v) finally assessment and reflecting on the actions taken.

In the context of this study therefore and drawing from the conceptual perspective of Florian (2015) which is also consistent with the conceptual view by Moriña (2020), it entails curriculum design, delivery of curriculum content and assessment of learners teaching and assessment methods in a manner which responds to the needs of children with hearing impairments. This definition is aligned with the fundamental principles of universal design for learning (Loreman et al., 2016; Rose et al., 2014) which emphasizes inclusivity of different categories of learners across the learning cycle right from designing teaching content and methods to classroom teaching and learners' assessment.

2.3 Empirical perspectives on inclusive pedagogy approaches, challenges and recommendations

This section presents the empirical perspectives on inclusive pedagogy approaches, challenges and recommendations in line with the objectives of the study. The first sub-section presents empirical perspectives on inclusive pedagogy approaches as practiced in schools, followed with the second section on challenges to implementing inclusive pedagogy in schools, and the third sub-section on recommendations for effective implementation of inclusive pedagogy.

2.3.1 Inclusive pedagogy approaches as practiced in schools

This section presents empirical perspectives on inclusive pedagogy. In line with the objectives of the study, the section is divided into six sub-sections that include the following (i) Use of participatory practices or active methods in curriculum design and teaching, (ii) Reflexive, flexible

and responsive teaching methods, (iii) Differentiation of learners during teaching, (iv) Collaborative or support teaching, (v) Communication methods, and (vi) Ensuring good teacher-student' relationship. The review attempts to identify the context of the studies, methodological approaches, key findings and arguments.

Many empirical studies in different countries and school contexts have investigated the practices which teachers utilize in the framework of inclusive pedagogy. The studies have identified a wide range of diverse inclusive pedagogy practices. Most prominent in literature include flexible learning, student-centered learning, inclusive belief regarding obligation to teach all students without exception (Aguirre et al., 2020; Melero et al., 2020), and teachers' preparation and use of a variety of methodological strategies (Sheely & Buyidanto, 2015). It is argued that inclusive pedagogy is more than just teaching strategies and that connections and relationships with students are fundamental to promoting learning. Some studies have gone further to identify the specific methods which can foster inclusive learning. The practices include participatory curriculum design (Carballo et al., 2021; McDevitt, 2021; Morina, 2017), ensuring good teacher-student relationships (Carballo, 2022; Cotán et al., 2021), use of flexible grouping strategies, openness and unpredictability during lesson planning (Taras 2022; Cotán et al., 2021; Kuntz & Carter, 2021; Suther, 2019; Brokamp, 2017), differentiation of learners during teaching (Prediger & Buró 2021; Schwab et al., 2019; Lindner et al., 2019; Moosa & Shareefa, 2019), collaborative or supportive teaching (Lindner & Schwab, 2020 ; Page & Davis, 2016) and communication methods (Ntsoaki, 2021; Barron, 2017; Anglin-Jaffe, 2015). Table 2.1 below presents a summary of the practices highlighted by each of the authors followed with a detailed critical review of these studies identifying gaps on which the current study in the context of children with hearing impairments in Uganda and German secondary schools was based.

Table 2.1: Summary of the inclusive pedagogy approaches derived from previous empirical studies

Author	Study context	Methods/approach	Respondents	Main results- Identified approaches
Inclusive pedagogy approaches				
Aguirre et al., 2020	Universities in Spain	Qualitative	25 faculty members	Student-teacher interaction

Carballo et al., 2021	Primary schools in Switzerland and Australia	Qualitative	25 teachers	participatory curriculum design ensuring good teacher-student relationships
Prediger & Buró, 2021	German secondary schools	Mixed methods	25 videos	differentiation of learners
Schwab et al., 2019	German primary schools	Quantitative	47 inclusive classes	differentiation of learners
Ntsoaki, 2021	South African Special Schools	Qualitative	9 Teachers	differentiated communication methods
Lindner & Schwab, 2020	Germany Higher Institutions	Mixed-method designs	1034 Teachers	collaborative or supportive teaching
Taras, 2022	Austrian and Swiss primary and secondary schools	Qualitative	4 Teachers	use of flexible grouping strategies
Cotán et al., 2021	Universities in Spain	Mixed-methods	119 faculty members	use of flexible grouping strategies

2.3.1.1 Use of participatory practices or active methods in curriculum design and teaching

Participatory practices in design of the curriculum for students is one of the practices highly credited for promoting inclusive learning. Globally, education systems are striving to build curriculum which are competence-based with an aim to build learners' competencies including knowledge, skills, attitudes and values students need to thrive in and shape their future (Organization for Economic Cooperation and Development [OECD], 2018). However, in the

context of children with learning disabilities and inclusive pedagogy, it can be argued that the curriculum in school should aim to build competencies of all categories of learners including those with hearing impairments. In a study conducted in the context of public universities Carballo (2022) analysed the strategies developed by faculty members which were considered as excellent for carrying out an inclusive pedagogy among students with disabilities in Higher Education. The study used views of 25 faculty members and identified participation of all students in designing the curriculum as an important practice in ensuring inclusive pedagogy. Notably, the study used semi-structured interviews for data collection and inductive method for data analysis. A similar view on the significance of students' participation in curriculum development is shared by Morina (2017) who argues that listening to the voices of the students allows not only the suppression of their learning barriers and increases proposals for improvement of inclusive pedagogy. Moreover, a study by Love et al. (2015) identified that university students with disabilities preferred active and participatory teaching methods rather than traditional presentation strategies (Love et al., 2015).

Cotán et al. (2021) sought to understand the methodological strategies that inclusive faculty members use in their classrooms and the difficulties that they find in the implementation of such strategies. The study used 119 faculty members from different fields of knowledge of 10 Spanish universities. Findings revealed that teachers in the Spanish universities implemented inclusive pedagogy through their commitment to developing active methodologies in the classroom and attending to diversity of the students through the necessary support and adjustments. Among the active methodologies include peer tutorials, collaborative learning, project-based learning, flipped classroom, and gamification. Findings on the practice of using active methodologies are consistent with the works of Huguet et al. (2019), who reflect how the use of active and participatory methodologies, such as the flipped classroom, increases the students' motivation and the development of their skills.

Participation of students for example in curriculum design is justified by the argument that students can make good decisions about their own learning (Echeita et al., 2016). Further arguments on the practice of students' participation draws from a study by McDevitt (2021) which observes that participatory methods of inclusivity taps into student experiences, identities and concerns. Notably, this study centered on marginalized and intersecting identities of students based on age, ethnicity, gender, sexual orientation, nationality, ability, and socioeconomic status.

2.3.1.2 Reflexive, flexible and responsive teaching methods

Use of reflexive and responsive teaching strategies is among the inclusive pedagogy methods with potential to foster learning of students with disabilities. Such reflexive methods include constant exploration of the previous ideas of the students, recovering and synthesizing the content tackled at the beginning of each lecture, making a summary at the end of the lecture, using different types of materials, carrying out very different activities, encouraging reflection and adapting to the idiosyncrasy of each group. In a study by Sandra et al. (2020) on the university student perceptions of inclusive classroom practices in the context of graduate and undergraduate students at a mid-sized, mid-western public university, the practice of reflexiveness and responsiveness is further identified as a critical inclusive pedagogy practice during teaching. The study specifically focused on marginalized and intersecting identities based on age, ethnicity, gender, sexual orientation, nationality, ability, and socioeconomic status in face to-face and online classrooms. Flexibility involves developing active methodologies in the classroom and attending to the diversity of the students through the necessary support and adjustments, from the approach of inclusive pedagogy. Consistently, Malebese (2019) observes that learners' inability to listen attentively and speak fluently requires the application of adequately responsive and reflexive teaching practices with a focus on improving learners' listening and speaking skills in early stages of learning.

Other scholars have looked at reflexive teaching from the perspective of exercising flexibility during teaching. Flexibility means adjusting the teaching plan to suit the learners' challenges during teaching. The challenges are identified during the teaching process through a reflexive process. In addition, flexibility and responsive teaching were identified among the effective inclusive pedagogy practices in a study by Guðjónsdóttir and Óskarsdóttir (2016) which analyzed the inclusive practices that stand for how the concept of inclusion acquires meaning in practice. The scholars argue that being flexible, responsive and committed to each pupil creates an opening to effectively educate a diverse group of pupils according to their resources and funds of knowledge. The practice of responsiveness among teachers resonates with the inclusive belief regarding the obligation to teach all students without exception and is in line with the "all means all" call by UNESCO (2020).

The practice of flexibility has been observed to be relevant in lesson planning and teaching. It is argued that while teaching is planned in principle on one hand, flexibility, openness and unpredictability are critical during lesson planning (Brokamp, 2017). As an important inclusive

pedagogy practice, the teacher directs what is happening, but also notices what is happening, decides and responds according to the situation. Using a video study conducted in the 2020/21 school year between August 2020 and July 2021 in the context of teachers in primary and secondary schools in Switzerland and Australia, designing a lesson plan and teaching in a way which was enabling, involving, and enhancing, were among the effective inclusive pedagogy practices (Taras, 2022). Consistently Meadows (2018) observes that when teachers watch videos of their own teaching, they are able to observe general teaching practices such as classroom climate or management. This informs lesson planning aspects such as applying more flexible grouping strategies. Planning an inclusive pedagogy therefore necessitates more attention on learning pathways rather than focusing on tasks and method under the general teaching (Kuntz & Carter, 2021). Suther (2019) identifies the need for lesson planning to provide a combination of enabling practices which ensure they engage in classroom activities and participate in problem-solving interactions, involving practices which ensure the learners are committed to collaborating and working together as well as enhancing practices which ensure the learners use what they have learned for their further learning. Despite its significance, designing a lesson plan and teaching in a manner which is enabling, involving the learners with special needs was found to be challenging (Taras 2022).

2.3.1.3 Differentiation of learners during teaching

Lindner et al. (2021) investigated the differentiation and grouping practices as a response to heterogeneity focusing on teachers' implementation of inclusive teaching approaches in regular, inclusive and special classrooms using data from the German National Educational Panel Study (NEPS). The study identified the needs for differentiation and grouping strategies within inclusive, regular and special classes. Consistently, Suprayogi et al. (2017) and Parsons et al. (2018) observed that differentiation of learners is an effective inclusive pedagogy practice as it helps teachers to prepare teaching and learning content which matches the learners' strengths and weaknesses towards improved learning in the context of learners with varying abilities. The practice of differentiating learners was also identified by Lindner and Schwab (2020) from a criteria-based review of 17 articles between the period 2008 to 2018. Lindner and Schwab (2020) investigated the progress of differentiated and individualised teaching practices in inclusive classroom settings considering collaboration and teamwork, instructional practices, organizational practices and social/emotional/behavioral practices. Results of the criteria-based review encompass articles that were included in the narrative synthesis. Results indicated that the

following aspects are characteristic of inclusive education: collaboration and co-teaching, grouping, modification (of assessment, content, extent, instruction, learning environment, material, process, product and time frame), individual motivation and feedback, and personal support of students. Implications of the findings and gaps in the research have been outlined. Similarly, the use of differentiation as an inclusive method of teaching was observed by Li et al. (2022) in a study which analyzed the pupils' perspectives of inclusive teaching strategies in Chinese regular primary schools. The study used a questionnaire administered to 730 students of three regular primary schools in Shenzhen City.

Despite the significance of differentiation as an effective inclusive learning practice, Lindner et al. (2021) observed that differentiation and grouping are often not done in schools. Studies by Lindner and Schwab (2020) and Nusser and Gehrler (2020) open insight into various differentiation and grouping practices. Scholars on the issue of differentiation and grouping of learners have further observed that class grouping depends on many factors including class size and potential number of learners in a group (Blatchford & Russell, 2019) and teachers' experience, with inexperienced teachers less likely to differentiate learners (Schwab et al., 2019; Lindner et al., 2019; Moosa & Shareefa, 2019). In addition, differentiation is a didactic construct for which implementation of class grouping necessitates teacher training in this area (Hartwig & Schwabe, 2018).

2.3.1.4 Collaborative or support teaching

Page and Davis (2016) in a study on the alignment of innovative learning environments and inclusive education, specifically focus on the effectiveness of the new learning environment in meeting the needs of special education learners. The scholars observe that teachers have been required to make many pedagogical shifts in recent years in terms of IE for students with a diversity of needs who are now enrolling in mainstream classes. Whereas IE for students with diverse needs has required a shift in the way traditional teaching occurs, including students with disabilities often requires additional teacher support and synthesized collaborative models of instruction and found that the most typical model for implementing inclusive education was one in which the general education teacher provided instruction and the special education teacher, who was typically employed in a subordinate role, provided support to students and teachers.

Despite the significance of collaborative teaching or teacher support practices, Giese et al. (2022), in an analysis of cross-cultural translation for physical education in German-speaking countries,

observe existence of significant differences in the way students with disabilities are supported in Germany in comparison with other countries. For example, the US educational system adapted physical education (APE) teachers, or teachers specifically trained to work with students with disabilities, support Physical Education teachers in making curricular adjustments and offering equipment choices. In many cases, students with disabilities have para-educators assigned to them as support personnel within the PE class. Para-educators work with Physical Education teachers to support students' engagement in gymnasium activities. In Germany, neither APE teachers nor para-educators exist as a support service in Physical Education (Giese et al., 2022). School laws within each of the federal states determine how much support the student is entitled to. Typically, the student is assigned a special education teacher for a limited number of hours per week, tasked with supporting the student in class, as well as providing consultation to the general education teacher on how best to support the student's academic success. However, it is critical to note that support services are generally focused on the major subjects (German, Mathematics, and English), while support in Physical Education is not usually provided (Brian et al., 2020; Giese et al., 2022). Supportive teaching is also conceptualized in terms of the teacher giving support to the different groups of students depending on their learning capacities and challenges. To this end, Le Master and Johnson (2019) observe that because students from marginalized communities have to navigate a variety of issues beyond the classroom, (instructors can include, welcome, and empower students by offering social support.

2.3.1.5 Communication methods

Education for learners with hearing impairment has raised several debates in terms of which communication method best suits the learning needs of learners with hearing impairment. The methods include sign language, oral approach and signed support speech (Ntsoaki, 2021). Barron (2017) postulates that there were times when oralism was favoured over other methods and later pure signing has become popular. Oralism involves communication through lip-reading for learners with hearing impairment. A spoken language is favoured in the social, personal and educational development of the child. However, oralism is criticized for its failure to help learners with hearing impairment since it focuses on forcing learners with hearing impairment to understand speech, yet they cannot hear (Anglin-Jaffe, 2015). Sign language is considered a natural language for people with hearing impairment as deaf children rely heavily on it. There is a belief that there are different sign languages just as spoken languages vary. Like any language, sign language enables its users to discuss all subjects that can be discussed in any language. Signed

support speech also known as total communication, involves the use of both spoken words and signs simultaneously. It can be said to be the act of producing speech and equivalent signs at the same. This method however has been criticized for its failure to help in the development of both spoken and written language skills. O'Connell and Deegan (2014) add that this method has failed in exposing learners with hearing impairment to literacy skills. In the view of Barron (2017), the failures associated with the three conventional communicational methods can be overcome using visual learning to supplement either of the three. Teachers have adopted the use of visual learning methods including videos, and visual aids.

2.3.1.6 Ensuring good teacher-student relationships

Inclusive pedagogy necessitates developing a good and close relationship with students and valuing of their abilities, not their limitations (Carballo, 2022). The practice of good relationships with students is further underscored by Cotán et al. (2021) who from analysis of inclusive pedagogy methodologies among faculty members observed that it is a good inclusive pedagogical practice for teachers to trust, be close and accessible toward their students, show empathy and allow active communication with continuous feedback. Additionally, it is a good practice to care for the classroom environment and generate a good classroom climate. Teachers play a key role in mediating the teaching and learning processes, acting as guides for the students, making sense of learning and thus promoting learning in their students (Cotán et al., 2021).

In summary, many studies have explored inclusive pedagogy approaches in various country and school contexts. However, there is scanty empirical knowledge on inclusive pedagogy approaches in the context of secondary schools in Uganda and Germany as the specific area of inclusive pedagogy has not attracted many empirical studies. In terms of methodology, the studies have largely used qualitative methods and engaged teachers and pupils in interviews which has provided deeper analysis of the inclusive pedagogy practices. The analysis has identified a variety of inclusive pedagogy approaches. Most prominent in literature include the use of flexible teaching/learning methods, student-centered learning, inclusive beliefs regarding the obligation to teach all students without exception, and the use of a variety of methods in communication with students. It is argued that inclusive pedagogy is more than just teaching strategies and those connections and relationships with students are fundamental to promoting learning, ensuring good teacher-student relationships, use of reflexive, flexible and responsive teaching methods, differentiation of learners during teaching and use of collaborative or supportive teaching. A more

critical analysis of these methods reveals that their applicability can vary across contexts and the teacher has to aim to apply specific methods which suit the learners' capacities and challenges in specific contexts. In view of this, it was therefore imperative to investigate the pedagogy approaches which are utilized in the specific context of students with and without hearing impairments in secondary schools in Uganda and Germany. The analysis of the inclusive pedagogy approaches has further opened insight that some approaches, although more effective at including learners of different capabilities and challenges, are often not adopted due to specific challenges related with the school setting, the teachers, the socio-economic environment of the children and their parents. Building on this notion, the next sub-section presents a critical review of empirical perspectives on the challenges which hinder inclusive pedagogy.

2.3.2 Challenges to implementing Inclusive pedagogy in schools

Implementation of inclusive pedagogy in schools has been investigated widely with focus on the challenges. This is evident in many studies which have been identified in diverse education contexts. The challenges most prominent in literature can broadly be categorized into Teacher related, school related as well as students-parents related.

Teacher related challenges include teachers' knowledge and experience (Mabasa-Manganyi, 2023; Cotán et al., 2021; Mukelabai et al., 2021; OECD report, 2020; Lakkala et al., 2019). School related challenges include student teacher ratio (Cotán et al., 2021; OECD, 2020; Mukelabai et al., 2021); high teacher attrition (Viac & Fraser, 2020; Roberts & Kim, 2019) and high student numbers (Mabasa-Manganyi, 2023).

Teachers' challenges also relate to inadequate teacher support systems with regard to preparation and development for inclusive teaching including limited stakeholder involvement in curriculum design (Morgan et al., 2016; Kumatongo & Muzata, 2021), lack of evaluation and feedback to inclusive pedagogy teachers (OECD, 2019; 2020) and inadequate resources towards building teacher capacity in inclusive pedagogy (Cotán et al., 2021).

Student-parent related challenges include socio-economic problems such as financial and family issues as well as attitude towards some pedagogical methodologies (Cotán et al. 2021; Mabasa-Manganyi, 2023). A summary of the challenges identified by authors is provided in Table 2.2 below followed with a more critical review of these studies to identify gaps which leveraged the current study in the context of children with hearing impairments in Ugandan and German

secondary schools. The previous studies were selected because they focused on inclusive pedagogy presenting experiences in the contexts of other countries.

Table 2.2: Summary of inclusive pedagogy challenges derived from previous studies

Author	Study context	Methods/approach	Respondents	Main results-Identified challenges
Inclusive pedagogy challenges				
Cotán et al., 2021	Universities in Spain	Mixed methods	119 faculty members	Teachers' knowledge and experience Inadequate resources
Mabasa-Manganyi, 2023	Secondary schools in South Africa	Qualitative	10 teachers	teachers' knowledge and experience
Mukelabai et al., 2021	Secondary Schools in Zambia	Qualitative	6 teachers	Teachers' knowledge and experience
Lakkala et al., 2019	Primary schools in Lithuanian	Mixed methods	86 teachers	Teachers' knowledge and experience
Cotán et al., 2021	Universities in Spain	Qualitative	119 teachers	high student to teacher ratio
Kumatongo & Muzata, 2021	Secondary schools in Zambia	Qualitative	7 Teachers	Inadequate teacher support system Limited parents' involvement

2.3.2.1 Teacher- related challenges

Teachers' limited knowledge and experience in inclusive pedagogy approaches appears the main challenge to effective implementation of inclusive pedagogy (Cotán et al., 2021; Mabasa-Manganyi, 2023; Mukelabai et al., 2021; Lakkala et al., 2019; OECD report, 2020). Teachers lack knowledge and experience about methodological strategies that can help them make the lectures

more dynamic and participatory. This is mainly attributed to lack of training in disability and educational inclusion. Attesting this is a study by Cotán et al. (2021) which analyzed the methodological strategies that inclusive faculty members use in their classrooms and the difficulties that they find in the implementation of such strategies. The study identified the teaching difficulties in the development of inclusive practices including faculty members' training in attention to diversity, lack of knowledge about active methodological strategies, insecurity, lack of experience, lack of time to attend to the students, students' socio-cultural level, poorly motivated students, poorly sensitised students, high students to teacher ratios, and lack of information, support and counselling.

In a related study, Mabasa-Manganyi (2023) assessed the factors influencing how foundation phase rural teachers practised inclusion during teaching and learning in ordinary classrooms. The study was conducted in Limpopo, South Africa, in four selected schools, using qualitative data collected through individual interviews with in-service foundation phase rural teachers. The study identified knowledge of inclusive pedagogical practices and effective teaching and planning of lesson content among the critical challenges to inclusive pedagogy. Moreover, Mukelabai et al. (2021), from the analysis of lived experiences of how pre-service teachers are prepared in inclusive pedagogies, identified challenges of poor inclusive pedagogy practices and identifying learner diversities in a classroom which could partly be attributed to teachers' limited knowledge and experience. The challenge of teachers' inadequate knowledge due to lack of training on inclusive pedagogy is further observed by Lakkala et al. (2019) in their analysis of the challenges primary and subject teachers experienced in implementation of inclusive education in Lithuanian primary schools, progymnasiums and gymnasiums. From 86 Lithuanian teachers and 13 group interviews the study observes that teachers find difficulties in differentiating their teaching and including the students with special educational needs in the classes' social peer networks.

Further attesting to the challenge of inadequate knowledge and experience of teachers derives from the OECD report (2020) which observes that teachers often remain insufficiently prepared in areas related to diversity and inclusion. Inadequate knowledge and experience also mean that teachers find difficulty drawing up correct educational programs in the best interest of the different groups of learners. The report further observes that at least 22% of the teachers report the need for training on special education needs, while 32% in lower secondary education reports a shortage of teachers able to teach students within Special Needs Education. Inadequate knowledge and not knowing how to effectively handle special needs students lead to teachers' frustration and discouragement

when they encounter these realities in the classroom. Besides, it hinders their ability to effectively communicate and interact with students (Cotán et al., 2021).

2.3.2.2 School related challenges

High student ratio limiting teachers' time stands out in previous empirical studies as the main teacher related challenge (Cotán et al., 2021; OECD, 2020; Mukelabai et al., 2021). This challenge is linked to limited teachers' interest in dealing with special needs students, high teacher attrition (Viac & Fraser, 2020; Roberts & Kim, 2019) and high student numbers (Mabasa-Manganyi, 2023). In a study by Cotán et al. (2021) on methodological strategies that inclusive faculty members use in their classrooms in the context of universities in Spain, high student: teacher ratio emerged as a critical challenge associated with the inability to understand students' specific disability challenges and needs. In some cases, teachers felt uncomfortable that they were not giving students with special needs the special attention they needed (Cotán et al., 2021). High numbers of students mean that teachers cannot find time to attend to and adequately monitor all students according to their particular needs. The situation worsens when the class is composed of many diverse groups of disabilities or students with special needs. This means that teachers fail to understand the learning paces of their students, in order to differentiate them and adapt to them.

The high student-teacher ratio results from limited number of teachers for students with disabilities, consistent with the OECD (2020) report, which identifies challenges of teacher shortages, high turnover and attrition, low attractiveness of the teaching profession and under-representation of diverse groups in the teaching workforce among OECD countries (OECD, 2020). In attesting to the challenge of high attrition, the OECD (2019) reported that in England, United Kingdom, 50% of novice teachers leave the profession within the first five years. On the other hand, high student teacher ratio can also be attributed to high student numbers in some schools considering a study by Mukelabai et al. (2021) which analyzed the lived experiences of how pre-service teachers are prepared in inclusive pedagogies. In fact, the study identified overcrowding in classes as one of the challenges. Teachers associated high student-teacher ratio with their inability to adequately monitor the students. Due to the high ratio, participants indicated lack of information, support and institutional counselling for teachers. Similarly, teachers were concerned that the school administration had not informed them earlier about students with special needs in their classes (Cotán et al., 2021).

Teachers have in some studies expressed the lack of feedback from the school management, yet it holds great potential for teacher improvement and quality of learning in the classroom. For example, the OECD (2019) observed that 55% of teachers who reported receiving feedback consider that it led to positive change in the competences related to their subject. In addition, 50% of teachers reported that it led to changes in their use of student assessments to promote student learning. Despite its significance, schools are reported to lack structured monitoring and evaluation frameworks to assess teacher preparation and performance with respect to inclusive teaching, as well as solid approaches to support teacher well-being and retention (OECD, 2020). Formative and summative teacher evaluation including peer observation, often integrated within professional learning communities, are critical to support teachers in developing inclusive teaching strategies. However, observing other teachers' classes and providing post-observation feedback is not a mainstream practice in many schools. In particular, on average across OECD countries, only 15% of teachers report providing feedback based on observation of other teachers, more than four times a year (OECD, 2020). This, in turn, mirrors a broader lack of comprehensive education policy for diversity and inclusion across many countries.

Regarding teacher support, education systems have also been identified to lack comprehensive mechanisms to promote a holistic approach to teacher well-being aimed at supporting teachers in their professional and personal lives (Viac & Fraser, 2020). Moreover, high rates of teacher turnover and teacher shortages in absence of adequate support is observed to be very stressing (Roberts & Kim, 2019). The stress was associated with intentions to quit, as it is reported in the OECD (2020) that teachers experiencing high levels of stress are twice as likely as other teachers with lower levels of stress to have intentions to quit within a five-year time span (OECD, 2020). Consistently, Johnson et al. (2012) associates teacher turnover with unsupportive and obstructive working environments in more disadvantaged school settings. The challenge of inadequate support to teachers is also observed by Mabasa-Manganyi (2023) in selected schools in Limpopo, South Africa. Using qualitative data, the study observed that teachers lacked adequate support. Consistently, teachers have been observed to lack support and training in areas related to diversity and inclusion upon which school support systems have been argued to prepare teachers better for diversity and inclusion (OECD, 2020).

During curriculum design and reviews, involvement of all stakeholders including parents and teachers is a critical practice towards effective implementation of the inclusive pedagogy. However, previous empirical studies have observed that teachers are not always involved. For

example, from, a mixed methods study which used questionnaire and interview data from teachers in Zambia, education teachers indicated that they were not involved at the curriculum design stages of planning, creation and reflection. They were rather involved at implementation stage which did not matter to them as it was perceived their core duty of teaching students with hearing impairments (Kumatongo & Muzata, 2021). Hence, they could not effectively implement the inclusive pedagogy methods as they could not understand some concepts as well as what was expected of them. The teachers were aware of the curriculum changes and had the copy of the new curriculum but had not taken part in the planning process (Kumatongo & Muzata, 2021). Consistently, experiences from South Africa regarding roll-out of the new South African Sign Language (SASL) curriculum revealed that although the curriculum management team were involved in overseeing, smooth writing, and roll-out of the new curriculum, the roll-out encountered some challenges due to lack of consideration of the deaf culture as no persons from this special group were involved (Morgan et al., 2016).

Finally, and also linked with many other challenges, promoting inclusive pedagogy in schools has been observed to be limited by inadequate financial resources. Cotán et al. (2021) analyzed the methodological strategies that inclusive faculty members use in their classrooms and the difficulties that they find in the implementation of such strategies. The study identified the teaching difficulties in the development of inclusive practices including faculty members' training in attention to diversity, lack of knowledge about active methodological strategies, insecurity, lack of experience, lack of time to attend to the students, students' socio-cultural level, poorly motivated students, poorly sensitised students, high student to teacher ratios and lack of information, support and counselling. Notably, these challenges were attributed to limited financial resources.

2.3.2.3 Student-parent related challenges

Inclusive pedagogy challenges have also been observed to be specific to the students. For example, a study by Cotán et al. (2021) revealed a critical challenge of low academic levels of the students, especially in their first year of university, as well as their lack of motivation and their apathy for learning, along with their poor participation and involvement in the classroom sessions. This challenge was also reflected in the low attendance in the lectures, lack of receptivity and feedback from the students with a negative impact on motivation for teaching. In addition, some students showed lack of receptivity and sensitivity toward their classmates with disabilities, especially

when working in groups (Cotán et al., 2021). Some students found challenges communicating with their fellow students when using sign language which the teachers do not use, which lead to frustration among themselves.

Inclusive pedagogy has also been associated with socio-economic problems such as family problems or financial issues which parents face (Cotán et al. 2021). Such challenges include divorce which sometimes puts a toll on the parents and affects learners in different ways. They are associated with student drop-out of school due to finance constraints which render students unable to get health insurance. Moreover, (Cotán et al. 2021) point out that they ultimately interfere with effective implementation of support services that the learner may need. Parents are found rejecting professional advice from teachers and holding on to their expectations and fantasies about their children's future. They look for other options such as communication methods which are not in line with the abilities and needs of their children. This in turn impacts negatively on the learners' progress who then drop out. Parents' interference in the implementation of pedagogical support services by teachers can be linked with their lack of involvement in the design of inclusive pedagogy programs as observed by Mabasa-Manganyi (2023) in a study on selected schools in Limpopo, South Africa.

Findings from the focus group discussions (Mabasa-Manganyi, 2023) revealed a lot of differing opinions when it comes to the issue of the mode of communication used. There seems to be disagreement in terms of the mode of communication used. Some teachers insisted on oralism, while others indicated they do allow the use of total communication. According to the participants, the school is purely verbal, and the use of signing is not allowed. The findings of the study indicated that as much as the school does not encourage signing, the teachers still make use of signs to allow learners to avoid communication breakdown. This helps them to bridge the gap and signing is used as a stepping stone while learners are struggling with acquiring spoken language. The participants explained that the school's language policy clearly stipulates that learners must be taught through oral method of communication. It seems that the participants experience challenges in fully achieving this. As such, they resort to the use of total communication where they use both spoken language and signs. Most participants disclosed that sometimes the learners come into the school with already established signs which they use at home to communicate. For this reason, they end up making use of such signs to avoid communication breakdown.

Overall, the literature indicates that inclusive pedagogy in schools has been investigated widely with the focus on challenges in specific contexts. The review has broadly identified challenges related to the teachers, schools, as well as students, and parents. Specifically, the challenges include teachers' knowledge and experience about inclusive pedagogy, high student to teacher ratio, inadequate teacher support system with regard to preparation and development for inclusive teaching including socio-economic problems such as financial and family issues as well as attitude towards some pedagogical methodologies. A qualitative approach has been largely utilized to provide in-depth analysis of the challenges. However, no specific study has provided a holistic view of the challenges from all the dimensions including, teachers, parents, students and the school. Besides, the challenges need to be understood in specific contexts of education systems as they are likely to vary across institutional capacity culture and socio-economic life of students and parents hence the focus of this study in Uganda and Germany. In view of this argument, this study focuses on the institutional, cultural and socioeconomic contexts of schools. Moreover, despite the many studies, there is limited empirical knowledge on the challenges to implementing inclusive pedagogy in the context of children with hearing impairments in Uganda and Germany. This is a critical contextual gap which the current study set out to bridge by assessing the challenges which hinder inclusive pedagogy in schools with learners with hearing impairments, comparing Uganda and Germany.

2.3.3 Recommendations for inclusive pedagogy in schools

As indicated in the previous section the studies reviewed have not only identified the inclusive pedagogy practices in schools but have gone further to identify the challenges and provided recommendations regarding practices which can effectively foster inclusive pedagogy. Although there is limited knowledge to this end, the review identifies the following recommendations:

Conceptually, inclusive pedagogy is recommended to be adopted with a more holistic view considering the curriculum, teaching, and assessment and tailored to the different groups of learners differentiated by their learning abilities and challenges (Anahuja et al., 2020, Florian, 2015; The Brown University's Sheridan Centre for Teaching and Learning, 2020). Regarding the practices, inclusive teachers are recommended to adopt inclusive pedagogy practices which are differentiated, flexible and student-centered (Prediger & Buró 2021; Schwab et al., 2019; Lindner et al., 2019; Moosa & Shareefa, 2019). This necessitates collaborative or supportive teaching (Page & Davis, 2016; Lindner & Schwab, 2020), also employing appropriate communication

methods (Ntsoaki, 2021; Barron, 2017; Anglin-Jaffe, 2015). It also takes a great deal of preparation and employing a variety of teaching methods tailored to the different groups of learners (Sheely & Buyidanto, 2015). Curriculum design is recommended to be participatory to tap into the interests of the learners and parents as well as secure their buy-in (Carballo, 2021; Morina, 2017; McDevitt, 2021). In addition, ensuring good teacher-student relationships and using flexible grouping strategies, openness and unpredictability during lesson planning are also critical (Taras 2022; Cotán et al., 2021; Kuntz & Carter, 2021; Suther, 2019; Brokamp, 2017). Above all, it necessitates an inclusive belief among all teachers regarding their obligation to teach all students without exception (Aguirre et al., 2020; Melero et al., 2020).

Inclusive pedagogy necessitates equipping teachers with inclusive pedagogy knowledge. Mtika et al. (2023) highlight the importance of the professional development of student teachers: (i) developing professional knowledge for connecting to the lives and experiences of children and young people, and (ii) developing professional and interpersonal skills for inclusion. This draws from an investigation carried out on the perspectives of student teachers in enacting an inclusive pedagogy in high poverty school settings. It considers the professional knowledge and skills the student teachers focus on during their initial teacher education. It is generally believed that inclusion in the classroom depends on ensuring that teachers possess the right set of skills and knowledge to do so (UNESCO, 2020). Consistently, OECD (2014) observes that teachers should be acknowledged as lifelong learners who understand and can create rich and inclusive learning environments. In addition to initial teacher education (ITE) which equips teachers with knowledge and skills for inclusive teaching, teachers should be supported with continuous professional learning (CPL) to face emerging challenges (OECD, 2014). Teacher development, strategies to promote teacher capacity for inclusive teaching can take the form of, among others, induction and mentoring, as well as formal and informal in-service training (OECD, 2020).

In view of Viac and Fraser (2020), teachers' well-being needs to be understood, and interventions put in place to improve their welfare. This derives from the notion that teachers' well-being is not always prioritized in the context of high teacher shortages, turnover and low attractiveness of the teaching profession across many countries. With knowledge, teachers will be able to apply inclusive pedagogy approaches such as responsive teaching which can enable them to (a) base their teaching on detailed knowledge of each pupil, (b) construct learning activities that are both challenging and enjoyable, (c) differentiate among pupils within integrated curricula and programs, (d) use the physical and social environment to support learning and (e) support pupils

to develop a growing sense of responsibility. One of the recommended measures to improve the welfare of teachers for students with special needs is salary incentives to attract more experienced teachers into disadvantaged school environments. For instance, in Spain, a credit system allows teachers working in more disadvantaged and diverse school settings in particular regions to obtain extra credits. These credits can be used to gain promotions, choose to move to another school and obtain a salary increase after six years. Turkey implements a similar framework (OECD, 2017). However, for effectiveness, the salary incentives are recommended to be significant enough (OECD, 2019).

Regarding management of inclusive education, schools are recommended to employ an inclusive school management approach in order to guide and support inclusive teaching (European Agency for Special Needs and Inclusive Education, 2019). This recommendation draws from research by Kumatongo and Muzata (2021) which recommends that teachers must be involved in all stages of curriculum development so that they can have a full understanding of the curriculum and the best strategies to employ in implementing it with learners with hearing impairments. In addition, schools are recommended to involve teachers of special needs, students and parents in decision making processes and build an inclusive classroom environment. In addition, schools are recommended to evaluate teacher competences and performance with respect to inclusive teaching with an aim to improve teaching practices and make them accountable for their performance (UNESCO, 2020). Schools are also called upon to align the teaching workforce with the diversity and heterogeneity of student populations by attracting and retaining more diverse teachers (Schleicher, 2020). To this end, teachers from diverse backgrounds should be supported throughout their teaching career. In addition, experienced teachers should be assigned and encouraged to work in more disadvantaged settings and assigning novice teachers to fewer disadvantaged ones (OECD, 2019).

The recommendations above have generally opened insight into the appropriate conceptual framing of inclusive pedagogy and measures which can be adopted at teacher and school levels towards effective implementation of inclusive pedagogy in the school setting. Arguably, the measures can vary depending on the school social, economic and cultural contexts. While some practices could be effective, they may not resonate with the cultural norms and teaching capacities. The practices to be adopted in the school may also have to be aligned with the constraints and abilities of the specific special group. In view of these arguments, further empirical analysis was deemed necessary to identify and make recommendations which could specifically foster

implementation of inclusive pedagogy in the context of students with hearing impairments in Uganda and Germany.

2.4 Summary

In summary, overall, the chapter has provided a critical review of the theoretical, conceptual and empirical perspectives on inclusive pedagogy practices, challenges and recommendations. A variety of inclusive pedagogy approaches have been evidenced in the literature. Most prominent include use of flexible teaching/learning methods, student-centered learning, inclusive beliefs regarding the obligation to teach all students without exception, and the use of a variety of methodological methods in communication with students. The identified challenges relate to the teachers, schools, as well as students and parents. Specifically, the challenges include teachers' knowledge and experience about inclusive pedagogy, ratio to teachers, inadequate teacher support systems with regard to preparation and development for inclusive teaching including socio-economic problems such as financial and family issues as well as attitude towards some pedagogical methodologies. As a critical knowledge gap, the study argues that the inclusive pedagogy practices and challenges could differ by education system and that they need further understanding in specific contexts hence, the rationale for this study in the context of secondary school students with hearing impairment in secondary schools in Uganda and Germany. Theoretically, although the UDL and SED theories have proven effective in guiding analyses of inclusive pedagogy practices and challenges in previous studies as indicted in the review, the theories have not been applied in the context of inclusion of students with hearing impairments. In an attempt to expand their relevance and application in varying contexts, the UDL and SED theories were applied in this study.

CHAPTER THREE

METHODOLOGY

This chapter is structured in six sections. The first section presents the research philosophy on which the subsequent research design and methods are anchored. The second section presents the research design followed with the third section which presents the study population and sampling strategy. The fourth section presents the data collection method including interviews and observations. The fifth section presents and data analysis methods while the last section presents the ethical considerations. The methods presented in this chapter seeks to collect and analyse data in order to address the three research questions (i) what are the inclusive pedagogy approaches that teachers use in inclusive classes with LHIs in Ugandan and German secondary schools? (ii) what are the challenges faced by teachers in inclusive classes with LHIs in Ugandan and German secondary schools? (iii) which recommendations can be given to improve inclusive pedagogy for LHIs in Ugandan and German secondary schools?

3.1 Research philosophy

The term research philosophy refers to a system of beliefs and assumptions that are categorised based on ontology, epistemology and methodology about the development of knowledge (Chowdhury, 2014; Saunders et al., 2019; Lewis & Thornhill, 2009). The assumptions relate to epistemology that refers to the type of knowledge that can be generated and standards for justifying it (Taylor and Medina, 2013). The nature of world realities within which the problem is embedded (ontological assumptions) and the extent and ways the researchers' values influence the research process (axiological assumptions). The nature of research philosophy underscores the research methods in terms of research approach, research strategy as well as data collection and analysis techniques. This ultimately allows the design of a coherent research project, in which all elements of research fit together (Saunders et al., 2019; Lewis & Thornhill, 2009). Research philosophies are sometimes categorized into five including, positivism, critical realism, interpretivism, postmodernism and pragmatism. The study adopted an interpretivist research philosophy which ontologically views the world as complex and socially constructed through culture, language and history which creates diversity in processes, experiences, practices. It recognizes the uniqueness of a particular situation, contributing to the underlying pursuit of contextual depth (Myers, 2008). Culture is comprehended by studying people's ideas, thinking, and the meanings that are important to them (Lewis & Thornhill, 2009). In terms of nature of acceptable knowledge (epistemology),

interpretivism posits a new, richer and detailed understanding of social worlds and contexts. It also stems from the axiological view of researchers as key participants in the research process, whose views matter in shaping the interpretations of the problem phenomena, the experiences, and views of the research subjects (Saunders et al., 2019; Mohamed, 2014). It underscores inductive research designs, a qualitative approach, methods and techniques for collection and analysis of data. However, while interpretive research is recognised for its value in providing contextual depth, results are often criticised in terms of validity, reliability and generalisability (Lewis & Thornhill, 2009).

This study adopted an interpretivist philosophy to explore the approaches and challenges of inclusive pedagogy in secondary schools in Uganda and Germany. Interpretivism is rooted in understanding social realities through the subjective meanings and lived experiences of individuals, making it well-suited for analyzing educational practices in distinct cultural and institutional settings. By acknowledging the historical, institutional, and cultural differences between the two countries, the research sought to construct a nuanced understanding of how inclusive pedagogy is implemented within each context. This approach contrasts with positivist paradigms that emphasize generalization, allowing the study to focus on the localized and context-specific dimensions of inclusive education.

The use of interpretivism also shaped the research design, particularly the choice of semi-structured interviews for data collection. These interviews enabled an in-depth exploration of participants' perspectives, aligning with the interpretivist goal of uncovering subjective meanings and contextual insights. Additionally, the interpretivist framework guided the data interpretation process, ensuring that findings were analyzed within the broader social and cultural environments of the two countries. This alignment underscores the importance of considering localized factors in understanding the complexities of inclusive pedagogy, while also providing a framework for comparative analysis that respects the uniqueness of each educational system.

3.2 Research design and approach

A research design is a disciplined, systematic (planned, ordered and public) approach to find most appropriate research results. In view of the interpretivist philosophy, the study utilized a qualitative research design. Qualitative research is a branch of social science research that collects and works with non-numerical data that seeks to interpret meaning from these data that help us to understand social life through the study of targeted populations or places (Punch, 2013). Qualitative research

is inductive in nature, and the researcher generally explores meanings and insights in a given situation (Levitt et al., 2017; Felton & Stickley, 2018). The justification for the design also stems from the qualitative nature of the research questions in accordance with Viswambharan and Priya (2016) who observe that the choice of methodological design depends on the questions.

Although qualitative research involves various approaches such as narrative, phenomenology, case study, ethnography, and so on, this study employed a case study design within the qualitative approach. This design involves a qualitative analysis of a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information (e.g., observations, interviews and document reviews), and reports a case description and case themes (Creswell, 2013). The unit of analysis in the case study might be multiple cases (a multisite study) or a single case (a within-site study). In terms of procedure, a case study design involves (i) identification of a specific case also known as a concrete entity, such as an individual, a small group, an organization, or a partnership. It may also be relationship, a decision process, or a specific project, (ii) defining the aim of conducting a case, for example illustrate a unique case, understand a specific issue, problem, (iii) description of the case in terms of the themes or issues or specific situations to study in each case (Creswell, 2013). A hallmark of a good qualitative case study is that it presents an in-depth understanding of the case.

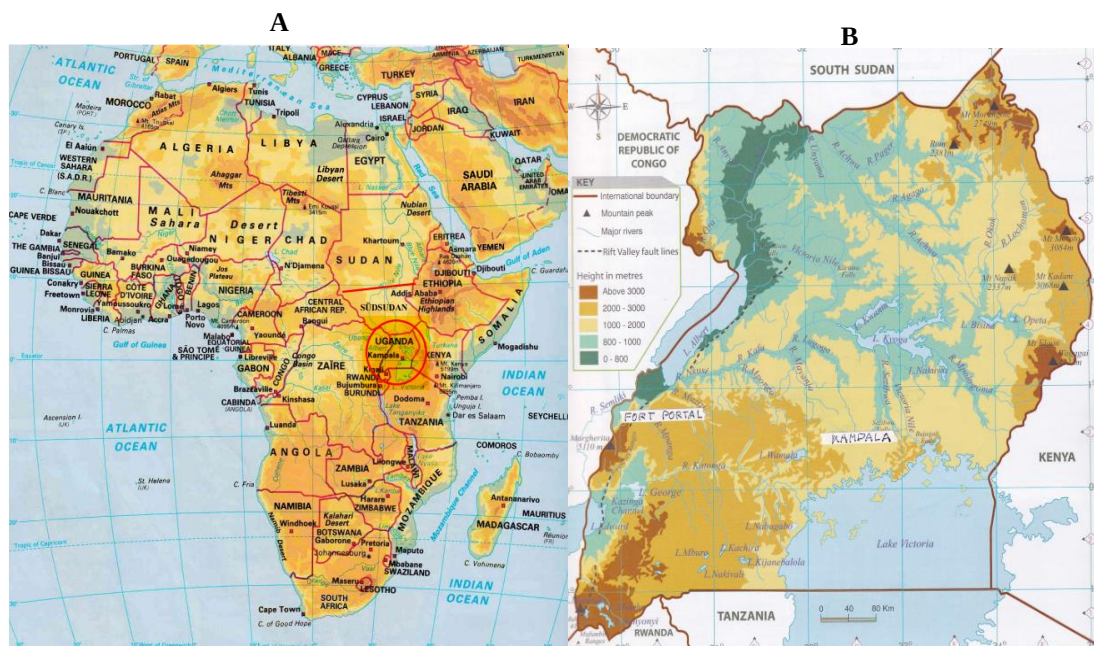
This study employed thematic analysis which seeks to identify, analyse, and report themes or patterns to discover new f understandings of social processes and interactions (Braun & Clarke, 2006). This study is linked to the actions and interactions view of the thematic analysis since the study seeks to develop essence of the data of the actions of the teachers in form of inclusive pedagogy practices from their experiences, views, and interactions with students and parents. This study used thematic analysis because of the need to explore the inclusive pedagogy practices and challenges as grounded in the views of the teachers and learners. Thematic analysis would allow deeper analysis of the pedagogy process, identify the approaches or actions employed by teachers as well as identify the challenges and their relationships in affecting implementation of inclusive pedagogy.

When presenting data, the themes or issues might be organized into a chronology by the researcher, analyzed across cases for similarities and differences among the cases, or presented as a theoretical model. Case studies often end with conclusions formed by the researcher about the overall

meaning derived from the case(s). These are called “assertions” by Stake (1995) or building “patterns” or “explanations” by Creswell (2013). In view of this, the study took a case of Uganda and Germany with an aim to provide in-depth analysis of implementation of the inclusive pedagogy problem. Both countries are strategically positioned to implement inclusive pedagogy in the education system although far from realizing full inclusion of students with disabilities. Within each of the countries, the inclusive pedagogy practices, challenges were analyzed with a view to identify recommendations for improvement. At data analysis and presentation, a comparison was made between the practices and challenges with a view to identify general and country-specific recommendations for improving inclusive pedagogy.

3.3 Study participants and sampling strategy

The study targeted students with hearing impairments as well as the teachers who were charged with applying inclusive pedagogy in inclusive classes across the secondary schools in Uganda and Germany. Teachers and learners with hearing impairments were purposively selected for their relevance to the study context, teachers based on their experience in inclusive classrooms and knowledge of inclusive pedagogy and learners based on their enrollment in inclusive schools and capacity to provide meaningful insights. The two countries and regions were conveniently selected to capture diverse educational contexts, including urban and rural settings, which present different school environments and challenges. Specifically, in Uganda, out of 27 inclusive schools the study targeted 2 schools which were inclusive in Central and Eastern regions, also representing the urban and rural contexts across which the school environment and challenges differ. These inclusive secondary schools provide education to LHIs alongside other students. The location of Uganda in Africa and the schools is indicated in the maps below.



Map showing location of Uganda in Africa

Map showing location of the studied schools in Uganda

Figure 3.1: Maps (A) Showing map of Uganda in Africa (B) Showing location of studied schools in Uganda

Source: <https://www.worldatlas.com/maps/uganda> accessed on 06/07/2024

In Germany, the study was conducted in Lower Saxony in two schools in Oldenburg. As part of my study on students with hearing impairments, I examined the demographics and support structures at one of the schools in Oldenburg: The school has 6 students with hearing impairments (4 female, 2 male) within a total student body of 901 students.

Of these, 74 students have special needs (32 female, 42 male), with hearing impairments being a key area of focus. The school is supported by 116 teachers (66 female, 50 male) who work collaboratively to meet the diverse needs of their students. In one of the schools in Germany, I explored similar aspects related to students with hearing impairments. The school accommodates 4 students with hearing impairments: SEK I (grades 5–10): 3 students. SEK II (grades 11–13): 1 student. The broader student body includes 996 students in SEK I (506 male, 490 female) and 255 students in SEK II (113 male, 142 female). Students with special needs (Förderschulkinder): 82 in SEK I and 4 in SEK II. The school has a team of 145 teachers, comprising 46 male and 99 female educators, many of whom are trained to support students with diverse learning requirements. For Uganda the schools selected had student numbers ranging from 2000-3000 pupils with about 52% male and 48% female proportion distribution. In addition to this the teaching staff in Uganda is

comprised of majority privately paid teaching staff versus government paid staff. Overall The schools were selected because of their strong reputation for attracting and promoting learning of special needs students with emphasis on learners with hearing impairments and this helped to observe and explore how inclusive pedagogy supports not just academic success but also the social and emotional well- being of hearing impaired students in addition, the schools served as practical sites where national and international policies such as UN Convention on the Rights of Persons with Disabilities (ratified by both Uganda and Germany) are translated into practice hence opening the way into identifying of the gaps between policy and practice and offering recommendations to strengthen education system in both countries. After researching and visiting multiple schools both in Uganda and Germany, I found that these schools stood out to me as the perfect school for my study and academic goals. The faculties and staff are dedicated to providing a well-rounded education and the opportunities for hands-on learning and extracurricular activities are endless. I am confident that these four schools provided me with the necessary information that helped to understand the inclusive pedagogy approaches for students with hearing impairments in inclusive setting schools.



Figure 3.2: Map showing location of the selected schools in Lower Saxony Oldenburg, Germany

Source: <https://www.lisa-sprachreisen.de/lexikon/liste-bundeslaender-deutschland.html>

accessed on 05/07/2024

In view of the qualitative nature of the study, sampling aimed to include an adequate number of “information-rich cases” as recommended by Fusch and Ness (2015). However, determining an adequate sample size in qualitative research has been the subject of enduring discussion (Henninka & Bonnie, 2022). Notably, this section does not intend to delve much into the existing criteria for justifying sample sizes in qualitative research but rather highlights the meaning and applicability of the principle of saturation which was used to justify sample size adequacy in this study. In this this study, the principle of saturation as was applied as recommended by Saunders (2017). This principle allows data collection until the point no more variation in the data is reached. In view of this, 4 LHIs and 9 teachers were sampled across the two schools in Uganda. In Germany 3 LHIs and 10 teachers were chosen from two inclusive schools in Germany to make the total number of 26 respondents and from each school, the

teachers and learners with hearing impairments were purposively selected because of their typicality to the study situation. Below is a table showing the sample size for both countries.

Table 3.1: Sample size selections for the study

Category of respondents	Category of respondents	Sample Size
Teachers in Ugandan inclusive schools	Key informant	9
LHIs in inclusive Ugandan schools	Key informant	4
Teachers in German inclusive schools	Key informant	10
LHIs in inclusive German schools	Key informant	3
Total		26

3.4 Data collection methods and instruments

This section presents the data collection methods including interviews and observations thus leading to the fifth section that presents data analysis methods while the last section presents the ethical considerations.

3.4.1 Interviewing

Interviews are a vital method for qualitative research and can vary based on their level of structure and purpose. Key styles include structured interviews, which follow a fixed set of questions for standardized responses; semi-structured interviews, which provide a balance between guided questions and flexibility; unstructured interviews, which are open-ended and exploratory; focus group discussions, which gather collective viewpoints from multiple participants; and in-depth interviews, which delve deeply into participants' experiences and perceptions. Each style serves specific research needs, depending on the level of detail and comparability required.

For this study, semi-structured in-depth interviews were chosen due to their ability to combine structure and adaptability, making them ideal for exploring complex topics like inclusive pedagogy. This approach allows for consistent questioning across participants while enabling deeper exploration of individual perspectives. The method was particularly effective in capturing detailed insights into the practices and challenges of inclusive education in Uganda and Germany. It also facilitated comparisons between the two contexts while allowing

flexibility to probe for additional information, ensuring a rich understanding of the subject matter. The choice of this method aligns with the study's objective to gather nuanced, contextual, and authentic data to inform recommendations for inclusive pedagogy.

Interviews are recommended for collecting qualitative data on peoples' lived experiences to gain a better understanding of the meanings attached to them (Brenner, 2012; Yin, 2015). Semi-structured in-depth interviews were used to collect qualitative data. This results from probes and interactions between the interviewee and the interviewer on grounds that knowledge is not given but created and negotiated (Brenner, 2006; Yin, 2011; Owen, 2014).

Based on such views, the researcher employed semi-structured open-ended questions as a method of data collection refer to appendix I, II and III. Interviewing was applied on the purposively selected key informants including the selected teachers and pupils. In line with the advantages of the qualitative approach, the interviews helped to provide an in-depth understanding of the inclusive pedagogical approaches as well as identify the challenges to their implementation. In addition, the interviews provided deeper insights into the measures which can effectively promote inclusive pedagogy in the context of students with hearing impairments in secondary schools. The interviews were conducted by the researcher with the help of a Research Assistant who specifically helped to take notes. In addition, recordings were taken for memory during transcription. The interviews were conducted from the schools in an environment which offered comfort and convenience to the respondents in order to ensure data quality. In addition, the interviews were kept short within one hour to avoid respondent fatigue which would affect quality of data. Some interviews were face-to-face which provided the research with an opportunity to observe the non-verbal expressions about the issues raised during the interview process.

All the interviews were guided by the same interview guide provided in appendices I to III. Basically, the interview guide was separate for teachers and students. The guide was structured by the researcher in English and for the Germany respondents, translated to German using a language expert. Consequently, the guide was administered in the German language for the German-speaking respondents. The guide was structured into four sections. The first section was introductory with an aim to introduce the researcher and orient the respondents to the study problem, objectives and potential benefits. This was meant to interest them to actively participate in the study. The second section presented questions on inclusive pedagogy

approaches while the third section reflected on the challenges. The last section presented questions on respondents' recommendations for effective implementation of inclusive pedagogy in the context of learners with hearing impairments. The questions were generally open-ended in line with the principles of qualitative methods which recommend such questions in order to allow probing of respondents for in-depth data about the phenomena (Creswell, 2017).

Some of the interviews, that is, 10 of 26 percent, were done via zoom and telephone for the case of teachers in Germany and the rest were done face-to-face in both Uganda and Germany. The interviews administered for learners with hard of hearing in Uganda were conducted using written communication via text messaging and verbal interpretation with sign language teachers. These methods addressed limited access to hearing assistive devices, allowed participants to clarify and respond at their own pace, suitable for those literates in written language. Sign language interpretation enabled learners fluent in sign language to engage effectively, bridging communication gaps. This approach was inclusive but required additional support for learners with lower literacy or limited access to interpreters. In Germany, interviews utilized zoom for virtual sessions and face-to-face interactions, leveraging the learners' hearing aids and cochlear implants zoom offered accessibility features like live captions and flexibility in scheduling but occasionally faced technical issues. Face-to-Face facilitated direct communication and allowed observation of non-verbal cues. The advanced technology available ensured effective participation with minimal reliance on interpretation. In comparison, Uganda relied on alternative communication methods like text and sign language due to resource constraints, while Germany's access to hearing devices allowed for more direct verbal communication. Both approaches prioritized inclusivity and adapted to local contexts. The interviews conducted with teachers and students in Uganda and Germany typically lasted between 30 and 50 minutes, with some extending beyond an hour for more in-depth discussions. A few interviews were shorter, with one lasting only 15 minutes, likely due to time constraints or the respondent's level of engagement. The interviews were recorded on a Digital Voice Recorder VN-5500PC, ensuring the accuracy and reliability of the collected data for subsequent analysis. During the pandemic, unique challenges impacted the interview process, particularly with students. For instance, wearing masks sometimes hindered clear communication, requiring the researcher to adapt by writing questions or clarifications on the blackboard to ensure understanding. This variation in interview length and the adaptive methods employed reflects the researcher's flexibility and commitment to collecting

meaningful data across different contexts, while navigating logistical and situational challenges effectively.

3.4.2 Observation

Observations were used as a method of triangulation with the views of key informants to ensure credibility of findings as recommended by Norman et al.,2020). It allows the researcher to use all senses to understand the situation under investigation. Observation as a scientific method involves the systematic process of recording the individuals' behaviour as they are viewed (Mukherji & Albon, 2015; Taylor et al.,2015; Yin, 2016).

Bearing in mind that direct observation is a strong research method that gives the researcher valid and reliable data, the researcher thus organised different observation sessions on teaching and learning activities inside and outside the classroom to capture learning experiences and challenges facing participants. Inside the classroom the researcher observed the teaching learning strategies, the support provided to the individual child, supportive materials used by the teacher and children during teaching and learning, and the interaction between the teacher and children, child and child, as well as the direction of interaction. Also, the researcher observed the rate to which children were involved and participated in learning activities. Outside the classroom observation concentrated on the type of play, duration of play, playmate, materials, and support provision.

Observation as a method of data collection is, however, criticized for having several limitations. First, the possibility of observer bias, i.e. what the researcher sees does not match the information in the documents (Martella et al., 2013). In this study the researcher avoided researcher bias by making sure that the report covered all expected and unexpected experiences, behaviour and information as it was directly observed. Second, the possibility of reactivity in the observations, as a result of the participant being aware that they are being observed may result in the participant altering their everyday behaviour (Martella et al., 2013). To minimize the effect of reactivity, the researcher conducted several observations on different days in order to access consistent behaviour. Third, another reported weakness of observation is its ability to capture only observable behaviour that is external; the internal behaviour cannot be observed (Martella et al., 2013). The observations were guided by a standard checklist (see Appendix IV) to guide the researcher to be consistent and guarantee that all significant information is noted. The checklist facilitated the observation to concentrate on information relating to teaching-learning strategies, the support provided to the individual child, supportive materials used by the teacher and children during

teaching and learning, and the interaction between the teacher and children, child and child as well as the direction of interaction.

3.5 Data analysis and interpretation

In qualitative research, the data analysis investigates, classifies, assesses, and increases the trustworthiness of the findings (Yin, 2014; Merriam & Tisdell, 2015). There are many different types of qualitative data analysis, all of which serve different purposes and have unique strengths and weaknesses and no one would be a fit for all, for example Content analysis, Narrative analysis, Discourse analysis, Thematic analysis, Grounded theory, Interpretive phenomenological analysis (IPA) among others. However, the analysis of inclusive pedagogy practices and challenges in this study used thematic analysis hence, the method was relevant in triangulation with the views of key informants and Providing deep understanding of the data by identifying key themes in guiding analysis of inclusive pedagogy approaches towards attaining inclusive education.

In this study, data was analyzed using the principles and procedures of thematic analysis approach such as coding of data, searching for themes, refining the themes, and reporting the findings as recommended by Braun and Clarke (2006). Braun and Clarke (2006) and King (2004) argued that thematic analysis is a useful method for examining the perspectives of different research participants, highlighting similarities and differences, and generating unanticipated insights. It is also useful for summarizing key features of a large data set, as it forces the researcher to take a well-structured approach to handling data, helping to produce a clear and organized final report. King (2004) in addition Braun and Clarke (2006) argued that thematic analysis should be a foundational method for qualitative analysis, as it provides core skills for conducting many other forms of qualitative analysis. The method involves the identification and reporting of patterns in a data set, which are then interpreted for their inherent meaning (Liebenberg et al., 2020; Xu & Zammit, 2020). These patterns can be found on the basis of understanding the meaning of keywords used by participants. The method confers accuracy and intricacy while enhancing the meaning of the research. Thematic analysis yields a broader and more in-depth understanding and is most useful in capturing the complexities of meaning within a textual data set (Guest et al., 2011). The analysis process aimed to derive categories or concepts emerging from the text to create meaning and understanding of the data. The choice for thematic analysis was the nature of research questions which were qualitative necessitating deeper analysis of the pedagogy process, identify the approaches or actions employed by teachers as well as identify the challenges and their

relationships in affecting implementation of inclusive pedagogy. This justification is in line with the general view that the choice of analysis technique for qualitative data depends on the appropriateness of the technique for making sense of the data (Saunders, et al., 2018; Creswell, 2013; Braun & Clarke, 2006).

In term of procedure, thematic analysis in this study took on a six-phases process drawing from the work of Braun and Clarke (2006). The six phases are (1) familiarizing yourself with your data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, (6) producing the report. These phases are summarized in figure 3.3 below followed with their description which informed their applicability to the study.

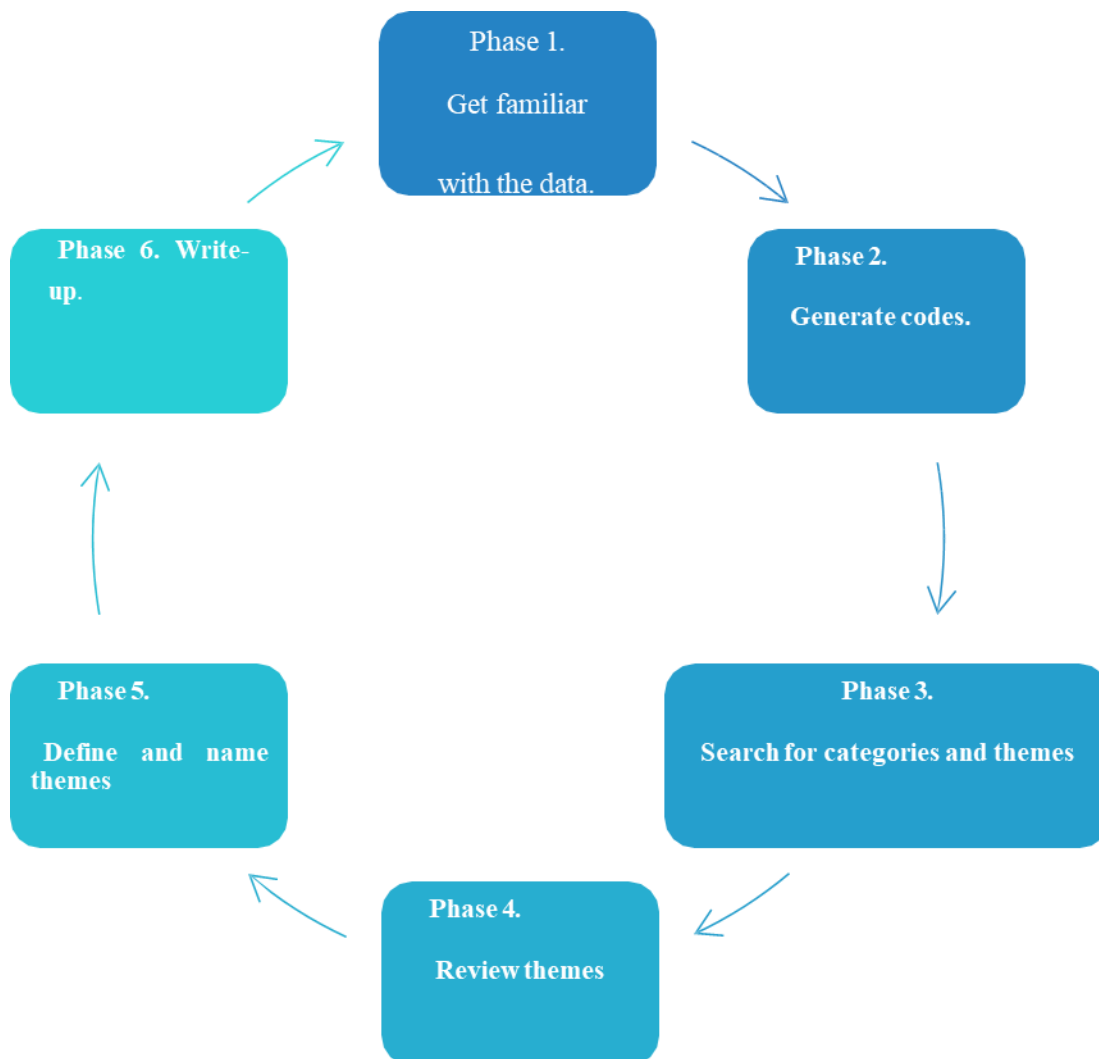


Figure 3.3: Thematic Analysis Process Used.

Source: Adapted from Braun and Clarke (2006)

Phase 1: Familiarization with the Data

As recommended (Braun & Clarke, 2006), the first phase of thematic analysis was getting familiar with the data. Since the data was collected through interactive means, the researcher had prior knowledge of the data. The researcher reviewed the data intently to become familiar with the breadth and depth of the data. Reading through the data several times before coding allowed for ideas to be developed and the identification of patterns, which assisted the researcher in the coding phase (Braun & Clarke, 2006). However, the process should include a ‘verbatim’ account of all verbal utterances (Braun & Clarke, 2006).

Before transcription, the researcher listened several times to the audio recordings of the semi-structured in-depth interviews to get familiar with the data. Thereafter transcription was done. While reading and re-reading the transcripts, to get a thorough understanding of the respondents’ experiences of the depth and breadth of the content to be analyzed, the researcher carried out active reading while writing initial ideas that came to mind. The reading and transcription of the data helps researchers select appropriate statements from the data as observed by Tracy (2019).

Phase 2: Generating codes

Braun and Clarke (2006) opine that codes categorize a feature of the data (semantic content or latent) that appears interesting to the analyst and refers to the most basic segment or element of raw data that can be considered in a meaningful way regarding the phenomenon. Similarly, coding is defined as the process of reducing qualitative data sets into segments of text data with descriptive words or category names to answer the research questions in accordance with Sadalana (2021), Simula (2018), and Tracy (2019). As recommended by these scholars, quotations or statements were selected from the data and grouped together under a code. To maintain confidentiality and streamline data analysis, each interviewee was assigned a unique code, such as KII, KI2 KI3US, KI3GS and so forth. The number represents the chronological order in which the interviews were conducted. While reading the transcripts, the researcher generated an initial list of ideas about the data, including what is interesting about the data. Then, the researcher created initial codes from the data. These codes are generated based on what is most interesting to the researcher.

In terms of coding method, the researcher used open coding by identifying segments that were significant to answering the research questions, a procedure which is recommended by Braun & Clarke (2013). This involved reading through the and marking the text with codes that described a specific portion of the data. The researcher then generated initial codes from the data by going

through the entire data set looking for possible grouping of codes. The initial codes were later interpreted with the research questions in mind to produce a final code book for analysis. The codebook supported the formulation of categories and themes.

Phase 3: Searching for Categories and Themes

The researcher incorporated coding techniques from Braun and Clarke (2006), including (a) coding for as many potential themes and patterns as possible, (b) coding extracts of data inclusively with any relevant context and (c) accepting some level of inconsistency as well as adapting groups as necessary to account for those inconsistencies. According to Merriam and Tisdell (2016), constructing categories is a process of grouping your open codes which other authors call axial coding (p.206). The researcher grouped the open codes into categories and later organized these into probable themes. The original themes and their corresponding codes and data extracts were gathered to help in finding the themes for review. A theme is an idea that captures something significant about the research question. Braun and Clarke (2006) explain that there are no hard and fast rules about what makes a theme.

Phase 4: Reviewing Themes

The identified themes were reviewed and refined where necessary following the scientific process recommended by Braun and Clarke (2006) and ensuring internal homogeneity and external heterogeneity as recommended by Patton (1990). The themes were reviewed at two levels. The first level involved the researcher reading all of the collected extracts for each theme and determining if a coherent pattern was present. When the candidate themes did not form a coherent pattern, the researcher determined if the theme was problematic or if the data extracts within that theme did not fit there. In the latter case, the researcher would form a new theme, place that theme into an existing theme, or discard them. The second level of review and refinement was considering individual themes' validity within the entire data set. Additionally, candidate themes were evaluated to determine if they accurately reflected the meaning evident in the data set as a whole. The researcher reread the entire data set to ascertain whether the themes reflected the data set and coded any additional data within themes overlooked in the earlier coding stages.

Phase 5: Defining and Naming Themes

This phase involved defining and further refining themes for the analysis and analyzing the data within them as well as identifying the essence of what each theme is about and determining what

aspect of the data each theme captures, as recommended by Braun and Clarke (2006). These scholars observe that themes should not be too diverse or too complex. To avoid stretching the bounds of themes, the researcher continued re-reviewing collated data extracts for each theme and organizing them into a coherent and internally consistent account of the phenomenon through the use of a narrative.

The researcher conducted and wrote a detailed analysis of each individual theme and identified the ‘story’ that each theme told within the research questions’ overall context. This process ensured that themes did not overlap, and that a consistent and truthful narrative arose from the data (Braun & Clarke, 2006). During this portion of the analysis, the researcher identified any sub-themes and their relation to the broader themes. By the end of this phase, the researcher clearly defined inclusion and exclusion criteria for each theme.

Phase 6: Write-up

This was the last stage of thematic analysis with an aim to tell a complete story of the data in a way that convinces the reader of the merit and validity of the analysis as recommended by Braun and Clarke (2006). To accomplish this task, the researcher incorporated the strategic use of particularly vivid examples and extracts that captured the essence of the data without creating complexity. The selected extracts were embedded into an analytic narrative that illustrated the data’s story while creating an argument in relation to the researcher’s specific research questions

3.6 Quality control

In view of the qualitative nature of this research and as observed by Norman, Stahi and King (2020) and Lincoln and Guba (1985), the study strived to ensure trustworthiness of the research findings. Specifically, Norman et al. (2020) observe that several attempts by qualitative methodologists have been made to specify how trust in qualitative findings can be enhanced for consumers. From analysis of recommendations of various writers in the field of education and learning assistance, Norman et al. (2020) identify and discuss four approaches to trustworthiness. They are a) credibility, b) transferability, c) dependability, and d) confirmability. The approaches were earlier developed by Lincoln and Guba (1985). The discussion by Norman et al. (2020) added perspectives from other scholars regarding trustworthiness and how it can be enhanced through the four approaches.

A. Credibility

Credibility concerns congruency of the data with other scholars and can be enhanced through triangulation of methods, the researcher, or context to study, as well as member checking (Norman et al., 2020). In the current study, interviewing was used to collect data but triangulated with observations of the classroom environment, teaching practices and challenges. This ensured that the view presented by teachers and students are consistent with the observations by the researcher on certain issues. The respondents were probed on some observed issues to get their view and ensure truthfulness. To ensure credible results, the researcher purposively selected key informants (teachers and students). This was followed by prolonged engagement with the respondents through semi-structured, in-depth interviews based on the research protocol till data saturation. Triangulation in the study took place through the use of multiple methods, specifically interviews and classroom observations. These approaches allowed for cross-verification of data by comparing teacher and learner statements with the researcher's direct observations of classroom environments and teaching practices. Besides, during the data collection and analysis, the researcher carried out peer debriefing to obtain a second opinion for deeper understanding and interpretation of some findings that were emerging from the data. The findings from the study respondents were corroborated with other information gathered from related literature.

B. Transferability

Transferability relates with the possibility of transferring findings to other similar contexts by those who wish to compare the research with their personal contexts as lessons from somewhere else (Norman et al., 2020 pg.27). As recommended by Norman et al., (2020) transferability was ensured through a thick description, multiple data sources through in-depth interviews and observation. The findings were corroborated with literature review and field notes to generate credible data in regards to inclusive pedagogy approaches, challenges and recommendations providing a detailed description of the study case that is the schools in Uganda and Germany in terms of school location, their integration status and special needs of the students. In addition, the timeframe within which the data was collected and the study conducted was specified within the description of the case in the findings, the researcher also spent the prolonged period with some participants who had a lot to tell about their lived experiences after they had built confidence in the researcher. Consequently, potential users of the inclusive pedagogy approaches, challenges and recommendations will be able to ascertain applicability of the findings to the context of their schools as a matter of transferability.

C. Dependability

Dependability can be enhanced through peer debriefing or peer review that involves using another researcher to read and react to field notes with their embedded researcher interpretations (Norman et al., 2020 pg.27). To ensure the findings from the study are dependable, the transcribed notes were subjected to peer review to ensure that the views captured were comprehensive enough in terms of identifying the inclusive pedagogy practices, challenges and recommendations with clarity and depth. In addition, the emerging findings from the analysis were subjected to peer review by the same teachers who had reviewed the notes to ensure they largely reflect the views of respondents rather than the researcher (truthful). The involvement of a peer reviewer for the interview notes and preliminary analysis findings also helped to ensure confirmability.

D. Confirmability

Confirmability is the degree to which the findings of the research study can be confirmed by other researchers. It is concerned with establishing that the data and interpretations of the narratives of the respondents are not different from the respondents' imaginations, but are derived from the data (Lincoln & Guba, 1985; Vicent, 2014).

While other researchers were not directly involved in the data collection and analysis phases, multiple strategies were implemented to enhance the study's credibility and ensure rigor. The researcher piloted the interview protocol which helped to capture the correctness and accuracy of the protocol for quality and richness before collecting and analyzing the actual data. Besides, accuracy in gathering data was done through audiotaped interviews with the use of a reliable, good-quality recorder. The interview recordings were then transcribed and studied through an iterative process of comparing and cross-checking the interview data in each transcript in search of participants similar responses. The back-and-forth data reduction process is aimed at generating research codes, categories, and themes for consistent analysis and integration with other gathered databases for further analysis. This aimed at ensuring that the evidence provided analytical descriptions, inferences, and interpretations made as findings and conclusions were adequately grounded in the data to confirm their trustworthiness (Yin, 2015; Creswell, 2014). Further, the researcher employed an audit trail, whereby a detailed process of data collection, thoughts about coding, provision of the rationale for why the codes emerged, and explanations about the themes were made (Olfert, 2017; Korstjens & Albine, 2018). This was reinforced by examining the researchers' conceptual lens, explicit assumptions, pre-conceptions, values, and

how they affected research decisions in all phases of the qualitative approach.

3.7 Ethical considerations

Ethical considerations in research have become a critical issue stemming from the legal changes related to human rights and data protection as well as increased public concern for research and discovery restrictions (Vilma, 2018). Ethics are the norms or standards for conduct that distinguishes between right and wrong. Due to involvement of human subjects as participants, the study is associated with several ethical issues including potential harm associated with disclosure of individual respondents' specific information, bias, dishonesty and subjectivity. These issues have roots in recent literature on research ethics such as Ichendu (2020), and Vilma (2018), and Braun and Clarke (2013). In addition, the ethical considerations observed in the study are consistent the regulatory framework for research involving human subjects as participants particularly the Uganda National Council for Science and Technology (UNCST), the Regionales Landesamt für Schule und Bildung Osnabrück and the University of Oldenburg Kommission für Forschungsfolgenabschätzung und Ethik. This section highlights the measures which were applied in this study in attempt to comply with research ethical standards. Specifically measures ensured compliance with the beneficence principle, informed consent, and safety of participants. In addition, the researcher's positionality and research approvals are highlighted see appendix VII.

Beneficence

To ensure beneficence, the targeted respondents were informed about the aim, objectives and significance of the study and its findings. They were informed that the study was purely for academic purposes. No one was compelled to participate in this study against his/her will before or during the course of the research. All this is in accordance with the ethical standards of research practice.

Informed voluntary consent

Informed consent of the subject is the key to ethical research (Mayasari, 2022) and gaining fully-informed, voluntary consent involved the researcher making as clear as possible to the participants what was involved in the research (See Appendix V). This was achieved using an information sheet written in English and German, provided to each of the participants explaining the research and included the researcher's contact details. The contact details of the supervisor were also

provided to enable participants to access further information and clarification if they required it. Written informed consent was obtained from each of the participants prior to the commencement of the data collection interviews, and verbal consent was obtained from each participant regarding audio recording the interview. Participants were also fully informed that they could withdraw from the study at any time without consequence.

Safety of participants

Furthermore, it is a fact that academic research sometimes delves into the emotional aspect and/or private lives of the respondents. As such, anonymity in academic research is always important because some of the information they give could lead to potentially negative consequences for the respondents. Consequently, the researcher also sought to ensure the safety of the participants, to be certain that they did not suffer any disadvantages, harm or risks as a result of taking part in the research (Ichendu, 2022). The safety and wellbeing of the participants were supported throughout the study in several ways. Firstly, the safety of the participants was initially assured through the process of undertaking verbally and in written form, fully-informed voluntary consent with each participant. Secondly, the safety and physical and emotional wellbeing of the participants was supported, as the data collection interview was held at a time and place of the participant's choosing, and thirdly, the nature of the interview was such that the participant determined the duration of time spent undertaking the interview. All efforts were made by the researcher to ensure the holistic wellbeing of the participants.

Research approvals

It was important to be officially commissioned by the authorities at the University of Oldenburg to carry out the study in the selected institutions of learning in Uganda and Germany (See appendix VII). Even then, it was important to obtain the consent and permission of the area leaders and institutions of learning where the study was carried out. Acquiring the necessary documentation from the directly concerned state institutions was done in order to avoid the doubts and misgivings that could be raised by such a study that deals with some of the most vulnerable people in society. Ichenedu (2022) reports the ethical principle of beneficence means that the risk of harm to a subject should be the least possible and the potential risks to the research participants who participated in this study were identified as negligible. The potential for risk was minimised through the process of undertaking ethical clearance at an institutional level, and each of the above-stated ethical

considerations such as fully-informed voluntary consent, confidentiality, and democratic research principles were addressed and adhered to.

Researchers' positionality

Creswell (2017) proposes that the central role of interviewing raises questions about power and authority and giving appropriate voice to participants about the process of research. To ensure the participants felt empowered to participate in the study, a number of measures were put in place by the researcher. When the participants were invited to participate in the study and informed about the research, they were notified that they have the right to withdraw without penalty from the study at any time. The participants had the opportunity to review the interview transcript, to exclude or include information, and they had the right not to release their data. The participants also had the opportunity to provide feedback to the researcher about the data collection process and the completed interview transcript, and this was achieved through sharing the experiences felt by participants when responding to the interviews. The researcher is a qualified teacher with experience in both Uganda and Germany. Being Ugandan and currently studying in Germany, she observed key differences in secondary school inclusive practices, which informed the choice of the two countries for this comparative study.

3.8 Limitations encountered

Limitations are those factors that the researcher cannot control. Simon and Goes (2013) state that these factors may cause the study to be weak. Limitations can often be found in the methodology and design section (Simon & Goes, 2013). The case study comparison in two countries, Uganda and Germany, did not represent the entire secondary education system in Uganda and nor in Germany. The study focused on the state of Lower Saxony, one of the sixteen states with different regulations, and possible variation in inclusive pedagogy approaches. In Uganda, the study was conducted in secondary schools in the Central and Eastern parts of Uganda, hence, the study findings cannot be generalized to all secondary schools in Uganda and Germany but can be transferred to similar contexts, findings for Uganda can be transferred to a similar context such as Africa and findings for Germany can be applied to different federal states of Germany.

The study used a qualitative approach which has limitations in terms of generalizing the study findings to the schools in the selected regions in Uganda and Germany. Relatedly, while the study findings are able to provide an in depth understanding of the inclusive pedagogy factors and

challenges, they cannot indicate the most prominent practices or the most significant challenges which would be vital for the schools to take appropriate decisions on which practices or challenges to put more emphasis because all are valued and leads to successful implementation of inclusive pedagogy approaches when taken care of.

The difficulty of finding sufficient documentary sources of information in many inclusive Ugandan schools was a major limitation. Most of the teachers in Uganda often went to class without a lesson plan to show how they were going to steer the learning process. The absence or failure to make proper lesson plans hindered the implementation of methods that would have been of great use for all learners no matter what their sensory or physical condition might have been. In order to ascertain whether Ugandan and German teachers drew up effective lesson plans before going to class, the researcher was bold enough to ask the school authorities for copies of these documents just for appendage.

3.9 Summary

This chapter has identified and explicitly detailed the selected methodology of a comparative case study design and the methods employed to conduct this study. The researcher's decision to follow thematic analysis was the nature of research questions which were qualitative necessitating deeper analysis of the pedagogy process. Braun and Clark (2006) approach to thematic analysis was acknowledged, and the unique six-phases process of thematic analysis were identified and described, prior to detailing the specific methods that were employed to undertake this research. The data collection methods, including sourcing participants and undertaking semi-structured, in-depth interviews, were described and the process of theoretical sampling and reaching the point of theoretical saturation explained. The use of notes as a core feature of the data analysis process was acknowledged, as was the need to maintain a reflexive approach to the research. The chapter concluded with a description of the ethical considerations given to the study. The findings that were derived from enacting the research process will now be shared and comprehensively detailed in chapter four.

CHAPTER FOUR

INCLUSIVE PEDAGOGY APPROACHES AND CHALLENGES IN SECONDARY SCHOOLS IN UGANDA AND GERMANY

In line with the first and second study objectives, this chapter presents findings on inclusive pedagogy approaches and challenges in the two cases that is Uganda and Germany. The chapter is divided into eight sections each with sub-sections. The first section presents a description of the cases that is Uganda followed by Germany, to ensure the findings can be interpreted within the existing contextual framework of the inclusive education system and the structure of secondary education and inclusive teaching. The second section presents findings on inclusive pedagogy approaches and challenges in Uganda while the third section presents findings on inclusive pedagogy approaches and challenges in Germany. Each section is divided into two sub-sections with the first presenting the approaches followed with a presentation of the challenges. Notably, a detailed analysis of the approaches provides a detailed view of the practices involved under each of the approaches. Likewise, the analysis of the challenges provides a detailed understanding of how the challenges manifest to affect implementation of inclusive pedagogy in the schools. The identified inclusive pedagogy approaches and challenges derive from analysis of key informant views as well as the observation data in each of the country cases. The fifth section presents a comparative analysis of the findings on inclusive pedagogy practices between Uganda and Germany. The sixth section presents a comparative analysis of the inclusive pedagogy challenges between Uganda and Germany secondary schools. The seventh section discusses the findings relating the key results on inclusive pedagogy practices with the existing empirical and theoretical perspectives. The last section discusses the findings relating the key results on inclusive pedagogy challenges with the existing empirical and theoretical perspectives.

4.1 A case description

This first section presents a description of (i) the status of special needs children in Uganda, (ii) the regulatory framework for inclusive education in Uganda, (iii) the education system in Uganda, and (iv) a description of study participants in secondary schools in Uganda.

Uganda is located in the hinterland of Eastern Africa, bordered by the Democratic Republic of Congo in the west, South Sudan in the north, Kenya in the east, Tanzania in the South and Rwanda in the south-west (Worldometers, 2024). This section presents a description of the Uganda case in terms of the status of children with special needs in Uganda, the regulatory framework for inclusive

pedagogy in secondary schools in Uganda as well as the education system with focus on elementary and secondary education. The description of the secondary education system extends to the structure of secondary education in terms of secondary school levels by order of progression and assessment of learners. The analysis also provides a brief on the status of teachers and the teaching structure in the classes.

4.1.1 The status of special needs children

A survey by MOES (2017) estimated that out of 1,370,583 students enrolled in secondary school in Uganda, 8,945 students (0.6%) have special learning needs. Visually impaired students comprise the largest share of these students, followed by those with physical disabilities. However, this number appears low and could have increased to date although there is no recent statistical data by the Ministry of Education and Sports. It was also stated in that report that children with mental impairment comprised 28 percent of the total, followed by those with hearing impairments at 25 percent. Visual and physical impairment, as well as autism spectrum disorder and blindness were the other forms of disabilities that were mentioned. This time, the biggest number of such learners included those with visual impairment, followed by those with physical disabilities (World Bank, 2020). Still, those with hearing difficulties fell somewhere between and so they remain an important category for study purposes. Despite the high demand for inclusive education, there are limited schools designed to accommodate students with hearing impairments. As of 2020, only 41 (approximately 24%) of the schools could accommodate learners with hearing impairments (World Bank, 2020).

4.1.2 The regulatory framework for inclusive education in Uganda

Currently, in Uganda, inclusion is the core of the reform Agenda for Disability Development under the National Vision 2040 (2000 – 2040). The reform agenda has emphasized the reduction of inequality through, among other measures, bringing the Uganda Equal Opportunities Commission (EOC) Act of 2007 into force, to ensure that equality compliance is implemented across all sectors, including those recommended as per the Government of Uganda Public Finance Management (PFM) Act of 2015. The National Planning Authority (NPA) has therefore developed National Disability Inclusive Planning Guidelines to provide direction for the planning, budgeting, and monitoring of harmonized disability interventions in Uganda for persons with special needs. The National Curriculum Development Centre (NCDC) is responsible for drawing up the national curriculum for all levels of education. It also draws up the syllabus or content for every subject that is to be taught. The scope of the subjects that are taught in Ugandan secondary schools include

a combination of academic and vocational subjects. The government introduced Inclusive education in 1997 through the introduction of the Universal Primary Education Policy followed by Universal Secondary Education Policy in 2007. This has subsequently become seen as the way to ensure that all learners access and participate in education. All teachers are central to the implementation of this strategy. Steps have been taken to ensure that Uganda's teachers are better able to teach children with special needs and all those who experience barriers to learning and development in an inclusive setting (Kyoshaba & Kanyerezi, 2017).

4.1.3 The Education system in Uganda

The system of education in Uganda has a structure of three years of pre-primary education, seven years of primary education, six years of secondary education (divided into four years of ordinary secondary and two years of advanced secondary school), and three to five years of post-secondary education. This system has been in place since the early 1960's when it was introduced after the recommendations of the Castle Commission Report (1963). However, recognition of pre-primary as the first 3 years of education is a recent development ushered in by the Education Act (2008) (Ministry of Education and Sports (Government White Paper on Education), as cited in Ejuu (2012). Similar to other developing nations, Uganda has acknowledged educational inclusion and committed to implementing it through a number of national legislative frameworks and policies, such as the Disability Act of 2008, the Education Act of 2008, the UPE (1997) and USE (2007), and most recently, the Inclusive Education Policy of 2019 (Ejuu, 2012). A detailed description of the education structure is next provided.

4.1.3.1 Elementary Education

Elementary education is the only compulsory level, and, since the introduction of UPE, it is free for all Ugandan children aged 6 to 13. Upon successful completion of the seventh year of education, and the passing of the Primary Leaving Examination (PLE), students are awarded the Primary School Leaving Certificate. Sitting for the examination is a requirement for students who wish to proceed to secondary school and some vocational programs. Although, secondary schools cannot deny places to students on the basis of their PLE scores, students, must meet a minimum threshold to qualify for a government-funded secondary school place under the Universal Secondary Education (USE) program. However, some students go for business, technical vocational education and training (BTVET) soon after finishing primary school, while others take that path after completing the four years of lower secondary school. Beyond the level of post-

primary, higher education in Uganda is defined by either taking a diploma in some discipline or a degree or postgraduate course in any chosen field (Kim, 2021).

4.1.3.2 Secondary education

The secondary education cycle in Uganda lasts six years and consists of the eighth through to 13th year of study, or Senior 1 (S1) through to Senior 6 (S6). The cycle is split into two levels: lower secondary, which lasts for four years, and upper secondary, which lasts for two years. Owing to the system's British roots, these two levels are also known as the Ordinary and Advanced Levels respectively. Secondary education is not compulsory, but for students eligible for the USE or Universal Post O' Level Education and Training (UPOLET) programs, it is available free of tuition (WES, 2020).

The Ordinary Level, or O Level, curriculum lasts for four years, starting from S1-S4. The NCDC-mandated curriculum includes four categories of courses, taught in English: science and mathematics, languages, social sciences, and vocational subjects. Compulsory science and mathematics courses include biology, chemistry, physics, and mathematics. Other subject areas such as Physical Education, among language courses, only English is compulsory. However, Kiswahili, and other local and foreign languages, are available for optional study at some schools. For the social sciences, only geography and history are compulsory. Optional vocational subjects are offered in a number of subjects, including commerce, fine art, home economics, woodwork and metalwork (MOES, 2017).

With regard to assessment and progression, upon successful completion of Ordinary Level classes, Ugandan students sit for the Uganda Certificate of Education (UCE) examination, which has been administered since 1980 and is currently managed by the Uganda National Examinations Board (UNEB). In the UCE examination, students are required to sit for a minimum of eight and maximum of 10 subject examinations. Six subjects are mandatory: English, mathematics, geography or religious studies, biology, chemistry, and physics. For the remaining two to four examinations, students can choose from a range of cultural, technical, and other subjects. UNEB evaluates UCE examination subjects on a 1 to 9 grading scale. Grades 1 and 2 are passes at the highest level, "Distinction." Grades 3, 4, 5, and 6 are "Credit" passes. The last passing grades are 7 and 8, which are classified at the "Pass" level. A grade of 9 results in a failure. Again, this system of external examination and graded classification has its roots in Uganda's colonial past and is common in many Commonwealth countries. The Uganda National Examinations Board (UNEB)

awards the Uganda Certificate of Education (UCE) to students passing their UCE examinations. Possession of the UCE is a requirement for admission to Advanced Level studies. Students successfully passing the UCE examinations can also move on to teacher training programs, vocational education, or into the workforce.

At advanced level, students take on two years of the secondary education cycle that is S5 and S6. At the end, the students are assessed by undertaking an examination which leads to award of the Uganda Advanced Certificate of Education (UACE), a prerequisite for entrance to universities in Uganda. These examinations are held annually in November and December. UACE candidates must sit for five subject examinations, two at the subsidiary level and three at the principal level. At the advanced level, all students must sit for the general paper, and may choose between either subsidiary mathematics or subsidiary computer (also known as subsidiary information and communications technology). At the principal level, students are able to choose from a wider range of subjects, with decisions often made with future university studies in mind. Principal-level subjects include history, economics, physics, and foreign and local languages and literature, among others. The grading system used for principal and subsidiary subject examinations differs slightly. Principal-level subjects are graded on a seven-point, “A” through “F” scale, with letter grades further categorized into three groups: Principal Pass, Subsidiary Pass, and Fail. An “A” is the highest Principal Pass grade, and an “E”, the lowest; an “O” is a Subsidiary Pass grade; and an “F”, a failing grade. Subsidiary-level subject examinations are graded on a 0 to 6 scale. Under this system, a 6 is the highest and a 1 the lowest Subsidiary Pass grade, while a 0 is a failing grade.

The Uganda National Examinations Board (UNEBC) awards the Uganda Advanced Certificate of Education (UACE) to students who earn at least one Principal Pass, or at least one Subsidiary Pass in a subject taken at the principal level. Students graduating with the UACE can enter the workforce or proceed to higher education. However, not all holders of the UACE qualify for university seats, as at least two Principal Passes are required for university admission. While the overall pass rate for the UACE examination is remarkably high, nearly 99 percent in 2019, far fewer meet the minimum entry requirements of Uganda’s universities. Less than two-thirds (64 percent) of students passing the UACE examination in 2019 qualified for university admission (UNEBC, 2019).

In terms of qualification standards for teachers in secondary schools, the MoES requires that students admitted to secondary teacher education and training programs complete their advanced

level education with at least two passes at the principal level in art subjects, or at least one pass at the principal level in science subjects plus two passes in any subject at the subsidiary level. Training is conducted at National Teachers Colleges and requires two years of study. Successful trainees are awarded Diplomas in Secondary Education, after which they are registered with the MoES as Grade V teachers. Certain universities also offer undergraduate teaching programs of three to four years in length. Admission requires two A Level passes at the principal level in any arts, science, or vocational subjects. Graduates are awarded a Bachelor of Education and are registered with the MoES as graduate teachers.

Table 4.1: Education qualifications for secondary school teachers in Uganda

Qualification	Duration	Awarding institution	Enable holder
Bachelor degree	3 Years	University	Teach upper secondary
Postgraduate diploma, following a Bachelor degree without education	1 year	University	Teach upper secondary, or specialize, for example, in leadership
Diploma in secondary education	2 Years	National Teachers College	Teach lower secondary

Source: Ministry of Education and Sports (2017)

However, the status of these qualifications is currently in transition, with the harmonized framework for initial teacher education which has been implemented at the beginning of 2024, requiring that all secondary school teachers for example in both lower and upper secondary schools to obtain at least a bachelors' degree, which NTCs currently do not offer. A 2020 baseline survey by the Ministry of Education, established that 180,000 teachers qualified as diploma holders or below (Daily Monitor, 2022). Out of these, 126,000 are Grade III, while 65,000 are diploma holders, some of whom are deployed in both public and private schools (MOES, 2017). The country has a total of 360,000 teachers, according to Teacher Management Information System (TMIS) records there are about 190,000 registered teachers, 120,000 are on government payroll and 70,000 are on target list. However, the distribution of teachers by qualification could not be obtained due to lack of data access. However, there is no specification for teachers trained as special need education teachers and other disciplines were not specified (bachelors, masters, or diploma).

Regarding the schools, Uganda has a range of school settings for learners with special needs, including inclusive schools, integrated units (whereby children are taught in a separate unit within a mainstream school, but play with the other children at breaks and special schools (usually impairment-specific, such as schools for the Deaf). The permitted ratio of students to teachers in mainstream schools is currently 45:1. However, classrooms often exceed this, making inclusion of children with disabilities even more difficult. Of the few children with a disability that do access education, 5 per cent access it within an inclusive setting in regular schools, while 10 per cent access it through special schools and annexes (UNICEF 2012, cited in Sarton et al. 2017). This means that the remaining children with disabilities who are not attending school are not receiving any specific interventions or support. Teachers receive some training on special needs/inclusive education as part of their pre-service training, for example a certificate in sign language, computer skills and if they wish to specialize, they can take a Master's degree or Diploma in Special Education.

4.1.5 Description of study participants in secondary schools in Uganda

The study involved nine teachers and four students as participants who provided views to inform the study. In order to provide an understanding of the characteristics of the students which bears implication on credibility and potential transferability of the study findings to other cases, this study provides a description of these participants by teachers' sex, and qualification as well as the secondary level and sex of the students summarized in table 4.2.

Table 4.2: Description of the study participants: teachers and students in Uganda

Characteristics of the teachers and students	Number
Sex of the teachers	
Male	5
Female	4
Qualification of teachers	
Diploma	4
Degree	5
Sex of the students	
Male	1
Female	3
Level of secondary education of students	

Ordinary level	3
Advanced level	1

Source: Interview data of teachers and students

In Uganda, the study included teachers of both sexes including male and female with slightly more male (5) than female (4). The teachers were drawn from across all secondary levels with more of the teachers teaching at ordinary and advanced secondary education levels. The teachers were qualified with four (4) of the teachers having a diploma while five (5) had a Bachelor degree. In addition, most of the teachers (7) out of the (9) were highly experienced with over 10 years of teaching. This level of teachers' qualification and experience indicated a high level of competence in pedagogy. The class average ranged between 20-30 with some schools having a class size as high as 51 and 90 due to infrastructure and high enrolment rates driven by the Universal Secondary Education (USE) program. The study included students of both sexes including male and female with mostly more female (3) than male (1). The students were drawn from across all secondary levels. Their lowest age was (15) years and the highest was (18) years. One (1) student had hard of hearing disability and (3) students were deaf. Their period of hearing disability was also assessed as follows: (3) students have been deaf since birth, while 1 has been hard-of-hearing for (3) years.

4.2 Findings: Inclusive pedagogy approaches in secondary schools in Uganda

This section presents the inclusive pedagogy approaches derived from key informant views in the Uganda case. The study sought to identify the inclusive pedagogy approaches used by teachers to foster learning of students with hearing impairments in the context of an inclusive class. Analysis of key informant view revealed key practices used by teachers. From a more critical view, the practices can be grouped into; a) classroom instruction related and b) assessment related methods. Classroom instruction related methods include differentiation of learners, use of diverse and differentiated communication methods, as well as diverse and differentiated teaching materials. Assessment methods include grouping of learners when doing assessment, progressive assessment, and using a multi-dimensional approach to assessment. This sub-section delves deeper into these approaches providing in-depth understanding of how they are implemented in the schools. Notably, these practices differed across the schools and teachers. The presentation of the practices therefore attempts to identify the specific practices which were practiced in specific

schools and by specific teachers to reveal the differences in the practices across schools and teachers.

A. classroom instruction related approaches

This section presents inclusive pedagogy approaches relating to classroom instruction as derived from the key informant views, the methods include differentiation of learners, instructional and assessment methods, use of diverse and differentiated communication methods, as well as diverse and differentiated teaching materials.

4.2.1 Differentiation of learners, instructional and assessment methods

The analysis revealed practices used by teachers during instruction and assessment of the learners. Regarding instruction, three pedagogy approaches to communication emerged from the data. They include; communication through sign language blended with use of graphic demonstrations as well as using a slow speed of instruction. With regard to assessment three main pedagogy approaches emerged from analysis of the data. They relate with; differentiation of number of assessment questions and time allocated for assignments, grouping of learners during assignments and using a multi-dimensional approach to assessment. A detailed description of these practices or approaches is provided hereunder.

4.2.1.1 Communication practices

Some teachers reported to use instructional methods and materials tailored to the learning challenges associated with the hearing impairment status of this group. Such instructional methods include using a slow speed of instruction and spending more time with the learners to effectively deliver the curriculum content and foster learning. The slow speed of instruction was affirmed by some of the key informants of which one had this to say:

“When teaching, I endeavor to be too slow when talking to students with hearing impairments through the sign language. It takes time for a student to interpret the signs and for some signs they are not very much familiar with them. You have to be very slow unlike when you are handling students who can ably hear” (K17, February 2022).

The above view therefore implies that teachers slow down the speed of instruction to enable students catch up with the interpretation of the signs and comprehend what the teacher is saying unlike for students with no hearing impairments. This issue is further affirmed by one of the

teachers who had this to say:

“Teaching students with hearing impairments need that one goes very slow. Some of the signs are new to the students. Some of them are not very clear and some are confusing that students need some time lag when a sign is made and when they react or respond in terms of asking or answering the teachers. I therefore go slow and take long explaining some concepts in class for students with hearing impairments to comprehend” (KII8, February 2022).

Consistently it was observed by another teacher that teaching an inclusive class with hearing impairments takes much longer time than teaching a class of regular students and this was attributed to the slow speed the teachers use to interact with the learners with hearing impairments. The teachers had the following experience to share:

“For some topics which I can handle in one day, I find myself spending two or more days because of the students with hearing impairments whom I have to take very slowly. It’s a practice which I really find good to help the students with hearing impairments to catch up with the rest of the students. It is mainly because students with hearing impairments need time to interpret the sign language, graphics among others” (KI9, February, 2022).

In addition, another teacher also attested to the slow speed of instruction as a practice used in teaching students with hearing impairments. He had this to say:

“As a teacher of a class where I have some students with hearing impairments, my speed of instruction is always slow. That is why I have always struggled to complete the syllabus. You cannot teach within the planned time. You have to try using different methods for the student with hearing impairments to understand what you are saying. It takes time” (KI10, February, 2022).

While the many views shared of the practice of the speed of instruction in a class with students of hearing impairments point to a slow pace of instruction, there was a contrasting view of one teacher who indicated that their speed of instruction is not any different when dealing students with students with hearing impairments and the regular students. This was mainly because the students were more familiar with the sign language and could grasp almost as fast as the regular students. She had this to say:

“In my class, I find that the students with hearing impairments are comfortable with the sign

language that my instruction speed is not really affected. I have spent more time with them and this is third term that they understand the signs. They also had a good background in their previous classes. Their previous teachers were good. So, I can be as speedy as when dealing with the regular students” (KI10, February, 2022).

Similarly, another teacher shared their experience that their instruction speed for students with hearing impairments was not significantly different from that of the regular students because they could not afford to give special consideration to the students with hearing impairments due to pressure to complete the syllabus.

“You see in this school, no one will listen to you that you have not been able to complete the syllabus because of the special group of students with hearing impairments that you teach. There is no special consideration to allocating more time for teacher handling inclusive classes because there is no special examination for such students. Much as they mind about the fact that some of the students with hearing impairments need a slower instruction speed, I cannot help. I have to move at a pace which can enable me complete the syllabus in time” (KII2, February 2022).

Slowing down the speed of instruction was affirmed by the students who, consistent with the views of the teachers, indicated that they were comfortable with the speed at which their teachers teach during dictation of notes and providing explanations of the content. Attesting to this one of the students had this to say;

“Our teacher is good. He is not fast when dictating notes. He knows me and my friends have a problem of hearing. So, he moves at our speed. Also, when he is teaching, he does not talk very fast. So, we can be able to listen and learn” (KI2SU, February, 2022).

Similarly, another student was very positive with regard to the speed of instruction which teachers used citing that the teacher was good at checking continuously on the student whether they were comfortable with the speed of instruction. The student had the to say:

“I have no challenge with the speed of the teacher. I can follow him as he talks. His speed is ok. And also, he asks us whether we are fine and if we have not gotten something, the teacher repeats” (KI3SU, February, 2022).

Regarding sign language, this was found to be universally used by all teachers interviewed across both schools. Teachers reported to use signs when communicating with students during classroom instruction, during co-curricular activities and during assessment of learners. One of the teachers

had this to say:

“In our school, sign language is the official mode of instruction for students with hearing impairments. I also use signs when communicating with students of hearing impairments. Some time we are two teachers in class. So, as I speak, another teacher translates into signs for students who cannot hear. However, on many occasions, I am alone in class. I have to speak as I translate. It is quite tiresome though” (KII7, February, 2022).

It is therefore implied by the above key informant that sign language is generally used by the teachers, however, it is quite challenging in cases where the teacher is not supported with a translator who converts the words into signs for the benefit of the students with hearing impairments. The view of the above key informant also suggests that in an inclusive class, a teacher needs support of an interpreter to avoid fatigue which can undermine effective teaching. The practice of sign language was also supported by the teacher who had this to say:

“Yes, sign language is what we use in this school and as far as I know all other schools are using it. In my classes, I don’t have an interpreter or translator. I just speak as I make signs to students who cannot hear. Our school does not have teachers to translate. It’s not easy to speak and translate at the same time but we have to manage” (KII8, February 2022).

The view of the teacher clearly called for the use of sign language in schools with students of hearing impairments. But more important, the view re-affirms how challenging sign language is for a teacher in an inclusive classroom where there is no additional teacher to translate the speech into signs. The view also points to the notion that classes are more likely to lack an interpreter or translator which renders the instruction and assessment process cumbersome for the teachers, with a potential negative impact on effective teaching and learning. Further probing on the practice of sign language revealed that this practice is associated with a slow speed of teaching and in some cases distraction of the students. In attesting of this, one of the teachers had this to say:

“We use sign language of course as a mode of communication with the students of hearing impairments. However, during instruction, in class it is time consuming particularly when you are alone in class which is usually the case. On the other hand, the students who have no hearing impairments particularly when new in class, are taken up by the signs instead of comprehending the speech” (KII9, February, 2022).

Overall, it can be observed generally that use of signs is a common practice in inclusive classes across the schools although its effectiveness in an inclusive classroom setting can be undermined when the teacher in class is not supported with an interpreter or translator. It may also tend to distract students who have no hearing impairments who may choose to enjoy the signs at the expense of comprehending the teachers' speech and what is being taught.

Regarding use of graphics and pictures, it was also revealed from the teachers' views that in some cases, the sign language is enhanced or triangulated with graphics or drawings as demonstrations of what is being put across by the teacher. This practice drew agreement from many of the key informants interviewed and appeared to be used by most teachers with few exceptions. One of the teachers had this to say about how the graphics and drawings are used:

“We have our chalkboard and as I teach sometimes, I make demonstrations by drawing pictures, graphs to try and try to bring closer to the students what I mean. It helps to explain to all the students but those with hearing impairments benefit more. As I make drawings, I back this with the signs to further explain the drawings and pictures” (KII2 February 2022).

What emerges from the above key informant is the blend of methods used during classroom instruction as a means of communication. Specifically, the drawings such as graphics and pictures are used but backed with the sign language to explain the issues being put across. It can also be noted that the graphics and pictures also work to the benefit of the students with no hearing impairments. This blend can be considered an effective way of communicating to the students with hearing impairments in an inclusive classroom setting. This view is supported by another teacher who had a commendable experience in using graphics and pictures as way of teaching an inclusive class with students with hearing impairments. She had this to say:

“For over the last 10 years, I have handled classes with students of hearing impairments teaching them alongside other students. I can tell you, the pictures and graphics help a lot. Fine, they are required in any class but in an inclusive class they are much more important and I usually use quite many of them. As you may have seen in class, I guess you have checked in, there are many pictures and drawings. Students who cannot hear and cannot understand the sign language get a lot of sense from the picture demonstrations in addition to the signs” (KI10, February, 2022).

Relatedly, another key informant also had this to say further attesting to the practice of using pictures and graphics. The view of the key informant, in his position as the head of some class, was reflecting on the practices which he had observed teachers use in class during instruction in an effort to effectively communicate with learners with hearing impairments. He had this to say:

“We often use a lot of demonstration to students with hearing impairments during instruction in class mainly because the deaf are more practical. We use materials like “hard papers” we lay them on ground. We write on our content for students to read communicate. When introducing a concept that I want them to learn, I have to demonstrate a lot by repeating to them” (KII9, February, 2022).

Using hard papers as observed, is instructional material that is used to imprint charts, images, for easy content delivery and visualization process for the learners. This was the most popular and affordable material for all schools in Uganda as an alternative to a projector. This means the students had an opportunity to read and understand what the teachers intended to share with them.

While the above statement underscored the significance of graphics and pictures to effective teaching and learning of students in an inclusive class with students with hearing impairments, it is not obvious that all teachers have taken advantage of this practice. There were teachers who, though they appreciated the use of graphics, had not considered to extensively use them in teaching for one reason or the other. For example, one teacher had this to say:

“Graphics, pictures, yes, we use them but not as much as we should. We have some drawings just like or any other class. The ideal would be to have very many of them and use them a lot but it’s not like that here and the reason is one, we do not have enough materials. We are just given a few hard papers to make the drawings. The school has no money” (KI12, February, 2022).

“I love graphics and pictures and I am good at making the drawings but I can’t draw enough of them. I don’t have materials. Even the chalk board as you can see behind you, it’s very rough and small and besides, we are still using chalk, it is not easy to draw pictures. We are still backwards, we do not have modern writing boards” (KI13, February, 2022).

The interaction of the teachers with the students was inadequate. While it would be easy for the teachers to demonstrate through drawings on the papers as experts, the students had limited opportunity to interact with the teachers through drawing on the papers. This was observed by the

researcher when attending one of the classes as a visitor during data collection. It was observed that students would pay attention to the pictures and drawings but the extent to which they would engage with the teacher to question about the pictures and graphics was limited. It therefore remains unclear whether the students had no issues to question on, or whether they were just reluctant to question. Besides, the teachers appeared not to have enough time to pay special attention to students with hearing impairments to probe them on what and how they were learning from the graphics or pictures.

Overall, it can therefore be concluded generally that pictures and drawings are an effective means of communicating with students with hearing impairments. The pictures and drawings put across messages and explanations that can be translated through signs when dealing with students who cannot hear. However, while all teachers generally embrace this medium of communication during instruction and assessment, some use them extensively while others do not use them significantly.

The practice of using graphics and pictures as materials of instruction and its appropriateness for students with hearing impairments as reported by teachers was also embraced by most of the students who were interviewed. Many of them indicated that their teachers used a lot of graphics and pictures which they find very good for their learning. In attesting this one of the students had this to say:

“I find pictures and drawings very good and our teachers use them a lot. Sometimes I cannot understand what the teacher is saying through the signs. When I ask, the teacher will draw something for me and help me to understand. So, I like picture a lot” (KI3SU, February, 2022).

The above view of the student affirms that teachers use pictures and graphics which makes teaching and learning easy for students with hearing impairments. It is one way of simplifying explanations for some of the things which are very difficult to understand, one of the students had to say in support of using graphics and pictures helps to present data and numerical information during teaching. The views of the students were generally in agreement with those of the teachers affirming that indeed the teachers use graphics and pictures to make learning easy which is particularly more important for students with hearing impairments who find difficulty interpreting signs. It is also important for teachers who find limitations in making explanations through signs for some words which are not very common.

Notably, other communication methods were reported to have emerged with experience teachers gained. For example, for some subjects teachers reported using a stick to draw letters or words on the student's back enabling the student to understand the word. By so doing, teachers attempted to use the student's sense of feeling, which seemed to work. In addition, some teachers threw a ball to a student when attempting to ask or seek an answer from a student with a hearing impairment. One of the key informants had the following to say:

“We mainly teach students with hearing impairments using the sign language which is accepted here in Uganda and East Africa together. When we get a new word, we use a stick and draw at the back of the child letters. Then the student will understand the word. By so doing, we try to use his/her sense of feeling and it works. This is a new technique which we have come across ourselves through refresher courses. When we need to get the attention of the student with hearing impairments or ask them a question, we get a ball or something that we can use and throw to someone unknowingly to alert them” (KI18, February, 2022).

When probed on how applicable this practise is to all subjects and many of the words teachers may want to put across to students, it emerged as a major limitation to this practise. One of the key informants had this to share:

“As a new approach fine, I do drawings, but the drawings cannot apply to all subjects. In music for example, they are not applicable, they are also limited in mathematics. And for many of the words we do not have drawings yet and overall not many teachers know this practise. Besides, it has a gender limitation. For a teacher of an opposite sex to that of the students, it does not appear comfortable to the teacher as it may be mistaken for sexual harassment. Besides, I do this to an individual student but I cannot find enough time to write on the backs of all students with hearing impairments considering that I have many of them” (KI19, February, 2022).

However, this practice of tapping into tactile sensation as an innovation to communicating with students with hearing impairments through drawings on their backs is good although limited in applicability.

B. Assessment methods

This section presents assessment methods teachers use that include (i) Differentiation of assessment methods, (ii) Grouping of learners during assignments, (iii) Using a multi-dimensional approach or various dimensions to assessment.

The sub-section delves deeper into these approaches providing in-depth understanding of how they are implemented in the schools.

4.2.1.2 Differentiation of assessment methods

There was mixed evidence regarding the practice of differentiation of assessment methods in the secondary schools. Three main practices in differentiation of assessment emerged from analysis of the data. They relate to a) differentiation of number of assessment questions and time allocated for assignments, b) grouping of learners during assignments, and c) using a multi-dimensional approach to assessment.

A. Differentiation of number of assessment questions and time allocated for assignments

Regarding differentiation of number of assessment questions and time allocated for assignments, the analysis revealed that while some teachers did so in order to meet the special needs of the students with hearing impairments, other teachers never did so. To affirm the practice of differentiation one of the teachers had this to say:

“When teaching, I can give like five questions to the students with no hearing impairments and I give like three to students with hearing impairments given that they are likely to take longer attempting the questions. Besides, when they ask for clarification, it will take more time explaining to them than the students with no hearing impairments” (KI20, February 2022).

The above verbatim quotation indicates that the teacher differentiates the assessment method by giving more questions to learners without hearing impairments and fewer questions to the students with hearing impairment in view of the difference in the time they are likely to spend attempting the questions in an assignment. Similarly, another teacher reported differentiating but through allocating more time to students with hearing impairments to do assignments during class. When asked about the practice differentiating learners during assessment, she had this to say:

“I treat students with hearing impairments differently from the regular students when it comes to assignments. I give the same assignment but different time between students with hearing impairments and the regular ones. I give 30 extra minutes to students with hearing impairments above the time I give the regular students in the class. I do this because I take longer interacting with a student with hearing impairment on the assignment than the regular student” (KI10, February 2022).

The above view confirms the practice of differentiation during assessment of learning by allocating

more time to the students for doing the assignments. Consistently another teacher indicated to do the same but at the stage of students doing tests or examinations. He had this to say:

“For me, I ensure that I have set a standard time for students to do an exam. However, I remain flexible to students with hearing impairments. I don’t set for them a time limit but keep monitoring them and asking them how much more time they need even if all other students complete. They usually take like 20-30 minutes more than the students with no hearing impairments and its ok to add them that time” (KII2, February 2022).

Consistent with the views of teachers, some of the students interviewed observed that they are often given more time when working on their assignments, during tests and examinations. They appreciated this practice indicating that it enables them to catch up with other students. Many of them indicated that they often need more time because their teachers take long explaining to them when they ask for clarifications on some questions. One of the students had this to say:

“Yes, our teacher gives me more time when doing tests and exams when I ask for it. I usually ask because I want to complete my work. The teachers will say ok because I have wasted a lot of time while asking for explanation. But for other students, the teacher is very strict on time. He sets the time and when it is over, he asks for the papers” (KI4SU, February, 2022).

The view of the above student clearly indicates that teachers tend to be strict on time allocated to students to undertake a test or examination but exercise some flexibility when handling students with hearing impairments who ask for more time to complete their work. However, it can also be observed from one of the students that the time allowed is usually not too much which could be a way of avoiding giving the student an unfair advantage over others. One of the students had this to say:

The teacher gives me more time usually it is not that much. He will say like I have added you more 10 or 15 minutes, but it is still not enough for me (KI2SU, February, 2022).

While it may appear from the above views that teachers differentiate during assessment with regard to the amount of time for questions they give to students, this is not the case among all teachers. Some teachers did not allow more time or gave fewer questions to learners with hearing

impairments during assessment. One of them had this to say:

“I have some student with hearing impairments in my class. When I give an assignment or test, I set standard time. I do not find any reason to have special time for students with hearing impairments because they can be as fast the regular students. However, on very few occasions, one may be among those who are asking for more time complete the assignment or test. In this case I decide to give more time to all not specifically to the one with hearing impairment” (KI3, February, 2023).

The practice of limited differentiation of learners through allowing more time during assessment draws more evidence from the researcher’s observations. In one of the schools visited, during a mathematics lesson, it was observed that the teacher asked students to attempt five questions, and this was uniform for all students with or without hearing impairments. Although some students with hearing impairments had not been able to complete the assignment in time just as other students, they then were allocated a uniform additional time without considering whether those with hearing impairments needed more additional time than those without hearing impairments.

It can therefore be concluded from the above key informants that sometimes students with hearing impairments can work at the same pace as those without hearing impairments. Therefore, differentiation is not necessary but rather considering the common demands of the all students is necessary. For example, they may all need additional time to do the assignment which could be granted to all students.

B. Grouping of learners during assignments

Grouping of learners during assignments, is another approach which was found to be used by some teachers mainly during assessment to ensure the weak learners get support from their fellow learners or peers. Group work as practise in assessment of learners was embraced by many of the teachers for three main reasons. First, the teacher finds it easy to assess a group of students rather than the individuals. Secondly, the students are able to get support from their fellow learners. The group discussions ease the work for the teacher since they do not have to move to every student but rather move through the groups to support learning. Thirdly, it is one way of ensuring that even the learners with hearing impairments who have learning challenges can be helped through

group assessment to ensure they are able to progress. These advantages of group assessment are derived from the interactions with many teachers through interviews, some of whom had this to say:

“I consider the grouping approach as one effective way of managing a big class, with a high number of students with hearing impairments. It makes a lot of sense when we identify and put students with hearing impairments in different groups alongside those with no hearing impairments and the fast learners. I ensure in a group there is student who is better at sign language than the others. And far better if there is a student who can hear and knows some sign language. As they discuss the assignment, the one with hearing impairment is able to get support from the other students” (KI14, February, 2022).

Consistently, another teacher who had done a lot of grouping of students during assessment had this to share in emphasis of how the grouping helps students to support each other and to help the weak ones to progress in the assessment. She had this to say:

“For more than 7 years I have handled a class with students of hearing impairments. I came to learn that when I group students with hearing impairments alongside those with no hearing impairments, it improves performance of students with hearing impairments. If there is student with hearing problems in a group and can understand sign language, this student will help to support the interaction. When I am assessing, I give marks to a group which plays to advantage the student with a hearing impairment assuming they would struggle on an individual assignment. And the general experience is that students are more likely to perform better in a group than individual assignment” (KII5, February, 2022).

The above view indicates that students with hearing impairments are more likely to perform better in a group assignment. The general notion is that they are supported by their fellow learners. However, this approach to assessment may not effectively measure learning of students with hearing impairments, assuming they do not get an opportunity to interact with their peers and have significant input in the assignment. This may appear challenging particularly considering that some groups might not have students with no hearing impairments who can interpret or interact with those with hearing impairments. This means that students with hearing impairment may be passive rather than active participants in the group and therefore just ‘ride’ on the rest of the members. Close supervision of the group discussion by the teacher is therefore necessary to

address the ‘free riding’ problem. In attesting to this one of the teachers had an interesting experience to share:

“I usually group students during assessment putting those with hearing impairment alongside those without hearing impairments. However, I came to learn that sometime this student with hearing impairments quite often did not participate as I did close supervision. He could attempt to share his view but because the fellow group members to not clearly understand, they could just look and shake the head as if they had comprehended. One could easily misperceive the student to be providing ideas to add to the assignment. However, as I did close supervision, I could ask other members what they have picked from this student and what they are taking only to realize that they are not picking not picking his ideas. I tried to bridge gap by interpreting the ideas of the student who cannot hear and mediating the conversation from which I learn that the groups would be able to use some of his ideas then” (KI16, February, 2022).

A triangulation with the views of students affirmed that indeed the teachers use grouping of learners as a method of assessment mainly during classroom assignments. Some of the students observed that they usually do assignments in groups although in a few cases, they are given individual assignments. Many of students interviewed appreciated the group work indicating that it makes work easy, it does not make them get tired. In attest to this, one of the students had this to share:

“Almost every day we have a group assignment to do. I am usually put in a group with other students who can hear. I like the group work because it is easy for me. I do not contribute a lot because I do not hear properly what my members are saying. But I read and understand what they are saying. Sometimes if I want to say something and they will say ok or not in signs and its easy” (KI1SU, February, 2022)

The above view of the student indicates that teachers mainly use group assignment to assess learning by putting students with hearing impairments with other students. Although their active participation in the group works tend to be limited by the hearing barrier, the students with hearing impairments can still contribute to the assignment by expressing their ideas through writing and using signs form some common expressions like okay or not okay. Some students with hearing impairment may participate passively rather than actively and this may undermine the effectiveness of group assignments as a method of assessment in the context of inclusive pedagogy.

As a solution to the problem of passive participation of students with hearing impairment when paired with those with no hearing impairments, some teachers opted for grouping students with

hearing impairments alone and paid more attention to these groups in terms of explaining the assignment, identifying their issues or questions and in a special way, supporting them where necessary with interpretations through sign language or graphics. This draws from one of the experiences which a teacher had to share:

"I believe it is more logical to divide students with hearing difficulties separately from those who can hear. I do this to provide them with special attention and assistance. They may overlook questions that they may not fully comprehend. This affects my assessment. This is in the spirit of thinking about their learning challenges. I noticed that kids require more explanations and more time to try the problems, and it makes even more sense to be grouped alone." (KII4, February, 2022).

Similarly, another key informant who believed in grouping students with hearing impairments differently from those with no hearing impairments had this to say in support of this practice:

"The fact is that students with hearing impairment have different learning challenges which also need to be considered at the stage of assessment. If you are to do an objective assessment of these learners, you need to know how good they can attempt the assignment and this needs their individual considerations and support. So, I find grouping them different from the other more appropriate" (KII5, February, 2022).

The observation from the view of key informants regarding grouping of learners during assessment is not conclusive as to which approach of grouping the learners with hearing impairment alongside the regular students or grouping the learners with hearing impairments together and separately from the regular ones, is more effective. Each has advantages and disadvantages. Each grouping method can be effective when well-handled. Grouping learners with hearing impairments alongside those without hearing impairments necessitates intensive supervision and ensuring active participation of those with hearing impairments. Better results will be realized when there is a member in a group with no hearing impairment and who can understand the sign language to facilitate the interaction with a member who cannot hear. Grouping learners with hearing impairments separately is also ideal to ensure the teacher tailors support to them and assess the group objectively, cognizant of its learning challenges. It is also worth noting that grouping was generally done for assignments during or after a lesson not at the stage of progressive tests or examinations which bear implication on transitioning of the student to the next academic level. There was no case where a teacher grouped students during tests or examinations.

C. Using a multi-dimensional approach or various dimensions to assessment

Using a multi-dimensional approach or various dimensions to assessment was another practice observed to be done, although on a very low scale. The approach involves teachers assessing the students progressively from various dimensions and in various tasks. For example, students are scored in groups work for tasks accomplished after a topic, in addition to tests and examinations which makes it impossible for students to fail. It was embraced by most teachers since it enables students with hearing impairments to be able to attain some marks from different dimensions of assessment in order to progress. One of the key informants had this to say:

“At the end of every topic, I assess the students from their classroom participation, their activeness in group work, in addition to their performance in tests and examinations. It is impossible for a student to fail a test assigned to him or her” (KI10, February, 2022).

However, the multi-dimensional assessment was found to be limited as it did not put into consideration other key aspects where students may exhibit significant strength. For example, co-curricular activities such as sports, music, dance, class behaviour. This view was common across in some of teachers interviewed. One of them had this to say:

“As a head teacher I will tell you that in our schools the assessment does not account for co-curricular activities such as sports, music and dance yet these are very important aspects. Teachers can only assess students through groups assignment, tests examinations and to a minimal extent. This is according to the way the curriculum is designed.”. (KI10, February, 2022).

The results generally show that the use of a multi-dimensional approach to assessment is quite limited in terms of aspects which are considered in the assessment. This is attributed to the design of the curriculum which only provides for classroom assignment, learners’ assessment tests and final examination which determines whether the student progresses to another level or not.

My conclusion is that a variety of inclusive pedagogy practices were reported to be used with variation across the teachers or schools in Uganda. Some of the prominent practices identified include; using a slow speed of instruction and spending more time with the learners to effectively deliver the curriculum content and foster learning, use of differentiated communication approaches such as sign language blended with use of graphic demonstrations for learners with hearing impairments, and use of differentiated assessment methods including

a multi-dimensional approach to assessment, group work assessment by grouping learners with hearing impairments with the regular students when doing assignments, reducing number of questions and increasing time for students with hearing impairments during tests and examinations.

4.3 Challenges to inclusive pedagogy in secondary schools in Uganda

The analysis sought to identify the challenges which hinder inclusive pedagogy in the context of the schools in Uganda. This section presents findings from a qualitative analysis of mainly teachers' views and some views of students as well as the researcher's observations. The analysis revealed themes reflecting the challenges which were to a bigger extent related with the school, and to a lesser extent, the teachers and parents. a) The school related challenges include inappropriate curriculum design, inadequate teachers to match the higher number of students with hearing impairments, and unfavourable classroom environment. b) Teacher related challenges include inadequate teacher competence in inclusive pedagogy, difficulty in managing inclusive classes with students of diverse special needs and difficulty in interpretation of oral to sign language. c) Parent related challenges include their low prioritization and limited support of students with hearing impairments. These challenges have been presented and further discussed in this section

A. school related challenges

This section presents inclusive pedagogy challenges which relate to the school as derived from key informant interviews and observations. The section is structured into four subsections presenting the specific challenges identified and they include (i) Inappropriate curriculum design, (ii) Inadequate teachers to match the higher number of students with hearing impairments, and (iii) Unfavourable classroom environment.

4.3.1 Inappropriate curriculum design

The design of the curriculum was considered a hindrance in application of inclusive pedagogy practices. There are two arguments to this effect. First, the teaching curriculum emphasizes practical teaching methodologies allowing more time for students to undertake practical tasks on their own. However, it proves practically impossible for students with hearing impairments to undertake tasks on their own. They need guided tasks by a teacher. This translates into more additional practical workload for the teacher at no extra motivation.

“I always allow more practical hours to students. However, for students with hearing impairments it’s a problem. They cannot do work on their own. I have to guide which is not in line with the curriculum. If I have to do that, it has to be outside the curriculum” (KII6, February 2022).

Similarly, another key informant shared a key sentiment to affirm the challenge of the curriculum. He had this to say:

“Practical hours are okay as provided in the curriculum. Students have to practice what they have learnt. They need the hands-on session. However, this is partially difficult for students with hearing impairments. You give them a practical assignment, they cannot do much. As a teacher you have no option apart from getting involved” (KII7, February 2022).

In addition, the curriculum does not allow enough time for teachers to pay more attention to the differentiated groups of learners and individuals with special needs. Effective instruction therefore necessitates much attention to the different groups of learners through a reflective and flexible approach bringing on board diverse instruction approaches and materials to ensure effective learning. This observation derives from the views of many of the teachers interviewed some of whom had this to say:

“If you critically look at the design of the curriculum, you will realize that the time is allocated for teaching a group of students is too limited. As teachers however, we find difficulty grouping students to tailor support to meet their learning abilities but the time cannot allow. Although we form groups, we do not get enough time to interact and support each group individually” (KII5, February, 2023).

The above view affirms that teachers group students as way of differentiation, however they are constrained by time to support each group. This was affirmed by another key informant who had this to say.

“Yes, I group my students putting those with hearing impairments alongside those with no hearing impairments. However, I often realize that these groups need support in terms of translation or interpretation to the students with hearing impairment. However, the time to this is quite often not there” (K18, February, 2022).

Besides allowing more time to students with hearing impairments when undertaking an examination, the assessment criteria for students with hearing impairments is not significantly differentiated from that of regular students. They do the same exam and are scored based on the same criteria as the regular students. Yet differentiation of the assessment is quite important to ensure students with hearing impairments are assessed subjective to their learning challenges. To affirm this argument, some of the key informants had this to share:

“During assessment, I do differentiate the methods particularly when giving assignments during the classroom session. I can give fewer questions to students with hearing impairments and when marking I can try to be lenient. However, at the final examination, no such differentiation is provided in the curriculum regarding examination guidelines meaning that the students can be disadvantaged” (KI9, February, 2022).

“Fine, we generally differentiate the assignments during classroom sessions. However, it’s not good for a student with hearing impairment when it comes to exams. They get used to more special treatment which is not provided for in the examination guidelines according to the curriculum” (KI10, February, 2022).

“We are basing on the old curriculum; I feel that these students are being cheated because at the end of the year, after four years, they will be assessed like any other students who are hearing, like students who have all the senses. They are only considered through a provision of extra 40-45 minutes during examination, which has proved not to be enough. (KI9, February, 2022).

The results generally indicate an unfairness in the final examination as these LHIs will be at a disadvantage in assessment at the end of their studies. The approaches adopted by the teacher is different from the national examination board standard of assessment and in the end LHIs graduate with a lower achievement.

4.3.2 Inadequate teachers to match the higher number of students with HIs

Most of the teachers observed that the schools have a limited number of teachers and due to limited incentives, motivation in special needs students, as well as high student numbers, teaching LHIs remain challenging. It is associated with a high student to teacher ratio which deprives teachers of sufficient capacity to effectively differentiate between learners and provide them differentiated support with regard to teaching and assessment. One of the key informants had this to say:

“In my opinion, the student to teacher ratio should be 10 to one, that should be maximum, but you find one teacher with 50 learners ,40,35, 25. Planning for all of them is a big challenge. It is a huge load on the teachers and difficulty to give them enough support” (KI6, February, 2022).

“In my school which is also the case in other schools, most inclusive classroom sessions are handled by one teacher or two in rare cases. In case of two teachers, the second one usually is an interpreter for a teacher who is not comfortable with the sign language. For either co-teaching or single teacher sessions, the number of students is as high as over 30 learners” (KII8, February, 2022).

The above views further affirm the problem of a low number of teachers and high number of students with hearing impairments. This problem makes it difficult for teachers to effectively apply pedagogical approaches such as giving individual support to the learners, tracking, and responding to their needs during instruction. The challenge of inadequate teachers which is also linked with the high student to teacher ratio arises from the high teacher turnover and increasing enrolment of students with hearing impairments. This draws from the view of many teachers interviewed some of whom had this to say:

“In my school, you will find like 2-3 teachers in a year leaving. However, no replacement is done. Yet students will always join every year. Even when new teachers come on board, they do not have experience to handle inclusive classes so you find in the whole there are just a few teachers who can effectively handle a class with students of hearing impairments. It is quite challenging” (KII9, February, 2022).

The above view clearly indicates the problem of limited teachers for students with hearing impairments in the schools. Another teacher who happened to be the head of a school also affirmed the problem of too few teachers in the schools and attributed it to the high turnover and low salaries. She had this to say:

“Many schools are facing the problem of high teacher turnover because of low salaries. In our schools here, teachers earn an average UGX 1,020,000 equivalent to Euros 270. This is far too low compared to the standards of living particularly here in town. There is no health insurance and no anything else. You can’t pay rent, bills and take care of the family” (KI10, February, 2022).

Further affirming the problem of low salary of the teachers, another teacher had this to say:

“Teachers are the least paid yet they do a lot of work. In fact, you cannot compare the earning of a teacher with that of a boda boda rider who even never went to school. Like we are saying handling students with hearing impairments and other special needs is not easy. But there is extra pay for teachers who handle inclusive classes” (KI11, February, 2022).

In conclusion, the views of key informants generally show that some of the schools have limited number of teachers to handle the high number of students with special needs including those with hearing impairments. Key informants link this problem with the inability of the schools to enrol more teachers, inappropriate curriculum design that makes it almost impossible for students with hearing impairments to complete assignments on their own. My conclusion is that inclusive pedagogy is constrained by the inability of the education system and the schools to recruit more teachers who can handle students with special needs. This is mainly because of inadequate budget of the Ministry of Education and Sports to recruit the teachers and post them in the schools. In addition, the teaching profession is not adequately attractive due to low salaries which is also incommensurate with the huge workload and inconveniences associated with teaching special needs students.

4.3.3 Unfavourable classroom environment

For most of the teachers interviewed, the challenge of unfavourable classroom environment turned out to be a critical challenge which undermines effective teaching and learning in an inclusive classroom setting with students of hearing impairments. The classroom environment was characterised by inadequate lighting due to power outages and insufficient electricity which meant that teachers must open the windows to allow in enough light in case of a power cut-off. This exposed student to distraction by the outside environment and events. This was also the case in some classes where the windows were made from transparent glass material with no curtains which exposed students to the views of the outside environment and events. The experience of most teachers interviewed was that although all students will get distracted by the outside classroom environment, those with hearing impairments are more affected. Some of the key informants had this to say:

“The biggest problem I see in our classes are the windows. As you can see, they are transparent glasses and some of them are not in. They broke and they have not been

replaced for long time. It is difficult to control a class when students are such exposed to the outside environment” (KII9, February 2022).

“We have a big problem of students getting distracted by the outside environment because they can see everything outside. For example, when another class is taken out for a co-curriculum activity like a play, the students’ attention will be taken. The situation is worse for students who have a hearing problem. They are always eager to see or use their sense of sight and hence they get more distracted” (KII1, February, 2022).

To further understand the specific case of students with hearing impairments and how they are more discounted by the outside classroom environment, one of the teachers had this to say:

“You can see our windows are made of glass but not the right ones. We need the opaque glasses where students cannot see outside. Particularly those with hearing impairments are more affected. They always want to see everything. Their concentration is very difficult to capture when there is a lot going on outside the classroom” (KI10, February, 2022).

A similar view regarding the design of windows and how they affect the learning environment of the students was shared by one of the teachers who though their class had opaque window panes still faced a problem of students getting distracted with the outside environment due to the lack of an air conditioning system inside the classroom, that the teachers are forced to open the windows.

“At least I can say we are lucky in our schools because unlike in many other schools, for us we have tinted glasses which makes it impossible for students to see through and get distracted by the outside environment. However, we are not better off particularly during the hot season because we are forced to open the windows. The classes are too hot during that time because we have no air - conditioning system inside and yet the tinted glass window absorb a lot of heat” (KII2, February, 2022).

The above view generally indicates that the tinted glass windows could create a better classroom environment when classes are supplied with air condition. However, in most of the schools and classes visited, air-conditioning was not available. Notably, this problem also affected classes where windows were made from wood materials. In this case, windows have to be kept open particularly in the hot period to allow free circulation of air hence distracting students. Some of the key informants had this to say:

“Our windows are made of wood. we cannot therefore keep them closed because we need light and fresh air. But on a hot day we cannot die of heat. We have to open the windows because we do not have an air conditioner. Then students will get distracted and the situation is always worse for student with hearing impairments. They are always eager to see and understandably because they do not hear” (KII, February, 2022).

“We have difficulties in managing the class due to the poor classroom environment. The windows are made of wood and some of glass. We don’t have curtains, no air conditioning yet the windows must keep closed. Electricity is usually on and off and when we open windows, students get distracted. It’s a very big challenge for us to manage the class. The students too feel uncomfortable and can’t pay attention to the teacher” (KI0, February, 2022).

Another challenge with the classroom environment which was often pointed out during interviews was lack of sound reducing ceiling in most of the classes which would allow to absorb the echoes and boost the hearing ability of some students who were partially hearing impaired. This challenge was highlighted by many of the teachers interviewed, some of whom had this to say:

“Our classroom environment is really not good. Leaving alone the windows, the ceiling is also not the right one. We are supposed to have what we call dampening ceiling if you have ever heard of it but we have nothing as you can see. Our classroom is therefore affected by sounds from outside and when we talk as teachers, the echoes are not absorbed. So, it is a very big problem for us and the students” (KII4, February, 2022).

“I have heard of the dampening ceiling but we do not have it. Like you have seen ours is the normal one for any classroom. We need it badly because I hear it helps a lot to absorb sound and students who are partially impaired can be able to hear” (KII5, February, 2022).

The views on classroom environment generally reflect a lack of a conducive environment, a problem which in further interviews with some of the Heads of the schools was attributed to inadequate funding towards development of the schools’ infrastructure. Most teachers observed that Government and parents are financially constrained to raise funds to construct, upgrade or maintain school infrastructure including classrooms.

“The fact is schools are facing funding gaps. Government is hardly giving us money to maintain the school structures. Parents have attempted to mobilize resources and put a development fund, but the economy is not favourable for everyone. Many are struggling to pay and the whole idea died. It is a big challenge and is seriously affecting students with special needs who need a special classroom environment” (KII7, February, 2022).

The results generally show that in some of the schools, the classroom environment is not conducive to fostering effective teaching of students with hearing impairments. In my conclusion, the schools do not offer a favourable classroom environment for teachers to use approaches which can facilitate learning especially for students with hearing impairments. The government budget is too constrained to provide adequate financial resource to establish or upgrade the classroom structures to the standards which are conducive to facilitate learning of students with hearing impairments.

B. Teachers’ related challenges

This section presents inclusive pedagogy challenges which relates to teachers’ challenges as derived from the key informant interviews and observations. They include difficulty in managing inclusive classes with students of diverse special needs, inadequate teacher’s competence in inclusive pedagogy, and difficulty in interpretation of oral to sign language.

4.3.4 Difficulty in managing inclusive classes with students of diverse special needs

While teachers strive to ensure that they design and apply pedagogical methods to fit the abilities and challenges of learners with special needs, this turns out to be quite challenging to teachers, many of whom handle inclusive classes with diverse special needs students. Ideally, teaching methodologies and assessments have to be differentiated and aligned with the learning needs of LHIs. However, even among children with special needs such as those with hearing impairments, their needs differ because of the different levels of learning abilities. Besides, learners with hearing impairments are taught alongside others with other sensory and physical disabilities. Hence differentiation of learners and tailoring support to each special needs group turns out to be tricky. This challenge was raised by many of the teachers interviewed some of whom had this to say:

“I have multiple cases of special needs students in my class. While I have to attend to those who cannot hear, others cannot see while others cannot walk. All those need special

attention. They need more individualized support. And the other challenge, I am sometimes alone in class. It's a big problem to teach them effectively" (KI18, February, 2022).

"It would be okay to handle the regular students alongside those with hearing impairments. But this is not the case. I have cases of some students who cannot see well. And I also have a case of some students who cannot speak well. The task is very difficult. Even when I have a teacher supporting me it's not easy to teach the class, but we try to manage" (KI17, February, 2022).

"Okay, like I mentioned, learners have different abilities. So, there is a deaf learner who cannot write, cannot read, who cannot understand what you're teaching, is a learner who will understand it now, and after five minutes has forgotten. So, there are so many challenges with the learners. So, we try to cater for every learner individually, which is not so easy also, because it requires a lot of hard work, a lot of patience. So, one of the challenges is that catering for these learners' individual needs is a big challenge. So, some learners are left out. Now, first of all, it is a policy in a country and a government that every learner must get promoted. So, we even promoted those who cannot be promoted" (KII6, February, 2022).

Consistent with the views of the above teachers, one of the teachers who on the contrary had only students with hearing impairments in their classroom alongside the regular students, shared the same view that indeed handling many diverse special needs in the same class could be very challenging. She had this to say:

"I would say my case is different, unlike my colleagues I have interacted with, me, I have only 2 students with hearing impairments. These are not really difficult for me to manage but I still find challenges handling them. I can imagine what my fellow colleagues who have many cases of other special needs in a single class. Yeah, it's a big problem" (KII9, February, 2022).

Overall, however, the views shared affirm that most teachers find a challenge grouping or differentiating the students by their learning abilities or taking care of the diverse individual needs when handling diverse special needs students in a single classroom setting. This challenge is compounded by the big students' numbers and limited number of teachers available to provide such support in an inclusive class. In addition, teaching such inclusive classes is time consuming

and cumbersome. Teachers saying that they try to manage under hardships could be a reflection that they do not teach effectively or cater for the needs of all special needs students which undermines effective inclusive pedagogy. In conclusion, most teachers find it difficult to apply inclusive pedagogical approaches in classrooms with high student numbers and this problem is worse especially in classrooms where a teacher is not supported through a collaborative teaching approach.

4.3.5 Inadequate teacher's competence in inclusive pedagogy

The general perspective on inclusive pedagogy is that effective design and implementation of inclusive pedagogical approaches necessitate skills and experience beyond the conventional teacher competency skills. Yet, many of the teachers interviewed reported to lack skills in handling special needs students including those with hearing impairments. This finding draws from some of the teachers who had this to say:

“I am a teacher, fine, but truth be said, I have never trained in handling students with special needs such as those with hearing impairments. I believe the training is much needed for me to acquire the skills to do so” (KI9, February, 2022).

“As a head teacher, I know my teachers are struggling with students of special needs. We have not given them training about special needs students and inclusive pedagogy approaches to effectively handle them. When they are being recruited, there is not any consideration on whether they have ever handled special needs students. Whether they have the minimum qualification is what matters” (KII1, February, 2022).

Further views revealed that the lack of training to boost teachers' skills in inclusive pedagogy arises from limited funding to the Ministry of Education and Sports, the school specifically, and government. This view was shared by many of the teachers. One of them had this to say:

“I don't blame the school for not training us in inclusive pedagogy. It's the problem of financial resources. Government has not adequately funded the Ministry of Education and the schools. It is a general problem that our education system is not adequately funded right from payment of salaries. I believe the Ministry of Education is aware of the increasing number of special needs students in the schools but has not done enough to support the schools” (KII2, February, 2022).

Notably, there was a case of one teacher who had enrolled for training in special needs education, and had an opportunity of accessing training on inclusive pedagogy for students with hearing impairments. It was long ago and she so she felt she needed further training. She had this to say:

“Well, previously, I was teaching in a hearing school, then an opportunity came for me to be appointed in this school with a hearing disability. So, when I came here, I did not have sufficient training that I had to learn on job. This is true for many of my colleagues. When we're already in the school here, as we were teaching, we were also learning. For the first two years, we're using interpreters. But as time went by, we acquired the skill. And then in the process, the Minister of Education also brought some, they brought some programs where teachers were being trained. We were last trained by the teachers of Mumbai Secondary School for the Deaf almost 9 years ago. But since then the school has brought more teachers and no more training up to now” (KII8, February, 2022).

In conclusion it can therefore be stated that most teachers lack skills to handle students with hearing impairments in an inclusive classroom setting. The lack of skills is attributed to limited consideration of competencies in special needs education when assessing the teacher before recruitment. This is compounded by limited training of the teachers in special needs education while on the job.

Nevertheless, some teachers had gained experience in handling inclusive classes with students of hearing impairments. This was mainly the teachers who had more teaching experience although these were few in the schools. One of the key informants had this to say:

“I have worked for 10 years as a teacher. This does not however mean every teacher who has worked as long as I have can handle inclusive classes effectively. I have been lucky that in my classes I have had students with special needs and hearing impairments specifically. I have learnt how to deal with them although I still have a lot to learn” (KI15, February 2022).

Overall, the above views of key informants indicate that teachers enter an inclusive class with inadequate or no skills to design and deliver content using appropriate inclusive pedagogical methods. They largely learn on the job as the challenges arise. This means teachers find difficulty in effectively interpreting some concepts, designing and applying inclusive approaches in

curriculum design, instruction and assessment of learners. Within the school system, there are limited or no chances at all to bridge their skills gaps due to inadequate financial resources.

Another aspect of teachers' competence which was derived from some few key informant interviews as a key challenge, was the negative mindset of teachers towards learners with hearing impairments. Some teachers perceived their fellow teachers to lack a positive attitude towards learners with hearing impairments. In view of the teachers, some of their colleagues seem to appreciate the hearing impairment status of their students. Or on the other hand, it could be a motivation issue given the persistence of low pay of the teachers in public schools despite their outcry to Government. Some teachers shared insightful views to this end. They had this to say:

“Some teachers turn rude at students with hearing impairments particularly when dealing with them. It can be understandable because sometimes they run out of patience due to the learning challenges associated with this special need group and the environment of constraints within which the teachers operate” (KII6, February, 2022).

“In this school I can honestly say that some teachers have a tendency of saying learner with hearing impairments are rude, which is not true. They simply don't understand how to handle them or they get tired of them. Some teachers abuse the students saying you are stupid when actually they don't understand their language. I see this as a reflection of lack of passion and positive attitude toward students with hearing impairments” (KII9, February, 2022).

In conclusion the results show that teachers largely lacked skills to handle students with hearing impairments at recruitment or enrolment into teaching, and the skills gap is carried over due to limited training opportunities. The bottom line is that the relevant institutions have not provided sufficient funding to bridge the skills gaps. To a minimal extent there are cases of negative attitudes towards students with hearing impairments reflected through the way teachers talk to the students which can partly be linked to lack of training but also frustrations due to low incentives amidst the huge workload/burden of handling inclusive classes with students of hearing impairments. My conclusion is that inclusive pedagogy is constrained by inadequate skills in special needs education among teachers which arise from the failure to target the selection of teachers with special needs education skills at recruitment and

inadequate funding to provide teachers with the relevant in-service training in special needs education.

4.3.6 Difficulty in interpretation of oral to sign language translation

The effectiveness of interpretation may be influenced by the interpreters' familiarity with certain subject matter, which can occasionally limit the clarity of complex concepts. Furthermore, students are not provided with assistive technology for hearing impaired learners due to affordability issues. Sign Language is limited in terms of explaining some words and a teacher needs to demonstrate a lot so that the learner may get the point. It limits how much a teacher can cover in a particular time unlike for regular teaching where a teacher does rarely explain much, can dictate the notes, and request students even to read ahead. In a class with students of hearing impairments, if one has to teach history for example, they write a whole blog about explaining point by point.

“Interpreters are not versed with every word in every subject. So, one will try to explain according to the way he knows, and in the process. Hence, the students get the information upside down. I will give you an example where handled by the School for the Deaf. We call that school, our sister school. So, one time when somebody was interpreting the word sister school, she used to design this word means a sister in the Catholic Church, you know, those women how they dress. So, she put some signs like this sister school, this is fine for school, then people are wondering, is it a school with a twin sister, so what they got the message wrong. Whereas the business sign would have been this one, coordinating school, the school that coordinates our sister school” (KII7, February, 2022).

The challenge of interpretation was also observed at the stage of students doing examinations. Uganda National Examination Board sends to each school, one interpreter, who lacks technical competence to effectively interpret content in all the subjects. Besides, the way of instruction in some cases vary from what the students are used to with their usual teachers which causes confusion for the students or misinterpretations.

The difficult in interpreting the sign language of students was also affirmed by some of the students interviewed. Their views indicated that students sometimes communicate through signs which teachers fail to interpret. This creates a communication gap and was raised among the reasons why some of the students participate and those new in the class do not actively participate during the course of the lesson. One of the students had this to share:

“When I was still new, it was not easy for me to talk to the teacher. I could make some signs and the teacher asks me what I mean but I cannot explain. Sometimes, she could also make signs and I do not get what she is saying. It was really difficult me. I would just decide to listen and don’t say anything. But now I am okay. I have no problem”. (KI1SU, February, 2022).

The above view of the student confirms that some teachers are likely to have communication gaps with the student with hearing impairment before they stay long with them and get to learn the meaning of the signs they use. This view also suggests that teachers will improve their communication with the students with hearing impairments as they gain experience in dealing with them. The challenge of interpreting the sign language was also affirmed by another student indicating that even with experience, interpretation of the signs remains challenging. The student had this to say:

“it is now two years but still talking to the teacher is a big problem because when you talk sometimes, he will ask a lot what I mean” (KI2SU, February 2022).

D. Parent related challenges

This section presents inclusive pedagogy challenges which relates to parent challenges as derived from the key informant interviews and observations. They include limited support to students with hearing impairments, and low prioritization of students with hearing impairments.

4.3.7 Limited parent support to the learners

Parents support to the children is quite paramount to effective learning. This is much more relevant to students with hearing impairments due to their likely low levels of learning ability and challenges associated with their hearing impairment status. In the views of the teachers, parents’ support of their children were found to be wanting. Teachers expect parents to follow the learning process of their children and try to understand their experiences in school as the students are likely to go through more learning difficulties at school. These include stigma and discrimination by their fellow students, communication gaps with the teacher, and fellow students’ isolation. Adapting to this kind of school environment necessitates a great deal of psycho-social support for the child by their parent, which was however found to be largely lacking. In addition, parents were reported to be reluctant to engage with their children to assess their learning and feeling about the methods used by the teachers, as well as the kind of treatment they are given. This kind of

feedback would be very important to inform the teachers towards improving their pedagogical approaches when dealing with students with hearing impairment. To affirm this argument one of the key informants had this to share:

“We are trying our best as teachers to handle students with special needs, including those with hearing impairments. But for sure we are let down by many parents. You know handling these students is not easy even within their communities outside school. They need a lot of attention and follow up which parents are not doing. When it comes to learning, parents generally don’t have a culture of talking to their children and supporting them to do their homework or even asking them how they are catching up at school” (KII8, February, 2022).

The results generally indicate that some parents find difficulty supporting their children with hearing impairments, particularly by following up their learning process at school, listening to their learning challenges, and encouraging them to carry on. In my view this kind of support is necessary to keep the student motivated to go to school and learn amidst the challenges. By talking to their children, parents would be able to give feedback to the teachers on how best to improve the teaching process to foster learning.

4.3.8 Parents’ low prioritization of students with hearing impairments

Most teachers interviewed perceived many of the parents to under-prioritize students with hearing impairments or disabilities in general. This was mainly reflected in how responsive the teachers perceived parents to be when paying school fees and the attention they gave to these students. The parents acted like they have lost hope in their children with hearing impairments as to whether they would succeed in life through education. This was reflected in the way the parents expressed their feeling about their children getting employment after education through the interactions with the teachers. In some cases, the teachers observed that parents seemed to prioritize children with no hearing impairments in terms of paying schools fees for those who had other children with no special needs. Some teachers further observed that they have seen parents express stress in looking for the best schools for their other children with no special needs, yet they seemed not to care much about the cheaper requirements demanded at school for their children with hearing impairment. Evidence to these findings derive from the verbatim quotations which were shared by some of the teachers:

“I have interacted with many parents when I need something for their children whom I am teaching here. They sound very inquisitive and negative. They seem not to believe in their

children. Some sound like they opted to bring their children to school because they could not afford to manage them at home” (KII0, February, 2022).

The views reflect a lack of commitment from the parents and they seem to be putting a heavy burden on the teachers. This could influence the teachers to lose hope for the students with hearing impairments. Supporting a student with hearing impairments needs teamwork which involves parents, teachers, and administrators among others.

“I know of some parents, not one, not two. They showed so much concern when looking for a school where their children could go for secondary level. I gave them insights on some best schools, and they sounded like they can manage but these are the same parents whom are struggling with small fees for transport and food for their child who has a hearing problem in this school” (KII5 February, 2022).

“I talk to parents though I don’t want to judge them, but I can see they are demotivated and sound like they do not have hope in their children even when they send them here to class. In fact, one of them has consistently threatened to withdraw the child from school over a small fee that I demanded. Interestingly, the parent has other students with no disability in the same school and when I shared with other teachers who handle them, they seemed to be getting positivity from the parent over the same issues of fees. So, I continue talking to such teachers” (KII6, February, 2022).

The above suggests that there are cases of some parents who are not as positive as they should be regarding supporting their children with hearing impairments in school. This seems to be linked to the negative mindset towards the value of educating such children. Because of this some parents develop laxity to pay school fees and particularly when they are financially constrained. In fact, this was found to be among the major reason explaining absenteeism of children with hearing impairments and other disabilities. While this is considered a general problem for all students, its impact on the learning of students with hearing impairments is worse. Yet unlike the regular students who can be easily supported to catch up, students with hearing impairments need a lot of time and attention to be catch up with rest of the students. They cannot easily learn from interaction with their friends or through remedial teaching. It is challenging to the already stressed teachers who find no option but to repeat the content already covered in order to assist students on the content missed. To affirm the problem of reluctance

of parents to pay school fees for students with hearing impairments and its linkage with absenteeism, one of the key informants had this to share:

“Some parents act like they do not feel bothered paying school fees for their children with hearing impairments or other disability to avoid turning the child back home unlike for their other children with no disabilities, so their children are frequently absent from school. It negatively affects learning and is a burden to me as a teacher where I have to make sure we help them to catch up with the rest of the class. It takes me a lot of time which has not been planned for and also causes distraction to the whole class” (KIdI2, February, 2022).

Consistent with the views of the teachers, some of the students interviewed revealed that they face a problem of being sent away from school because of school fees not being paid, which they expressed concern about as it affects their learning. They further expressed their feeling that parents seemed not to be bothered by their absenteeism from school. One of the students had this to say:

“Every term my parent delays to pay school fees. The teacher writes a note to take to the parent asking for school fees but when I take it, my father says put it there. I tell him our teacher has said they are going to chase us next week if we do not pay. He just says I will pay. So, he does not pay, and I am chased” (KI3SU, February 2022).

The above view of the student indicates that although the school makes an effort to remind the parents to pay school fees, the payment is often not done in time. Consequently, the student is chased away from school. The parent makes no effort to engage with their child about the delayed payment of school fees which may create an impression to the student that the parent does not care. This could demotivate the student and negatively affect their learning. A similar view regarding delayed payment of school fees by the parent was shared by another student with a hearing impairment, who had this to say:

“My parent does not care even if they chase me for schools’ fees. He will just lie that you will go back tomorrow and sometimes I can spend a week at home (KI4SU, February 2022).

My conclusion is that some parents indeed do not prioritize education of their children with hearing impairments, a reason why they do not adequately support them. However, some parents,

due to low income, could be misperceived by the teachers of not adequately supporting the education process of their children with hearing impairments.

Overall, the results identified the prevailing school, teacher and parent related challenges of inclusive pedagogy in the secondary schools. In view of what most teachers said, the teaching curriculum emphasizes practical teaching methodologies allowing more time for students to undertake practical tasks on their own yet students with hearing impairments find difficulty undertaking tasks on their own. The curriculum also does not allow enough time for teachers to pay more attention to the differentiated groups of learners. In most schools, the number of teachers is inadequate to match the high number of students and those with hearing impairments. This is mainly due to low teacher incentives or motivation. The knowledge, skills and experience in inclusive pedagogy among most of the teachers is quite low. In addition, some teachers have a negative attitude towards learners with hearing impairments. These aspects of limited competence of teachers are linked to limited teacher training in inclusive pedagogy due to inadequate funding. Teachers find difficulty in managing inclusive classes with students of diverse special needs who need differentiated teaching methods, more reflective teaching, and individualised support. The classroom environment in most of the schools is unfavourable and is characterised by inadequate lighting due to power outages and insufficient electricity, wooden windows and lack of sound dampening ceilings. Finally, many of the parents do not provide enough support for their children in terms of following up on their students' learning process, paying school fees timely which was associated with students' absenteeism, and supporting academic performance. Relatedly, some parents had low prioritization of their children with hearing impairments due to a negative mindset about them in terms of future education success. My conclusion is that the secondary schools in Uganda face many challenges which negatively affect their capacity to implement inclusive pedagogy. The challenges relate to the school, teachers and parents.

4.4. Inclusive pedagogy approaches in secondary schools in Germany

This section presents findings on inclusive pedagogy approaches and challenges in Germany. To ensure the findings can be interpreted within the existing contextual framework of the inclusive education system and the structure of secondary education and inclusive teaching the following have been explained for the better understanding of the system that is a case description, German Educational System, Secondary Education, Institutions and Schools for students with special education needs and description of study participants.

4.4.1 A case description

This section presents a description of the Germany case in terms of education system entailing the regulatory framework for inclusive pedagogy in Germany and specifically the state of Lower Saxony where the schools were selected for the study. The description extends to the structure of secondary education in terms of secondary school levels by order of progression and assessment of learners. The description also provides a brief overview of the teacher status for learners with hearing impairments in the schools and the teachers and teaching structure in the classes.

4.4.1.1 The Germany Educational System

With Germany and its 84.6 million citizens (Federal Statistical Office, 2023), being the state with the highest population and the strongest economy within the European Union, the educational system is at the heart of German economic stability and the foundation of a prosperous future. However, it has proven to be difficult to describe the German educational system. German education is a decentralized system owing to the independent decision-making processes of the 16 federal states. The decentralization affects the school system since every state has the right to set up and maintain its own school system. Overall speaking, the mainstream schooling system in each of the sixteen states is divided into three sections; these are the primary level (grades 1-4), the lower secondary level (grades 5-10), and the upper secondary level (from grade 11- 13). The students are assigned to different educational pathways from secondary school onwards. These are Hauptschule (general secondary school), Realschule (intermediate school), Gymnasium (advanced level), and Gesamtschule (comprehensive). Further, there is also a special school system for children with disabilities. The education system is summarized in Figure 4.1 below followed with a detailed description of the study levels, progression and assessment structure.

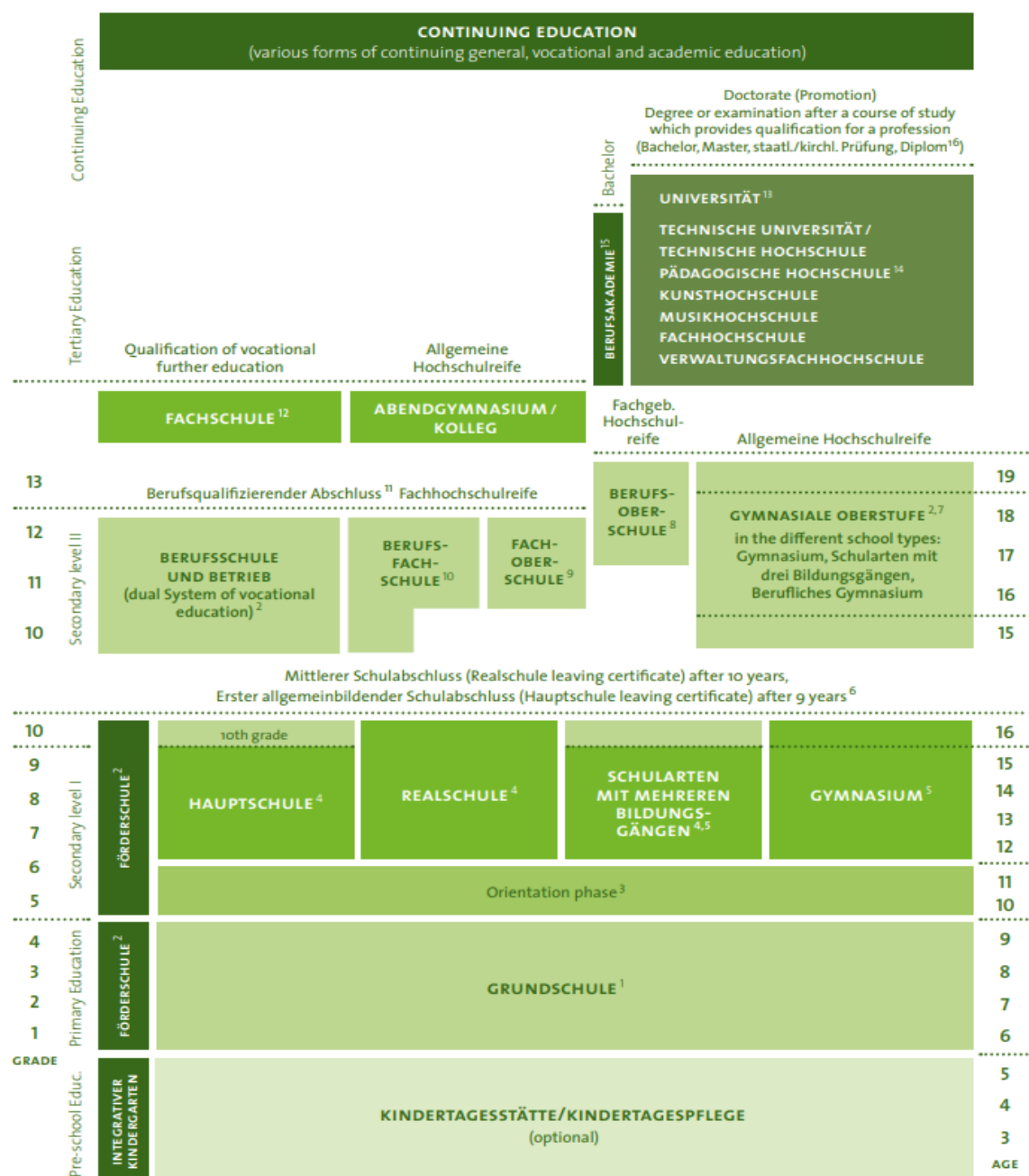


Figure 4.1: The structure of education system in Germany

Source: Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, German EURYDICE Unit of the Länder, KMK (2017)

In addition to this general school system, Germany has a highly differentiated system of special schools in which children with disabilities are educated. For example, there are special schools for the special needs areas of mental development “Geistige Entwicklung”, learning “Lernen”, language “Sprache”, emotional and social development “Emotionale und Soziale Entwicklung”,

vision “Sehen” and hearing “Hören”, among others. These schools are also under the respective Ministry of Education and Cultural Affairs of a federal state Tominska et al., 2017).

Secondary Education, Elementary, and Tertiary education

The mainstream schooling system is divided into three sections as mentioned above. Full-time schooling is compulsory at primary and secondary levels for all children aged 6 to 15. However, German education generally lasts until the age of 18 though this varies depending on the educational pathway a student chooses after completing lower secondary education. The state runs most German schools and they are free to attend. Grundschule (primary school): Normally, six-year-olds begin their school careers at primary school, which covers the first four grades. Only in Berlin and Brandenburg does primary school continue up to sixth grade. At the end of primary school, parents and teachers will decide which secondary school the child will attend, considering child's academic performance (KMK, 2017).

After four years of mandatory elementary school every student joins the secondary education level. Participation is still mandatory as German law requires every student to stay in school until their 16th birthday or until they have completed ten years in school. The secondary education level consists of three forms of schools, varying mostly in regard to their degrees in difficulty and required speed. The first is the *Hauptschule*. The *Hauptschule* is the most basic school form. It has the lowest difficulty and trains students for jobs that mostly do not require an advanced level of skills, e.g. jobs in construction. After 9th grade, students can leave the *Hauptschule* with the “Einfache Berufsbildungsreife” or opt in to the 10th grade, which ends with a slightly higher degree the “Erweiterte Berufsbildungsreife”. This could be required by some employers or is important for a specific further training, that they might want to receive. The *Gesamtschule* starts around age 10 or 11 and may last until age 16 or 18, depending on the school’s structure. It covers grades 5 to 10 or 12, offering a comprehensive education that combines academic and practical aspects. Qualifications vary but can include certificates equivalent to Realschulabschluss or Abitur, depending on students’ chosen educational paths within the *Gesamtschule*.

The most common form of schooling is the *Realschule*. Students at this level get trained in a variety of fields, mainly office work, banking, and other jobs, that require a specific set of knowledges. The *Realschule* ends after the 10th grade with the “Mittlere Reife” or, depending

on how high the student's grades are, the "Erweiterter Realschulabschluss", which empowers the student to change to the gymnasium after said 10th grade.

The highest level in secondary education is the "Gymnasium". In contrast to the other two forms of schools it features 9 years of study, starting with the 5th and ending with the 13th grade. After successful completion, most students leave with the "Allgemeine Hochschulreife", or as it is more commonly known, the *Abitur*. This empowers them to join the Universities or the other facilities of higher learning within Germany. Using the federal state of Lower Saxony as an example, the path towards an inclusive education system is reconstructed at the level of education policy by means of a document analysis of central education policy documents on the topics of integration and inclusion since the 1990s, focusing in particular on the development of special schools (Kultusministerkonferenz – KMK, 2017). It is important to note that the secondary education system of Germany is structured with different types of schools across different federal states.

Institutions and schools for students with special education needs

A system that is not commonly part of the classic understanding of the state education system in Germany are schools and learning institutions for students with special educational needs. Said schools have decreased significantly since 2000, with the other schools, mostly the *Hauptschule*, making up the gap as students with mild moderate special needs may now attend *Hauptschule* or other mainstream schools instead of specialised institutions. The states have a variety of different responsibilities which include the supervision of the entire school system, including organisation, planning, and management. They also regulate the school's mission and its teaching and educational objectives which are given concrete shape in the curricula. The schools themselves divide the organizational work up into "Konferenzen" (Conferences). The allocation of "Special Education Support" would then mostly be subject to the "Lehr(er)konferenz", a conference which any teacher and the school's leadership attend. This conference also discusses the school's financial situation, general educational resources, and changes within the school's infrastructure. Parents and the public are usually not represented during these conferences and therefore do not really have an influence at this level.

The Lower Saxony School Act of 1993 established the notion that as a general rule, pupils requiring special educational help should be educated and taught alongside other students in all schools. As a result, on February 1, 2005, the decree "Special Educational Support" considers

special educational support to be the "task of all schools" and states that "the competent general school is to be sought as the place of support" (Niedersächsischer Landtag, 2007a). Understanding of inclusion is characterized by different aspects like equal and barrier-free access to public general education schools. For example, in Oldenburg which is part of Lower Saxony state where this study was carried out, schools are inclusive according to the law when they provide equal access to students (Werning & Thoms, 2017, n.d.). Special education teachers are deployed to meet special educational needs, requiring qualified teachers, individualized planning and monitoring, and coordinated cooperation between teaching and specialist staff.

Whilst the compulsory courses are designed to ensure that all the pupils receive a common general education, electives, in conjunction with the compulsory curriculum, are intended to enable pupils to develop an area of specialization. In the Gymnasiale Oberstufe of the eight- or nine-year Gymnasium, the number of weekly periods is generally increased by two to four. Foreign language lessons in the upper secondary level build on the competences acquired in lower secondary level. The focuses of teaching and learning are in-depth intercultural understanding, written language in terms of competences involving different text types, corresponding oral discourse abilities and language awareness. Based on the curricula, which also contain some guidance on teaching methods, the teachers take responsibility for teaching in their classes, taking the background and aptitude of each pupil into consideration. Continuous assessment of performance takes place in special education institutions in a similar form to that of mainstream schools. In the case of pupils with intellectual disabilities or severe intellectual disabilities, the assessments take the form of reports on their cognitive, social and emotional development (Schwab, 2020).

As a rule, performance is assessed according to a six-mark system adopted by the Standing Conference of the Ministers of Education and Cultural Affairs of the Federal states (Kultusministerkonferenz – KMK): very good = 1, good = 2, satisfactory = 3, adequate = 4, poor = 5, very poor = 6. Each pupil's performance is set out on a school report or a learning development report twice a year in the middle and at the end of the school year.

Training of teachers at all types of schools is regulated by Land legislation. The relevant statutory provisions include laws (R111–120) and regulations for teacher training, Studienordnungen (study regulations) for teacher training courses, Prüfungsordnungen (examination regulations) for the Erste Staatsprüfung (First State Examination) or for Bachelor's and Master's examinations, Ausbildungsordnungen (training regulations) for the Vorbereitungsdienst (preparatory service) and examination regulations for the (Second) State Examination. Responsibility for teacher

training rests with the Ministries of Education and Cultural Affairs and Ministries of Science of the Länder which regulate training through study regulations or training regulations and examination regulations or corresponding statutory provisions. (Kultusministerkonferenz – KMK) (www.kmk.org).

4.4.1.2 Description of study participants in Germany secondary schools

This case study involved 10 teachers and 3 students as participants who provided views to inform the study. In order to provide an understanding of the characteristics of the students which bears implication on credibility and potential transferability of the study findings to other cases, this study provides a description of these participants by teachers' sex, and qualification as well as the grades and sex of the students summarized in table 4.3

Table 4.3: Description of the study participants: teachers and students in Germany

Characteristics of the study participants	Number
Sex of teachers	
Male	2
Female	8
Teachers' qualification	
Masters' degree	8
Bachelor s degree	2
Sex of students	
Male	3
Female	1
Grades of students	
Grade 5	2
Grade 8	2

Source: Interview data of teachers and students

In Germany, the researcher interviewed 10 teachers. Like in Uganda, both sexes were included although more of the teachers eight (8) were female while two (2) were male. This is because of the high number of female teachers in Germany. The teachers were drawn from across all secondary levels with half of the teachers teaching at ordinary level while four (4) of the teachers taught at both advanced and ordinary levels. The teachers were highly qualified in their teaching

profession with eight (8) of the teachers holding a Master's degree and two (2) had a Bachelor Degree. In addition, most of the teachers were adequately experienced with half of the teachers with a teaching experience ranging between 11-17 years. This level of teacher qualifications and experience indicated a high level of competence in pedagogy. The study included students of one sex and all three were male (3). The students were drawn from Grade 5 and Grade 8 since students in these grades were expected to have been longer in the education system and were therefore better positioned to ably inform the study. Their period of disabilities was also assessed as follows; one (1) student has been deaf since birth, (2) have been having hard-of-hearing for 3 years.

4.4.2 Findings: Inclusive pedagogy approaches in secondary schools in Germany

This section presents the inclusive pedagogy approaches derived from mainly the views of the teachers and to some extent, the views of students with hearing impairments and the researchers' observations in Germany. The approaches which emerged as key themes from the analysis include (i) differentiation of learners, teaching and assessment methods, (ii) parents' engagement with teachers, (iii) teacher-student relationships, (iv) reflective and flexible teaching methods and (v) collaborative or supportive teaching. Notably and as in the views presented, the approaches vary across some schools and teachers due to the school and teacher related challenges which have been presented in the subsequent section.

4.4.2.1 Differentiation of learners, teaching and assessment methods

Differentiation of learners, teaching and assessment methods is another approach which was largely practised in many of the schools towards inclusive pedagogy. Differentiation was guided by the belief that the learners with hearing impairments have unique learning challenges which necessitates methods tailored to their needs while in an inclusive class with regular students. Various forms of differentiation were identified from the views of key informants.

Some teachers reported that they differentiate learners by grouping together students with similar learning problems in terms of learning speed or pairing them with a very advanced learner. This does not necessarily mean grouping slow learners together but, in some instances, the slow learners are grouped with advanced learners as a grouping strategy to ensure the slow profits from the advanced learners. In affirming this, some of the key informants had this to say:

“Fine I group students when I am teaching. I put those with hearing impairments within the groups of those who can hear to ensure they support them. However, sometimes I realize I need to put those who cannot hear different though not many times” (KI1G, October, 2021).

The above view indicates that although there were cases where a teacher could put those with hearing impairments in separate groups, they were mainly mixed with those with no hearing impairments. Consistently, another teacher observed that they mainly group students with hearing impairments with the regular students as indicated in the verbatim text below:

“Yes, I find grouping learners with hearing impairments with those who can hear well together. This is what I usually do. It helps students with hearing impairments to get support from their fellow students who have no hearing problem” (KI3G, October, 2021).

Another form of differentiation observed from the views of some teachers, although to a very small extent, was differentiation of teaching methods. For example, forming special tasks for students with hearing impairments, providing extra lessons to the slow learners with hearing impairments, and exclusion of some aspects of assessment. One of the teachers had this to say:

“Sometimes, learners with hearing impairments cannot move on the same speed as other students. So, I have to continue with the lesson and then create some special time outside the lesson to give more time to the students with hearing impairments, try and know what they did not get right and take them through again” (KI4G, October 2021).

Similar to the above key informant, another teacher indicated that they also create more time for a student with hearing impairment outside the normal lesson to try and follow up on their learning. Where necessary, they repeat the content for the students although this is very challenging as they sometime fail to find time to do so. The teacher had this to say:

“Yes, I try to give students with hearing impairments more time. Sometimes they cannot catch up with the rest in class and you realize they need more time to explain to them using different techniques. It is not usually that I will do it because sometimes I don’t have time” (KI5G, October, 2021).

Differentiation also extended to materials as it was generally revealed that the teaching materials for students with hearing impairments do differ from those of the other regular learners. They are modified for example, by shortening the texts for the scripts.

To overcome the challenge of the students' inability to hear the audios due to background noise, the teachers take the script and read it to the student or create an own audio file reading the script without any background noise. Other teachers use differentiated weekly plans and two different mathematics books, differentiated task complexities or difficulties, differentiated materials such as scripts with reduced volumes of text, and use of more pictures than texts. Differentiation also extends to seating arrangement in class.

Some teachers differentiated the classroom setting through new seating arrangements and more individual learning periods. Students with hearing impairments are made to sit near the window so that they can see better. They focus on mouth movement. They are therefore made to sit in a position where they are able to see the class, the teacher, and their translators. The differentiation in teaching and assessment is aligned with the school policy provisions for different kinds of degrees.

“Yeah, well I do create different tasks for the students. I develop different weekly plans and two different mathematics books, for example. That's what is giving them tasks with different difficulties. Sometimes a high volume of texts, sometimes not so much. Sometimes pictures, sometimes texts. I try to be fair to everybody that way. I think one has to be aware that we are in a school form that allows students to get three different kinds of degrees such as CSE (abitur (enables to all trainings and to study at university, GCSE is the mittlere reife (enables students to training in most companies or CQUE (enables to training for certain jobs (mostly labour and hairdresser” (KI4G, October, 2021).

Some teachers indicated that they do differentiate in assessment methods for students in inclusive classes. This takes the form of allowing students more time during examination and waving off some of the aspects in assessment. The aim is to ensure that the student is able to complete the examination with extra support. To affirm this, one of the teachers had this to say:

“I have 10 students per year, who have a certain impairment, mentally disabled or learning impairment, or maybe with the body impairment to physically impaired. One of the students got a disadvantage in spelling and writing. We therefore won't consider this as part of the assessment of the mark. I go to the next door with him to give him more time to listen to certain audio files again. He gets texts that have simpler sentences, because one of his main issues is to hear. Simplify the language of the texts. What he does at the moment is to raise his hands and take part in the lesson as actively as he possibly can” (KI5G, October, 2021).

Regarding differentiation in evaluation methods, many of the teachers considered this to be a common practise towards inclusive pedagogy. For example, some teachers reported to subject teacher's different difficulty levels than the students are supplied with, usually One-Star; Two-Star or Three-Star tasks although not in every subject and not in every task and not all the time.

For example, there are cases where students have to write a report and evaluation methods are not differentiated. Except, different options are provided for such as Math-plan; English-Plan or students finding difficulty are given longer periods of time or leaving them to decide on which difficulty level they would want to accomplish the assignment. In attesting to this, one of the key informants had this to say:

“I often develop different assessment plans and allow students to be able to choose what plan they want to go for. The plans have varying tasks. A student has an opportunity to choose what he or she thinks works for them. And where they are caught up by time, I tend to allow them to complete” (KI3G, October, 2021).

Consistently, another key informant indicated that they differentiate in assessment by providing a range of courses and allowing the student to decide on their preference. For example, one key informant had this to say:

“Students have a choice of more than a hundred options which is very good. Things like I don’t know painting. Students that are rather weak learners are pretty good dancers. She does have the opportunity in hip-hop to show what she is able to do. That is her primary source of success. We have a lot of courses, special ones, where only students with hearing impairments are taking part in which is at the end of the day not really inclusion, but in this course, she can show what she is able to do” (KI5G, October, 2021).

Teachers have different expectations from the students with impairments and a regular student. Hence, a differentiation in assessment methods is needed. For example, some teachers believe that at the end of 5th grade not all the students have to be aware of the four cases for nouns. While this is okay for the “Gymnasium” students, differentiating between a noun from other word groups would be ok for other students. One of the teachers had this to say:

“I cannot have the same expectations for the student with impairments and a regular student. And, due to the fact that I do supply differentiated materials, I can make sure that they can advance in learning, and I can assess that through tests or talks and make sure that they will be able to pass. It is a mixture of different materials, talks with parents on how the student is doing. At the end of 5th grade not all the students have to be aware of the four cases for nouns for example, it is sufficient if the students for “Gymnasium” are aware of that. And with other students, I am quite happy if they can differentiate a noun from other word groups, which is okay. That is enough for them. I have to be aware that these students will never learn the four cases because they don’t need them” (KI6G, October, 2021).

Differentiation of assessment methods was also observed with regard to more use of group work with students with hearing impairments. The groups are structured with specific tasks allocated to individuals and with specific criteria and grade for performance measurement. Usually learning

development reports are written which provides an assessment of the learning in the group. The group work and learning development report happen once in a semester and focus more on demonstration of learning improvements rather than quality. This kind of assessment is quite appropriate for students with hearing impairments who may struggle with some learning aspects. To affirm this approach to assessment one of the key informants had this to share:

“I do have a lot of group works and then every student in such groups have specific tasks. One leads the group. One has to write the results down. One has to be the time-keeper. I usually have a criterion prior and grades. I write “learning-development-reports” to indicate how the groupwork went. This is once a school term and it can be highly individual there, because I have a subjective criterion especially considering the prior semester improvements rather than quality. In classes five, six, seven and eight, I get learning-development-reports. If the student with hearing impairment struggles with something, it is not that significant due to the lack of grading in school” (KI5G, October, 2021).

Consistent with the views of the teachers, all the students interviewed indicated that they do assignments in groups, and they are given more time during tests and examinations to ensure that they are able to complete their work. For example, one of the students had this to say:

“Sure, we do most of the assignments in groups and I feel more flexible. I like it because I am able to discuss with my friends. For exams, the teacher gives me more time if I speak with her that I need more time” KI11SG, October, 2021).

In support of group discussions, the views of the students further indicated that within the groups, the students with hearing impairments are able to discuss with the regular students, as one of the students had to say:

“When people are speaking, you can tell what they mean fairly well by looking carefully at the movement of the lips. In a classroom, I often know the topic of discussion from the teacher who writes it on the chalkboard and so I manage to follow up like that. It is not easy, but I have been doing it from primary school and I have become good at it. During group discussions, I sometimes surprise my friends with accurate responses to their statements, but it is because I have been watching their lips from an even closer distance than I do with the teacher who usually stands far from where I sit” (KI2SG, October, 2021).

The above view indicates the student’s skill and ability to communicate well with others in group settings. This wonderful talent for drawing meaning from observation was the result of years of

experience. It supports the view that learners with hearing impairments can interact with the regular students in group discussions to ensure active participation of the learners. Overall, the results indicate that teachers to a large extent use different teaching methods and materials to meet the needs of learners with hearing impairments, although its challenging, a reason why some teachers do not do the necessary differentiation.

4.4.2.2 Parents engagement with teachers

Most teachers indicated that parents largely engage with them although not directly in design of the curriculum, but they provide their views which help them to choose the most appropriate instruction methods for learners. Teachers indicated that they generally engage with parents through consultations about the attitudes of their children about their learning process in the schools. In view of most of the teachers interviewed, children find comfort sharing with their parents, the experiences about the instruction methods used by teachers, and how comfortable they find such methods. In turn, parents share the experiences with the teachers as a matter of feedback. Consequently, teachers are able modify the instruction methods to fit the disability and learning challenges of the students. One of the teachers had this to say:

“Yes, the parents engage a lot with me. I talk with them about progress of their children, the challenges and areas which can be improved. I really appreciate the parents for this, and it makes my work easy particularly when teaching students with hearing impairments whom I need to understand in order to be able to support them” (KII4, October, 2021).

The view of the above teacher clearly pointed to the engagement which most teachers have with the parents and its importance to the learning of the child with hearing impairments. Another teacher explained how important the engagement between a teacher and parent is highlighting that it is a means of getting the feelings and learning challenges of the students who find more comfort interacting with their parents. The teacher had this to say:

“I believe that parents are better positioned to understand their children despite the teachers’ continuous efforts to understand the learners too. For me to differentiate learners in a manner which effectively responds to their needs, I need clear understanding of the learners’ challenges which I can get from the parents” (KI2G, October, 2021).

In view of the teachers, parents’ engagement was considered a key approach to reflective teaching and learning on assumption that the engagement enables teachers to reflect on appropriateness and

effectiveness of their instructional methods from the perspective of the parents. One of the teachers had this to say:

“When I talk to the parents, I learn a lot from them, I am able to think on how I can design my lesson in a way which can address the challenges of the learners with hearing impairments. The parent will be able to tell me since some of the learners particularly those with hearing impairments do not want to talk a lot with me. But I know they are very free to talk with their parents” (KI2G, October, 2021).

Most of the above views of teachers indicate that the teachers engage with parents which is an important practice to improving the teaching of inclusive classes with learners of hearing impairments. In addition to this, some teachers provided insights into the mode of engagement they have with the parents, mainly through parents visits to the schools. One of the teachers had this to say:

“I mainly talk with parents when they visit the school to attend the school functions such as parties, plays, concerts and presentations. I am able to chat with the parents about the challenges and learning experiences of their children. They are able to exchange practices which can effectively connect their children with teachers” (KI3G, October, 2021).

In view of some of the teachers, their engagement with the parents is an opportunity for the parents to learn about the school and classroom environment and appreciate the initiatives which teachers propose to foster learning of their children. The parents get an opportunity to harmonize their thinking with the teachers regarding how best to handle the students in view of their hearing impairments disability and associated learning challenges. To affirm the significance of parents’ engagement with the teachers, one of the key informants had this to say:

“I generally like when families are coming to the schools. Relating to parties, school plays, all that, concerts, presentations all that meetings with parents. For example: before 5th grade starts, we have a “Schnupperparty” and all new parents are invited to get to know each other. My class and all parents from this class get a yellow button. That way they can identify each other. And the parents from the 6th grade are obligated to bake cakes and coffee and tea and so on. That way it is a bit like a small celebration to start school and getting to know each other. And that is beautiful, after the years there is, what we call “Bergfest”, where there is a celebration with children playing a concert and everybody comes and sees each other. It’s a very important practice which helps parents to share learning experiences and challenges of their children” (KI1G, October 2021).

To further justify the importance of engaging with parents with regard to understanding the learners, another key informant had this to share:

“It is very important to connect with the parents and always bring them in as well, because of course the other half of the day, they are with their parents or somehow in and out of school and so, then we get that we work on this together, because we can't deliver everything without the parents. We want to grow together, and we want to work together. By speaking to the parents, we are able to know how intensive this impairment is how much it stops the student from talking in order to find solutions on how we can teach them better” (KI2, October 2021).

Generally, key informant views revealed that some teachers engage with parents which helps them to better understand the learners and consequently design instruction methods to fit the learners in view of their abilities and challenges related with hearing impairments. This is consistent with the general view from previous studies which identify participation of parents in the learning process of their children as an important practice. The analysis provides an expanded view of parents' participation beyond curriculum design which most previous studies have identified. Specifically, findings from the study reveal that parents engage with teachers continuously about the learning process which gives them an opportunity to share the learning experiences and challenges of their children all through. The approaches used bring together parents of the different students and teachers can be highly credited as they do facilitate effective interactions. They are able to bring parents together and to share experiences among themselves in terms of how to deal with their children and effectively connect them with the teachers. I therefore conclude that teachers largely engage with parents which is good practise in promoting inclusive pedagogy.

4.4.2.3 Teacher-student relationships

Building a good teacher-student relationship is another important approach which was identified to be applied by teachers while dealing with students with hearing impairments. It was credited for its ability to bring students closer to the teachers, ensuring that the teachers identify the children's challenges and put in place measures to create comfort among learners. The need for a good teacher-student relationship was found mainly to stem the following around the school life of the learners with hearing impairments. First, they are likely to face or feel stigma and discrimination among their fellow learners which puts them into a state of misery and isolation with an ultimate negative impairment of their learning ability. Secondly, they are more likely to resist any special treatment they are given as many do not accept their status of hearing impairments. This is likely to constrain any efforts that a teacher would like to take to differentiate

these learners from others and tailor the instruction methods to their special needs. To confirm the challenge of stigma and isolation which the students with hearing impairments face, one of the key informants had this to say:

“I have a student with a hearing impairment. He got teased (while in front of the gymnasium) and had to wait. Bigger boys came and pushed him around and his implants fell to the floor. And then the boys out of my class interfered and told the pushers to go away. Which worked. And they helped him to implant them back and then informed the teachers” (KIIG, October, 2021).

Interviews with teachers revealed commendable practices by teachers in an attempt to relate with the learners. Teachers were found to keep a keen eye on the students with hearing impairments and to monitor how the student related to fellow students, and more importantly, how he is treated. In addition, the teachers were found to engage more regularly with the students with hearing impairments through talking to them about how they feel in order to understand their challenges as they are less likely to talk. One of the teachers had this to say:

“I relate with my students quite well. I am close to them. I am like a good friend to them. They share with me what they feel comfortable or uncomfortable with at school and at home. I do my best to treat them well and give them advice. I try to make them feel comfortable and sometimes if an issue concerns the parents at home, I promise them that I will speak to the parents” (KI4G, October, 2021).

The good relationship which teachers indicate to have with the students is also affirmed by the views of some of the students. One of them had this to say:

“Sometimes when my parents at home are not in good terms, I find this very stressful, and I have no one to share with. I usually share the problem to my teacher and the teacher will tell our headteacher and after my mom will be called by my teacher and the issue will be solved. I do find my teachers to be the mediators between my parents and me and this helps me to have hope that my teachers are always close to me whenever I find challenges with my parents” (KI2, October, 2021).

Good relationships and support were also found to be encouraged among students. Teachers encourage students with no disabilities to talk to the students with special needs as way of building within them, a sense of responsibility to accept, take care and support their fellow learners with hearing impairments. The students are encouraged to report to the teacher when their fellow

students do any acts against children with hearing impairments. For example, one of the teachers had this to say:

“I do encourage much solidarity care and support to students with special needs and particularly hearing impairments. We demand quite a lot from the regular students. We try to make students understand that having a hearing impairment or any disability is not by choice. He needs to be supported and assisted” (KI5, October, 2021).

To affirm the significance and approaches in building a good teacher-student relationship, some case scenarios were identified. One of the teachers for example, had this to say:

“I do keep in mind that he works with students that are easier to deal with. For example, we have been on a class trip and when he does not have his implants, he’s 100 % deaf. I told the students: You have to be careful. It was a house with different entrances and my room was at the very end. You have to take him along. So, I made sure that he was with the right students. And they do a great job. There were some students who tried to make fun of him but they became aware that that does not work in class” (KII, October, 2021).

Consistent with the views of the teachers, all the students interviewed indicated to have a good relationship with the teachers. They confirmed that indeed the teachers are very supportive. They continuously talk to them and ask what they need and whether they are okay. They also indicated that the teachers talk to the students with no hearing impairments to treat them well. For example, one student had this to say:

My teacher is very nice. I like her. She cares a lot about me and likes talking to me. (KI5, October, 2021)

Consistently, another student expressed appreciation of the teacher’s support, citing cases where the teacher is very protective of him when students want to bully him. He had this to say:

My teacher helps a lot, when students want to bully me. He talks to them and that’s very nice. (KI6SG, October, 2021)

Student interaction was reported to be enhanced through social events such as music concerts, tours, and playing cooperative games. Through these activities, students get to know each other, respect each other and that you, as a teacher, are there without prejudices. One of the respondents observed that if a teacher does not like a certain student, that that student becomes a victim of mobbing in 90 % of cases. So, the students take over viewpoints immediately.

Consistent with the views of the teachers regarding their good relationship with and support for the students with hearing impairment, one of the students interviewed appreciated the teachers' support. He indicated to have experienced a good relationship with the teachers who are always there to support them. One of the students had this to share:

“Anything else is pretty good. The teachers are pretty supportive, and they repeat the question again and they are very good too, and I, when I say I didn't hear it, because other people talk, they will just repeat it again. So that's pretty good” (KI2G, October, 2021).

Consistently, another student shared a view indicating that teachers were indeed supportive of the learners with hearing impairment.

“Students were not always helpful. I would ask someone to let me copy his notes as he listened from the teacher but this would not always end well. It had to be a friend to help. And so, the teachers identified those whom they thought were my friends and these were asked to sit with me in the middle so that I could copy the notes from one of the two sides just in case any of them had gone to the next page. This helped me very much and this is how I had studied for three years since the day I began my studies as a secondary school student” (KIISG, October, 2021).

The above view indicates that teachers make learners with hearing impairments sit in particular places in the classroom and take care of them to make sure that they sit next to friends who would assist them in various ways during the course of their learning experience. This was because not every student would be patient enough to help LHIs by repeating or clarifying certain details of what the teacher had taught or said.

Results generally showed that most teachers have a good relationship with the students which is an important approach to ensuring teachers get to know the students learning related challenges and put in place mechanisms to ensure they learn in a comfortable environment free from stigma and isolation. This is important to create comfort in the minds of the students and to be psychologically set to effectively learn alongside their fellow learners with or without disabilities. Continuous monitoring and speaking to the learners with hearing impairments is critical and so is engagement with other students to ensure they treat the disabled learners with acceptance and support rather than discrimination and bullying them. My conclusion is that teachers build a good

relationship with the students which is a good approach towards effective teaching and learning of students with hearing impairments.

4.4.2.4 Reflective and flexible teaching methods

Applying reflective and flexible teaching methods is also among the prominent approaches used by teachers as an approach to instruction which ensures effective learning among students with special needs, specifically those with hearing impairments. Flexibility is used to mean planning a choice of methods or skills set to be applied and choosing to apply those which best facilitate learning along the instruction process. This is contrary to the notion that inclusive pedagogy may require a specific lesson plan for learners with hearing impairment. Teachers indicated that they start off with a variety of methods and skill sets in their lesson plan and during the instruction process, which are subject to adjustment after a critical reflection on the learning outcomes. Flexibility also extends to the learning time accorded to the regular students and those with special needs or hearing impairments specifically.

The analysis identified most popularly applied flexibility approaches, for example, choosing between subjecting the student to reading scripts and watching films and listening to audio files, ensuring the students repeat the script reading and video watching, reducing the magnitude or complexity of the task, according students more time to handle the task. In addition, students are sometimes subjected to work with a partner or in a group such that they are able to interact with others in order to learn or find solutions to the learning tasks. These methods were derived from the views of the teachers. One of them had this to say:

“When teaching an inclusive class with students of hearing impairments, I try to be as reflective and flexible as I can. I keep switching between methods. Sometimes, I have to adjust the task in numbers of questions in the assignment. Sometimes I repeat what I have already taught if I realize the student did not understand well”. (KI3G, October, 2021).

Such flexibility was generally considered to foster learning for students with hearing impairments. A choice between these methods depends on the teacher’s knowledge about the learning process of the student, and which knowledge is gained through a reflective process during instruction. This means that teachers pay much attention to the students with hearing impairments in terms of their facial expressions and how they respond to questions. In an attempt to explain how important reflective and flexible teaching is, one of the teachers had this to say:

“Teaching an inclusive class is very challenging which needs much flexibility. Fine you can plan what to teach knowing that the students are on the same page with you. But when you do a recap at the beginning of the lesson students cannot answer some key questions meaning they missed something. At this point, you have to adjust the content for the day or the time allocated” (KI4G, October, 2021).

Some teachers were however concerned about whether the special needs students understand what is shared, what they feel and would want the teacher to do differently. A case in point is the experience which was shared by of the key informants who had this to say:

“Most of the colleagues will always, right, plan for the day or lesson plan on to the board. We always teach four different skill sets, so we have the reading, the listening, writing, mediation and speaking, of course, and we would always try to point out to the students so we're going to work on three of these skill sets. Depending on the specifics, we for example reduce the number of tasks or the complexity of the task, or try to get him some help with reading, understanding written texts. But what's missing always is grammar with him because he when he hears something he just missed half of the sentence when the information goes down” (KI3, October, 2021).

Another key informant had this to share in attesting their flexibility in instruction methods and materials:

“I try to be flexible when dealing with learners with hearing impairments. If he needs more time, it is given to him. And if he has some difficulties and writing and spelling and I find out that his grammar is totally confused, I don't make it to be part of the mark. I will make him watch films, listen to audio files, I go next door to let him listen to it again and then, when I see Okay, he doesn't get it, he gets the script again and reads along while hearing it. it's all about the words actually and the texts that he does not understand, and we let the student repeat things again and again. I make him to work with one partner, one on one, so that they can speak to each other” (KII4, October 2021).

Findings however revealed that flexibility necessitates much commitment and patience for the teachers to do repeated trials of various methods to facilitate learning of the students amidst their inabilities and challenges. However, while in some cases teaching students with hearing impairments was found to necessitate differentiated materials, this was not always the case. The general view was that some situations of hearing impairments do not require a separate curriculum from the regular one and neither does it require separate methods. Such differentiation demands a great deal of critical thinking on how things are done and thinking differently. It requires a lot of

research and development of materials which can fit the learners' inabilities. Reading the general experiences of the teachers interviewed, one of them had this to share:

"I did not have to change lesson plan to fit students with hearing impairments, I am afraid. Because I notice that this student I have in class-would be great if you could meet him. He is very smart. When we took over this class and we realized that many games are with language and hearing. So, we had to invent games. We really had to think a lot about what we do, think differently That was a big challenge for us. We researched a lot on the internet and looked for suitable exercises. It was big, quite a task" (KI1, October 2021).

The view of the above teacher clearly indicates that it requires flexible teaching which a teacher applies in order to address the learning challenges of the student with hearing impairments. It takes a lot of thinking in order to look for alternative methods or materials which can help a student with hearing impairments to learn. It also takes flexibility in adjusting what was originally planned to something new which could help the student.

"I didn't know anything about my student having hearing aid. I wanted to do is to understand how it works, so I invited his therapist, his expert to check the gadgets. I wanted to understand how he feels and what he hears, and I wanted the students to understand that too. So what this expert brought was some sort of headphones in which they could experience what the student hears, which was amazing, and I think it helped a bit for a short period of time. But it was not easy to keep that all together for a longer period of time. And to make, to arouse their understanding, again and again and again. So, they often times simply forgot how it works and how they need to deal with him and speak with them, but we always have to make sure that he gets everything that has spoken with the others as well" (KI3, October 2021).

The above key informant is another typical case of reflective thinking in an effort to understand the student's learning challenge and get the necessary support. The teacher in the above case had to engage an expert to help to understand the students better. This means sometimes a teacher may not have the necessary competence to undertake reflective thinking about the student and in this case support is critical. The view of the teacher also indicates that reflective teaching is a continuous process. Overall, the results showed that reflective and flexible teaching methods are used by many of the teachers although it is quite challenging as it necessitates a lot of time and is best suitable when there is an additional teacher to support the classroom session. My conclusion is that most teachers in secondary schools in Germany use reflexive and flexible teaching methods although it remains quite challenging to implement.

4.4.2.5 Collaborative or supportive teaching

Collaborative or teaching is another approach to inclusive pedagogy observed across the secondary schools in Germany. Teaching is conducted by two teachers for each session that is the main teacher and the sign language translator. This is what teachers considered as team teaching. One of the teachers had this to say in an attempt to demonstrate how team-teaching works:

“In my classes we are two teachers. One teacher speaks as another one tries to interpret to the students who cannot hear and moves around to try and support those who need support. The support teacher will also assist with the necessary drawings such as figures and pictures as the lessons goes on” (KI2G, October, 2022).

The above view generally indicates that collaborative teaching is supportive teaching where teachers perform different tasks as the class progresses. It is one way of effectively managing the class with students of hearing impairments who need a lot of support. Similarly, another teacher shared experience on how she finds collaborative teaching is important in managing a class.

“When you have students with special needs such as those with hearing impairments in my class. You need additional support because the students have a lot of learning challenges. You have to speak and need someone to assist with the translation. You have to group students and provide individual support. This is why in my classes I must have a supporting teacher what you may call collaborative teaching. Collaborative teaching was first introduced to help meet diverse learning needs in inclusive classrooms” (KI3G, October, 2021).

Similarly, another teacher had an interesting view to share in support of the practise of collaborative teaching drawing from her experience in doing so. The teacher presented a case for an outside activity:

“Me and another supportive teacher have to make sure that they also participate with the rest without being left behind. I do find that this has motivated them and they are very eager to learn from their colleagues. One day my student made me to think very critically when he asked me to interpret the whole activity which he was supposed to do. It was a long process that would delay the whole class. I had to put the whole information into audio

writing which he was able to read and interpret what the task was as the second teacher continued with the rest” (KI5G, October, 2021).

Another teacher shared a view regarding how collaborative teaching is about creating an active but also quiet classroom environment. With regard to assessment of learners who work faster than their classmates, she had this to say:

“When doing the assignments as a whole class, these students with hearing impairments need a quiet classroom environment of which sometimes is difficult to maintain without a second teacher behind to control the rest of the class since we have those students who complete earlier than the rest and they need more extra assignments which can make them busy so that they can keep quiet, this is only achieved when I have a second teacher to support me on that” (KI2G October, 2021).

The views generally indicate that teachers use collaborative teaching which is appreciated as it ensures that the teachers support each other in a challenging inclusive class environment. Through team teaching, colleagues with more teaching experience are able to share their experiences of team teaching. Team teaching also takes the form of using professionals or specialists out-sourced as and when needed to support the classes. They are very resourceful in giving support as well as provide counselling and feedback.

The views of many students interviewed also were consistent with the views of the teachers regarding supportive teaching particularly as to whether it is practised in class. The students generally indicated that in some classes they have two teachers, one supported by the other. They also indicated that one of the teachers helps them a lot with interpretation of the signs and moving around the class to check whether they need any support:

“Sure, we have two teachers in class many times. I like it because I can be able to ask when I want to know about something as another teacher is speaking” (KI3SG, October, 2021).

Another student shared an interesting experience of how supportive collaborative teaching was to him. He had this to say:

“You cannot miss anything when you have a good teacher assisting you during a lesson. Your fellow students cannot help you, well, because they have to listen and write to the teacher as you ask them for help. But this teacher who helps in class comes once in a very

long time. I think it is because she has to teach other classes too and so she cannot be with me all the time. I am very thankful to her for giving me some of her time and I always wish she comes more times” (KI4SG, October, 2021).

In conclusion, findings have revealed a variety of inclusive pedagogy practices with diversity across teachers and schools depend on capacities and constraints. Most common is the practice of differentiation of learners, teaching and assessment methods although with variation across teachers or schools. Some teachers differentiate learners by grouping together students with similar learning problems in terms of learning speed or mixing them with a very advanced learner. While others differentiate learners by providing extra lessons to students with hearing impairments. Differentiation for some teachers also took form of providing different weekly plans, different task complexities, as well as different materials such as scripts with reduced volumes of texts and use of more pictures than texts. For some teachers, it took a form of different seating arrangements, more time during examination, and waving off some of the aspects in assessment for learners with hearing impairments. Regarding parents’ support of learners, this is a practise which appears more prominent from the views of the teachers. Most teachers indicated that parents largely engage with them although not directly in design of the curriculum but through sharing with them views which help them to choose the most appropriate instruction methods for learners. Most teachers reported a good relationship with their students demonstrated through maintaining a keen eye on the students with hearing impairments, regular engagement with the learners of hearing impairments on their learning progress and challenges. The analysis also identifies most popularly applied flexibility approaches; for example, choosing between subjecting the student to reading scripts than watching films and listening to audio files, ensuring the students repeat the script reading and video watching, reducing the magnitude or complexity of the task, and according to students more time to handle the task. Finally, the analysis reveals collaborative teaching as another practice of inclusive pedagogy used by many of the teachers also known as team teaching or supportive teaching. It is one way of effectively managing the class with students of hearing impairments who need a lot of support while maintaining an active classroom environment.

4.4.3 Findings: Inclusive pedagogy challenges in secondary school in Germany

This section presents inclusive pedagogy challenges derived from largely analysis of key informant views and to a lesser extent, the key observations by the researcher. The analysis revealed three major thematic areas of inclusive pedagogy challenges which have been presented

herein. The challenges mainly relate to the school and the teachers. The school related challenges include class size and classroom structures while the teacher related challenges relate to the teacher competence in special needs education.

4.4.3.1 Class size

In some schools, the size of the class in terms of number of students were big which undermines effective teaching regarding the application of inclusive pedagogy practices that would be effective. In some schools the classes ranged from 30 to 35 which in relation to the teacher undermines productivity of teachers and students. In a big class environment, teachers are unable to effectively provide feedback and have one-on-one interaction with the students. Teachers' views further indicated that a class range of less than 25 students, in a setting with two teachers, would be ideal for an inclusive class particularly with regard to students with hearing impairments. One of the students had this to share:

“By the way better for me to have a few people than I have. It’s not really good to have many in class. For teachers, they cannot even know whether I am working or not. I think small classrooms are really good” (KI4SG, October, 2021).

To further affirm the challenges of big classes, one the teachers had this to share:

“In my class, I have a size of 30 other secondary learners, sometimes the class goes up to 34 or 35 students, and this is of course not very productive in my case in this inclusive class and every student who has an impairment compounds the trouble. But for me, I have a new 5th grade and they have so many smaller, but in their minds significant, things that I cannot handle. I have 29 students now and think that that is way too much. They have so many things to talk about. What happens at home, what happens on their way to school. And what is about their pets. That is too much. We have already heard that one cannot repeat a school year here. The focus is too much on inclusion and not on the fact that this impairment is fine, that it is there” (KI2G, October, 2021).

However, some of the teachers did not consider class size a big problem. They indicated that to have few students in the whole class and with very few students of hearing impairments was really not a big issue. One of the teachers had this to say:

“Yeah, classroom size not a problem in this school but I think it could be in other schools. I have only 15 students in the whole class and only two have a hearing impairment. I don’t really find it a problem handling the class” (KI2G, October, 2021).

The above views generally indicate that in some schools the number of students in the classrooms are too many, while in some classes the students are few. The high number students and particularly those with hearing impairments makes it difficult to effectively teach an inclusive class, particularly considering that students with hearing impairments need more attention, individualised support, as well as reflective and flexible teaching methods.

4.4.3.2 Classroom structures

Regarding classroom structures, key informant views revealed that in some of the schools or classes, the structures within which children with hearing impairments were taught were inadequate and some were below standard and which do not offer a comfortable learning environment with good acoustics for students with hearing impairments. Some classrooms are not tailored to the needs of the students with hearing impairments. For example, one of the key informants had this to say in an attempt to paint a clear picture of the inappropriate classroom structures:

“In this school, we do not have a classroom facility which is customized to accommodate students with hearing impairments. As you look around and see, we do not have dampen ceilings. So, when I am teaching I get a lot of sound echoes. This is not a good environment for students with hearing impairments” (KI1G, October, 2021).

In another school, the classroom was not properly well equipped to accommodate learners with hearing impairments. Many schools had one classroom which makes it impossible to accommodate students when they progressed to another level. This situation undermines students learning. The buildings had echoes due to lack of insulation in the ceiling:

“I think it's very important when they renovate the buildings that they see that the echo is reduced because we used to have a very, very loud building because they didn't have any insulation in the ceiling, so we could hear the students from the other classroom. And the radiators were like a loudspeaker and that was very hard, because you, for instance, if you had a writing phase and you would hear the students talking from the other room there was very irritating” (KI2, October, 2021).

The results generally show that in many of the secondary schools, the classroom environment is not conducive for effective teaching and learning which negatively affects inclusive pedagogy. It can therefore be concluded that the classroom environment characterized by high number of students and inappropriate classroom structures in many of the secondary schools in Germany remain one of the challenges to inclusive pedagogy.

4.4.3.3 Teacher competence

The analysis of teacher's views related to competencies revealed a critical challenge of inadequate teacher training in special needs education which was reported by many of the teachers. This limits their practical knowledge and skills to effectively design and implement inclusive pedagogy methodologies. One of the key informants had this to say:

“I am teacher for high schools. I am running on experience and intuition, basically, learning by doing. Well, there's nothing more I can say about this. At the moment, no well, there are advanced courses for inclusion on a general level, designed very broadly but I did not participate in these. They are only isolated and only take place every two years” (KI3, October, 2021).

The above view indicates that some schools are less likely to provide teachers with training in order to build their skills in inclusive education. Where the training is provided, it is inadequate. Training in special needs education is important given that some teachers are likely to join teaching without prior exposure to the inclusive pedagogy approaches in their teacher training programme. This is a view which was also shared by one of the teachers who had this to say:

I am a professional teacher, yes, but in my professional training I was not introduced to special needs education. This is an area which in my view most teachers are lacking. Training is an option unless otherwise I have to continue learning on the job through my experience in interacting with the students” (KI4, October, 2021).

The above view does not only emphasize teachers' lack of training but also opens into a possibility that teachers can gain skills in handling special needs students from experience. However, as to whether teachers have experience in special needs education, mixed views were noted. There are some teachers who have gained experience, many of them indicated to have teaching experience, but with no experience of handling special needs students. One of the teachers had this to share:

“Yes, I have been teaching for like over ten years, but I have not always taught classes with special needs students, particularly hearing impairments. In many of my classes, I have not

had students with hearing impairments. So, you could say I am an experienced teacher but still learning and I would say need training in how to handle students with hearing impairments” (KI5G, October 2021).

Another view suggested that even though teachers may have experience, inclusive pedagogy is quite a challenging concept and that teachers need continuous training to be able to learn new approaches and practices which are proved to be more effective. This derived from the views of all key informants interviewed, one of whom had this to say:

“Different schools and teachers continue to think more critically on how to best teach special needs students in an inclusive classroom setting. Similarly, research is being carried out and more ideas keep coming on board. It is therefore important that as a teacher, I am continuously supported to attend conferences and seminars where inclusive pedagogy issues and approaches are presented such that I am able to keep learning some new things. However, the support is not adequate” (KI2G, October, 2021).

The above findings generally indicate challenges in the classroom environment in terms of big class size and high number of students with hearing impairments which undermines effective teaching with regard to application of inclusive pedagogy practices to match the special needs of students with hearing impairments. In some schools or classes, the structures either inadequate or inappropriate to offer an effective learning environment for students with hearing impairments. Regarding teachers’ competency, some teachers lack skills in special needs education mainly due to limited training opportunities and inadequate experience in teaching special needs students and particularly those with hearing impairments.

4.5 A comparative analysis and discussion of inclusive pedagogy approaches in Uganda and Germany

The study identified a variety of inclusive pedagogy approaches used in the secondary schools in Uganda and Germany. From a critical analysis of the practices, I derive six categories each with a number of practices. The approaches are (i) differentiation of learners, instruction methods and materials, (ii) use of group work, progressive and multi-dimensional approach to assessment, (iii) engagement of parents, students and teachers, (iv) use of reflective and flexible teaching, (v) building a good teacher-student relationship, and (vi) use of collaborative teaching.

Arising from the comparative analysis, the study observes that secondary schools in Germany have adopted more approaches and diversified practices to inclusive pedagogy than in Uganda. The differences largely reflect the challenges facing inclusive pedagogy approaches which are

presented in the next section. The analysis also identifies the added value of the approaches and practices to ensuring effective pedagogy in an inclusive class setting in the context of students with hearing impairments. A summary of these findings from the comparative analysis of the inclusive pedagogy practices across the four secondary schools in Uganda and Germany is provided in table below

Table 4.5: Inclusive pedagogy approaches in secondary schools in Uganda and Germany

Approach	Key elements	Practices	Where applied	Value added
1. Differentiation of learners, instruction methods and materials	Learners	Learners differentiated by learning ability and challenges.	Uganda Germany	Able to match teaching methods, materials with learners needs and challenges
	Communication methods	Sign language, graphic & picture demonstrations used for learners with HI	Uganda Germany	Learners are able to make use of the sense of sight to see the learning content
	Communication practices	Slow speed, more time, and engagement for students with HI	Uganda Germany	Caters for time lags due to difficulty in communication between the teacher and students when providing support during the assignment
	Learners' motivation practices	Music and dance	Uganda Germany	Unlocks the morale of learners and connection with fellow learners
	Instructional materials	Flip charts, chalk/white board, music, dance recordings, graphics and pictures	Uganda Germany	Leaners able to visualize the teaching content
2. Group work, progressive and multi-dimensional approach to assessment	Group work	Learners with HIs paired with those without HIs with higher learning ability Teachers' close monitoring of group work and ensuring students with HI play an active role	Uganda Germany	Slow learners able to be supported by the fast learners
	Progressive & multi-dimension assessment	-Assessing daily group work tasks in addition to mid-term and end exams -Consideration to participation in co-curriculum activities e.g. Music, dance, sports, games	Uganda, Germany	Taps into the diverse abilities and skills of learners to make a more objective assessment of learning outcome Compensates for inabilities of students in

		Assessment done at group rather than individual level		individual tasks and mainly academics
3. Parent-student and teacher engagement	Parents-students interaction and support	Parent tracks experiences and views of the student on their learning progress and challenges. This happens through one-on-one talks and parent support to the student on remedial assignments	Germany	- Supports flexible & reflective teaching - Supports decision making on differentiation of learners, methods and materials
	Parent-teacher interaction	Teacher tracking of experiences, views of parents on challenges and progress of the students' learning. This is done through school visits, attending school functions, e.g. parties, plays, concerts	Germany	- Ensures harmonization of communication and students handling methods - Supports flexible & reflective teaching - Supports decision making on differentiation of learners, methods and materials
4. Reflective and flexible teaching	A critical reflection and flexibility in curriculum design, lesson planning and instruction	- Planning to use diverse methods & materials - Continuous review of the learning outcomes - Adjusting methods & materials to fit emerging learning challenges Adjusting learning schedule e.g. content and time - Adjusting assessment criteria e.g. Reducing task complexity or allowing more task time	Germany	- Addresses the unforeseeable uncertainties and challenges to ensure effective teaching and learning. - Informs decisions on differentiation of learners, methods and materials
5. Building a good teacher-student relationship	Teacher-student interaction and teacher support to students	One-on-one interaction Socialization activities e.g. tours, concerts, games.	Germany	-Identify individual students' learning needs and challenges

		Use of students to support other students		- Informs decisions on differentiation of learners, methods and materials -Tailor academic & psycho-social support to individual learners -Address stigma and discrimination challenges among students with HIs
6. Collaborative teaching	Joint teacher support to the instruction process	-Using para educators, support teacher not necessarily an interpreter -Using teacher interpreters in inclusive classes	Germany	-Creates synergies in teaching competencies for effective teaching and learning -Addresses competence gaps among teachers

Table 4.5. above identifies a variety of inclusive pedagogy approaches which were identified and applied in secondary schools in Uganda and Germany. Among the inclusive pedagogy practices identified include using a slow speed of instruction and spending more time with the learners to effectively deliver the curriculum content and foster learning, use of differentiated communication approaches such as sign language blended with use of graphic demonstrations for learners with hearing impairments and use of differentiated assessment methods including a multi-dimensional approach to assessment, group work assessment by grouping learners with hearing impairments with the regular students when doing assignments, reducing number of questions and increasing time for students with hearing impairments during tests and examinations. Notably, there are some similarities and differences across the Uganda and Germany cases which have been presented in the sub-sections below.

4.5.1 Differentiation of learners, instruction methods, and materials

In both Uganda and German secondary schools, the approach of differentiation of learners, instruction methods, and materials were found to be applied. Learners were found to be differentiated by learning ability and challenges. The slower learners, usually students with hearing impairments, were given consideration in terms of teaching methods and materials. This was largely at the stage of curriculum design and during classroom instruction and assessment.

Regarding classroom instruction or teaching, communication methods and practices were differentiated to fit the challenges inherent learners with hearing impairments. In both countries, sign language, graphic and picture demonstrations were used for learners with hearing impairments. The methods enable learners with hearing impairments to make use of the sense of sight to see the learning content. Teachers considered communicating with students with hearing impairments rather slowly and longer than they talked to the regular students. This is because of the lapse in interpretations. Besides, they consider some students with hearing impairments to have a low learning ability and that they should be guided and facilitated to learn at a slower pace while spending more time with them. Teachers also adopted motivating practices such as music, dance and drama to attract the attention of students with hearing impairments who are more likely to get easily bored and tired with the instruction process characterized by difficulty in catching up with the interpretations of the sign language. Such practices unlock the learners' morale and connection helps them to get connected with fellow learners and the teacher.

4.5.2 Use of group work, progressive and multi-dimensional approach to assessment

As an aspect of assessment of learning outcomes, group work, a progressive and multi-dimensional approach to assessment was found to be applied in secondary schools in Uganda and Germany. This approach bears two critical elements that is assessing learners through group work tasks rather than individual level tasks, using progressive assessment by considering learners' performance in the daily routine assignments in addition to the formal examinations and, integrating learners' performance in co-curricular activities with academic performance during performance assessment in addition Progressive assessment enables the assessment process to tap into the diverse abilities and skills of learners with hearing impairments to make a more objective assessment of the learning outcome. Regarding group work, learners with hearing impairments are paired with the regular students of higher learning ability. The teacher closely monitors the undertaking of group work and ensures students with hearing impairments play an active role as well as the regular students. This assessment modality ensures that children with hearing impairments get support from the regular students to improve their learning outcomes.

4.5.3 Parent, student and teacher engagement

Specific to Germany, the approach of parents, students and teacher' engagement, unlike in Uganda, teachers interact a lot with parents. The parents also interact a lot with their children and greatly support them on their learning process. In terms of practices, they usually track experiences

and views of the student on their learning progress and challenges. This happens through one-on-one talks and through parent support of the student on remedial assignments. On the other hand, the teacher usually tracks experiences and views of parents on challenges and progress of the students' learning. The lived experience among teachers is that students find more comfort and are more likely to express freely their learning challenges and needs with their parents than the teachers. This is done through, school visits, attending school functions e.g. parties, plays and concerts. Such interaction is quite healthy as it supports flexible and reflective teaching. In addition, it informs teachers on how to meaningfully differentiate learners, methods and materials to ensure effective teaching in the context of inclusive classes structured with students of hearing impairments alongside the regular students.

The practice of parents' engagement with their children and teachers can therefore be considered important not only to secondary schools in Germany but also in Uganda and probably other countries, in view of its potential to inform.

4.5.4 Use of reflective and flexible teaching approach

Specific to secondary schools in Germany unlike Uganda, reflective and flexible teaching was used. Flexible teaching is based in the belief that teaching and learning is likely to face challenges and needs which cannot be adequately predicted at curriculum design and lesson planning. Rather, a critical reflection on the learning process and adjusting the instruction methods, practices and target learning outcomes is critical. Hence, reflective and flexible teaching in schools was found to be applied and characterized by the following practices. It involves planning to use diverse methods and materials, continuous review of the learning outcomes, adjusting methods and materials to fit emerging learning challenges, adjusting the learning schedule such as content and duration as well as adjusting assessment criteria either by reducing task complexity or allowing more time for assignments. Reflective and flexible teaching was credited for its ability to address the unforeseeable uncertainties and challenges to ensure effective teaching and learning. It informs decisions on differentiation of learners, methods and materials. In Uganda however, reflective and flexible teaching practices would be quite appropriate to foster inclusive pedagogy but were practiced due to the parents and school related challenges which will be discussed in the next section.

4.5.5 Building a good teacher-student relationship

In addition, secondary schools in Germany unlike in Uganda, have teachers focused on building a good teacher-student relationship as an approach towards the realization of inclusive pedagogy outcomes. Teachers pursue this approach through their regular interactions with and support to students. As a practice, teachers organize socialization activities such as tours, concerts, games. These socialization or co-curricular events are quite exciting to students which gives them an opportunity to interact with students. The interactions are also an opportunity for students to interact freely. Through the interactions or engagement, teachers are able to identify individual students' learning needs and challenges as well as inform their decisions on differentiation of learners, methods and materials. With the views of students, teachers are able to identify the kind of academic and psycho-social support to be tailored to the individual learners. Through student interactions and socialization, those with hearing impairments are able to integrate with the regular students hence addressing stigma and discrimination they often face. In Uganda however, such interactions would be quite appropriate to foster inclusive pedagogy but were found non-existent due to the parents and school related challenges which will be discussed in the next section.

4.5.6 Use of collaborative teaching

Finally, collaborative teaching or joint teacher support to the instruction process is another inclusive pedagogy approach used by teachers in inclusive schools specifically in Germany secondary schools. This approach, though perceived by teachers in Uganda with potential to foster inclusive pedagogy, was yet to be practiced for some reasons related to inadequate teachers with relevant expertise in inclusive teaching methodologies biased to students with special needs. In the Germany case, two teachers were averagely used per classroom session. One of the teachers does the instruction or delivery of the content as the other monitors the students with hearing impairments and helps them with the necessary support to ensure they are aligned with what the teacher is saying. The additional teachers also help in interpretation of the oral to sign language for students who find difficulty catching up with what the main teacher is sharing. This collaborative approach to teaching helps to create synergies in teaching competencies for effective teaching and learning. Teachers are able to complement each other towards improved learning in the context of an inclusive class with students of hearing impairment. In contrast, only one teacher is used in Uganda although collaborative teaching would be quite beneficial amidst the relatively higher number of students and specifically those with hearing impairment.

Overall, a variety of approaches were found to be adopted in curriculum design, lesson planning, classroom instruction and assessment in a bid to effectively ensure inclusive pedagogy in the context of inclusive secondary schools with learners with hearing impairments in Uganda and Germany. The approaches are implemented through a variety of practices which have been highlighted in the above analysis. Although there are noticeable similarities in approaches adopted in Uganda and Germany, significant differences exist. In both Uganda and Germany, the approach of differentiation of learners, instruction methods and materials was found to be applied. Similarly, group work, a progressive and multi-dimensional approach to assessment is used as an aspect of assessment of learning outcomes. However, Germany is richer in inclusive pedagogy practices than Uganda. Unlike in Uganda inclusive pedagogy practices in Germany features an approach of regular engagement of parents with their children/students and teachers, building a good teacher-student relationship through their regular interactions with and support to students as well as collaborative teaching or joint teacher support to the instruction process.

4.6 A comparative analysis and discussion of the challenges to implementation of inclusive pedagogy

This section presents a comparative analysis and discussion of the challenges to implementation of inclusive pedagogy as derived from the detailed analysis. The section is structured into three subsections: School related challenges, Teachers related challenges and Parent related challenges

Table 4.6: Inclusive pedagogy challenges in secondary schools in Uganda and Germany

Challenges	Elements	Case
School related		
	Inappropriate curriculum design	Uganda, Germany
	Limited incentives or motivation in special needs teaching	Uganda, Germany
	Inadequate teachers to match the higher number of students and those with His	Uganda
	Inadequate classroom structures and facilities	Uganda, Germany
	Unconducive classroom environment	Uganda Germany
	Inadequate funding	Uganda Germany
	Limited emphasis on inclusive pedagogy at recruitment of teachers	Uganda Germany

	Limited access to training opportunities at school level	Uganda Germany
Teacher related	Limited competence in terms of skills and experience in inclusive pedagogical methodologies	Uganda Germany
	Difficulty in interpreting words to sign language translations	Uganda
	Difficulty in managing students with diverse special needs	Uganda
	Low motivation or commitment to special needs students	Uganda, Germany
Parent related	Limited support to students both finically and psycho-socially which is linked with students' absenteeism	Uganda
	Limited parents' engagement with teachers	Uganda

Table 4.6 identifies the inclusive pedagogy challenges in secondary schools in Uganda and Germany. As indicated in the three broad categories in the table, a detailed comparative analysis of these challenges is presented in sub-sections 4.6.1 to 4.6.3

4.6.1 School related challenges

In both Uganda and Germany secondary schools the curriculum for all secondary levels is not differentiated in terms of content, teaching duration, and assessment criteria. In both countries, the teaching for regular students and those with special needs is guided by the same curriculum. For example, in Germany, students learn for 30 periods per week and the compulsory courses are designed uniformly for all students. There is no differentiated assessment within the mainstream school and the inclusive schools. The time allocated for special needs teaching does not take into consideration the number of students with special needs in a class. For example, for basic special needs education for secondary schools a three-form entry school receives 45 minutes of a special needs teachers regardless of the actual number of students with special needs. This curriculum design does not foster learning of students with hearing impairments.

In both Uganda and Germany, there is no provision or motivation benefit for extra workload associated with teaching students with special needs in an inclusive setting, yet it takes more time and extra effort to do so. In both cases, teachers of inclusive classes had a common view that they should be motivated by giving them extra time and opportunities to attend different workshops and more time to prepare than teachers of non-inclusive classes, and also be motivated through compensation for their extra time and effort. The teachers expressed the belief that the government should be able to give special consideration towards the motivation of teachers in inclusive classes.

They consider government to have the financial capacity to do so, but note that the governments seems to lack commitment to plan for these issues.

Unlike in Germany, the schools in Uganda have inadequate teachers to match the high number of students and those with hearing impairments. This is mainly caused by the increasing number of special needs students and limited number of teachers able to meet the challenges of teaching inclusive classes. The high student to teacher ratio undermines the capacity of the teachers to effectively give students enough time by interacting with them through a reflective and flexible teaching approach. It also undermines the capacity of teachers to interact with parents. For example, in Uganda secondary schools the number of students in an inclusive class was observed to usually range between 30-35 and sometimes even up to 50 in extreme cases. Notably, across all the classes, there is no provision for more than one teacher who has to teach, interpret, support students with hearing impairments, as well as manage the entire classroom environment. This is what one of the teachers called a “joke” in promoting inclusive pedagogy. In contrast the number of students with special needs in Germany is relatively lower. Besides, students with hearing impairments are identified at the early stages and placed in special needs schools (Förderschule) considering available capacity.

In both Uganda and Germany, secondary schools have inadequate classroom structures and facilities which can accommodate students in an inclusive setting. This is caused by the relatively high number of students with special needs and the low investment in constructing additional classroom structures amidst the increasing number of students with special needs. In addition, the classroom environment leaves a lot to be desired. Specifically, the existing classroom structures are not well prepared to effectively handle special needs students specifically those with hearing impairments. In Germany for example, there was general view that since the introduction of inclusive education, the classrooms have not been restructured to accommodate learners with different special needs. They lack curtains to reflect light in classrooms and they lack ceiling for dampening echoes. In Uganda, the situation is worse, in addition to these challenges, observed in Germany, more challenges exist in Uganda including, poor classroom structures and congested classroom environment due to the high student numbers. Besides, the windows are made of either wood or transparent glass materials and the entire classroom environment lacks air conditioning which creates an uncomfortable teaching and learning environment.

Underlying most of the school related challenges and other challenges related with the teachers, is the issue of inadequate funding. In Uganda, the problem of inadequate funding is linked with very low funding to the schools from the central government, a challenge which is attributed to low revenue collections from payment of school fees. It is worth noting that the school's finance, most of the expenditures with remittances from the central government which is allocated to the schools, is in line with the revenue collections from the schools. This remains the main reason why the schools are unable to invest in expanding the school space, establishing new classroom structures, procuring facilities and equipment to support inclusive teaching and learning.

In both Uganda and Germany, management of teachers' competence in inclusive pedagogy was found to be inadequate. This is about recruitment of teachers and their capacity building opportunities. Regarding recruitment, recruitment criteria for assessment of teachers' competencies was reported to be inadequate to support selection of teachers with the desired competencies to effectively teach an inclusive class. To be more specific, the skills requirements does not take into account the skills required of a teacher for special needs. The requirements were more generic to the teaching competencies of a teacher and specific to the subjects of interest with specificity on the desired skills and experience for handling students with special needs. The general view of the teachers is that many of them lack the desired competencies at the time of recruitment. They learn while on the job. In addition, secondary school teachers in both Uganda and Germany did not provide teachers with training opportunities despite their low levels of competence of skills in inclusive pedagogy. In rare cases, teachers look out for training and facilitate their own attendance.

4.6.2 Teacher related challenges

In both Uganda and Germany, teachers' competence in inclusive pedagogy was found to be inadequate. This was mainly attributed to the challenges and the gaps in recruitment as well as capacity building for teachers. Moreover, the training background of most teachers lacked strong foundations in inclusive pedagogy and many join inclusive schools without prior interface with students with special needs or hearing impairment.

Unlike in Germany, inclusive pedagogy in the secondary schools in Uganda is also constrained by difficulty of teachers to manage students with diverse disabilities which can also be linked with their inadequate competence in inclusive pedagogy for special needs education. The challenges include diversity in students' disabilities. In view of teaching students with hearing impairments,

in Uganda students also have other disabilities, such as “Dysarthria” or inability to speak, which is more difficult to deal with. Others are completely deaf.

In both Uganda and Germany, teachers of inclusive classes in secondary schools were inadequately motivated although this challenge is more pronounced in Uganda. This is mainly attributed to the relatively lower support given to the teachers in Uganda than in Germany. Specifically, teachers in Uganda are paid poorly compared to those in Germany yet they work under a more unfavourable environment characterized. Their relatively higher motivation and commitment of teachers in Germany is indicated by their effort to use more diverse pedagogy practice both in and outside class. Unlike in Uganda, teachers in inclusive schools in Germany put in more time and effort to interact with students and parents as they practice reflexive and flexible teaching methods. They invest considerably more time and effort to build a good student-teacher relationship. In contrast, teachers in Uganda notwithstanding the contextual challenges within which they operate, they have a very weak linkage with the students and parents and have a lot of practices they would but are yet to try out. For example, they have an opportunity to try an option of creating out-door classes and activities in the face of limited classroom space.

4.6.3 Parent related challenges

Unlike in Germany, inclusive pedagogy in Uganda is constrained by parent related challenges. The general view is that parents are not adequately supportive of their students who desperately need the support by virtue of their learning challenges and needs. The limited support is three-fold. First, they do not interact with their children as a matter of follow-up on their learning progress. Secondly, they are reluctant to provide the necessary financial support in terms of paying the already subsidized school fees and providing the scholastic materials. In addition, they do not interact with their students to provide them the much-needed psycho-social support, yet their children are likely to face a lot of stigma and discrimination at school. What emerged as a common argument in account of the limited support is ‘lost hope’ among parents when thinking about life after school for their children with special needs. In their view, their children are less likely to get employment or even further their education career to university or college in an environment they consider providing limited opportunities. The employers are reluctant to meet the standards of working with employees with disabilities and hence less likely to consider them. Besides, vocational skilling which government has put much emphasis on is yet to provide opportunities for people with disabilities. In contrast, the school and employment systems in Germany are more

considerate and accommodative of people with special needs. In fact, such people are given higher priority and supported to effectively work.

Limited parent support of their children in terms of timely payment of school fees and psycho-social support was associated with absenteeism, as students in Uganda are more likely to absent themselves from school partly due to the challenging school environment, stigma and discrimination among their fellow students. Even those who are eager to study are let down by their parents who do not show much interest in supporting them. They get demoralized when frequently chased away from schools due to lack of school fees contribution from their parents. To the worst, they drop-out from school. Notably, the general experience of teachers is that students with hearing impairments need more attention and time, more diverse methodological approaches and materials, yet very challenging for teachers to develop and utilize. The problem gets worse when absenteeism is factored in. Hence, teachers find it quite challenging to effectively teach such students.

In contrast, students' absenteeism did not emerge as an issue in Germany mainly because of the policy that demands parents to support their children with special needs and ensure their compliance with school attendance schedules. Indeed, the experience of the teachers engaged in this study indicated that the parents are commendably supportive of their children. Besides that, the experience of teachers generally pointed to the view that the state of hearing impairment among learners in Germany is not as complicated since they are assisted with hearing Aids and there are not many cases of multiple disabilities.

Arising from the above comparative analysis, it can be observed that the school, teacher and parent related challenges undermine implementation of inclusive pedagogy in the secondary school in Uganda, as indicated in Figure 4.2. The figure can be used to illustrate the challenges of implementation of inclusive pedagogy in Germany with exception of the parent related challenges which were not observed in the Germany context. Also noticeable in the figure is a linkage between the school and teacher related challenges.

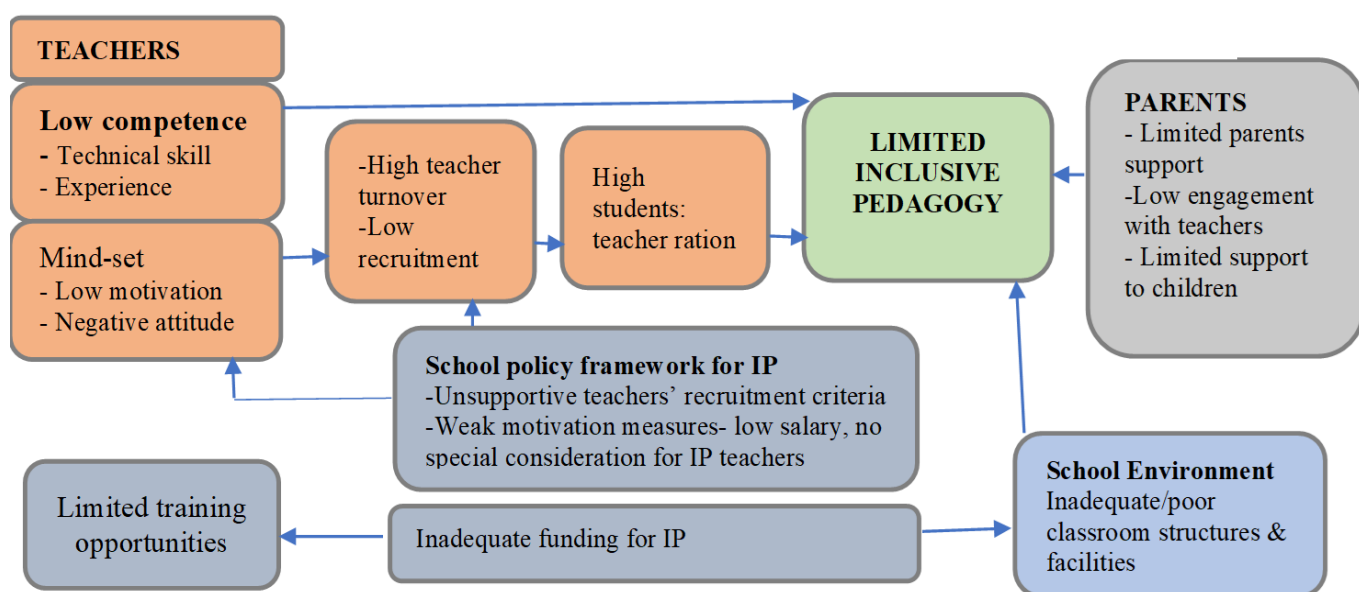


Figure 4.2: A conceptual view of the school, teacher and parent related challenges to implementation of inclusive pedagogy

Source: Derived from analysis of inclusive pedagogy challenges in Uganda and Germany secondary schools.

In conclusion and as summarized in Figure 4.4, the analysis has identified the inclusive pedagogy approaches and challenges in both Uganda and Germany country cases. In Uganda there are few approaches and many challenges identified. The approaches include differentiation of learners, use of diverse and differentiated communication methods as well as diverse and differentiated teaching materials. Learners' assessment methods include grouping of learners when doing assessment, progressive assessment and use of a multi-dimensional approach to assessment. The inclusive pedagogy challenges in Uganda relate to the school, the teacher, parents and students while in Germany, the challenges relate to the school and the teachers. School related challenges include undifferentiated curriculum design, limited incentives or motivation in special needs students, high student to teacher ratio, limited funding and inadequate classroom structures and facilities. Teacher related challenges include their limited competence in terms of skills and experience in inclusive pedagogical methodologies, their low competence and limited access to training opportunities. Specifically, in Uganda, teachers related challenges also include the difficulty in managing students with diverse special needs as well as difficulty in interpreting the sign language of

students. Further specific to the schools in Uganda are parent related challenges which include their limited support to students, both financially and psycho-socially which was associated with high absenteeism of their children from school.

4.7 Discussion: Relating the results of inclusive pedagogy approaches to theoretical and empirical perspectives

This section discusses the results relating the key results on inclusive pedagogy approaches to the existing empirical and theoretical perspectives. The discussions include a) Differentiation of learners instruction methods and materials, b) Use of group work, progressive and multi-dimensional approach to assessment c) Parents, students and teachers' engagement d) Use of a reflective and flexible teaching approach e) Building a good teacher-student relationship, and f) Use of collaborative teaching.

4.7.1 Differentiation of learners, instruction methods and materials

In both Uganda and German secondary schools, the approach of differentiation of learners, instruction methods and materials were found to be applied. The practice of differentiation of learners, instruction methods and materials identified in both Uganda and Germany is consistent with the findings in a variety of previous studies such as Li et al. (2022) who analysed the inclusive pedagogy practices in regular and special classes in Chinese regular primary schools and Lindner et al. (2021) who analysed the inclusive teaching approaches in regular, inclusive and special classrooms in Germany. Although Lindner et al. (2021) observed that differentiation is often not done in Germany schools, the current study in the context of secondary schools in Lower Saxony has revealed positive results regarding the practice of differentiation. This means the use of differentiation as an inclusive pedagogy approach is likely to vary by state and probably by school. The significance of differentiation in addressing the specific learning needs and challenges of students is consistent with the argument by Suprayogi et al. (2017) and Parsons et al. (2018) who consider differentiation of learners as an effective inclusive pedagogy practice as it helps teachers to prepare teaching and learning content which matches the learner's strength and weaknesses towards improved learning in the context of learners with varying abilities. The practice of differentiation as well as its significance to inclusive pedagogy identified in this study therefore suggest the need for all schools to adopt this approach for success of inclusive education.

The practise of differentiation of learners, instruction methods and materials is consistent with theoretical assumptions of the theory of inclusive special education which identifies the need for

pedagogical approaches which differentiate instructional methods and materials focusing on student strengths and helping teachers adapt to different instructional needs. Similarly, the practice of differentiation of instructional materials is consistent with the theoretical view of the Universal Design for Learning theory (1980s) which advocates for pedagogical design tailored to the learners' needs and abilities. To this end and consistent with the findings of the current study, UDL identifies the need for pedagogical approaches to use multiple methods of instruction including discussion, readings, digital texts, and multimodal presentations to cater for varied learners' capabilities and needs.

4.7.2 Use of group work, progressive and multi-dimensional approach to assessment

As an aspect of assessment of learning outcomes, group work, progressive and multi-dimensional approach to assessment was found to be applied in secondary schools in Uganda and Germany. This approach bears two critical elements that is assessing learners through group work tasks rather than individual level tasks, using progressive assessment. These findings regarding use of differentiated assessment methods in inclusive classes in the context of Uganda and Germany is consistent with previous findings such as those of Lindner and Schwab (2020) and Nusser and Gehrler (2020). These studies generally identify the use of differentiated assessment methods as a key practice in inclusive pedagogy. In view of Anahuja et al. (2020) the assessment needs to be tailored to the assessment of learners with their special learning needs and challenges. The need for differentiation of assessment methods in an inclusive classroom setting and the underlying argument is consistent with the findings in this study regarding the differentiated assessment methods adopted in the secondary schools in Uganda and Germany. As identified in the current study in Uganda and Germany, these previous studies have argued that differentiation of assessment methods ensures that learners with special needs are able to be fairly assessed in view of their learning challenges. However, previous studies did not open clear insights into the various practices which teachers can adopt as a way of differentiating assessment methods for special needs students from the regular students. The current study has attempted to bridge this knowledge gap by identifying group work, progressive and multi-dimensional assessment as a critical approach which teachers can adopt for a fair and more meaningful assessment of learners with special needs.

The use of group work, progressive and multi-dimensional approach to assessment can be considered commendable approaches to inclusive pedagogy adopted in the secondary schools in

Uganda and Germany. This approach to assessment of learners is recommended by the Universal Design for Learning theory which advocates for pedagogical design tailored to the learners' needs and abilities. This multiple method of assessment of learners is embraced by the UDL as a means of tailoring pedagogy to the learners' capabilities and needs hence leading to a more meaningful or objective assessment of learners.

4.7.3 Parents, students and teachers' engagement

Specific to Germany, is the approach of parents, students and teachers' engagement. Unlike in Uganda, secondary schools in Germany have teachers who interact a lot with parents. Findings further revealed that despite its significance to the realization of inclusive pedagogy, the practice of parents' interaction with their children remains seldom discussed in the literature of inclusive pedagogy. Findings are consistent with those of Carballo (2022), Morina (2017) and McDevitt (2021) which identify the need for parents' engagement or participation in the design of pedagogical approaches particularly curriculum design. The current study therefore expands the view of parents' engagement to continuous interaction with their children students and teachers as a way of tracking the academic progress of their children, supporting them psycho-socially and informing teachers about the learning needs and challenges of their children. This can be considered a matter of parents' continuous support to the design and evaluation of inclusive pedagogy practices in addition to their mere participation in curriculum design on which the few existing studies had placed emphasis. More important, the current study considers parents, students and teachers' engagements as one of the key foundations to promoting reflexive and reflective teaching as well as differentiation of learners, instruction and assessment methods.

4.7.4 Use of reflective and flexible teaching approach

Specific to secondary schools in Germany unlike Uganda, reflective and flexible teaching was used. Flexible teaching is based in the belief that teaching and learning is likely to face challenges and needs which cannot be adequately predicted at curriculum design and lesson planning level. Rather, a critical reflection on the learning process and adjusting the instruction methods, practices and target learning outcomes is necessary. The use of reflexive and reflective teaching methods established in this study is consistent with previous findings. For example, Sanda et al. (2020), Malebese (2019), Brokamp (2017) and Kuntz and Carter (2021) share a general view that flexibility involves developing active methodologies in the classroom and attending to the diversity of the students through the necessary support and adjustments, from the approach of

inclusive pedagogy. These studies generally view reflexive teaching from the perspective of exercising flexibility during teaching. Consistent with the view of these previous studies, flexibility in the current study was found to involve mainly adjustments of the teaching plan or instruction methods to suit the learners' challenges and needs during teaching. Consistent with the view of previous studies such as Brokamp (2017), the current study observes that flexibility and reflective teaching methods stem from the argument that although teaching is planned in principle, flexibility, openness and unpredictability are critical during lesson planning and classroom instruction towards effective pedagogy, particularly in inclusive classes. Hence, schools need to adopt reflective and flexible pedagogical methods towards realization of inclusive pedagogy goals.

The use of a flexible teaching approach identified in the current study is consistently embraced by the Universal Design for Learning theory which on one hand advocates for the need for effective instructional plans and on the other hand, identifies the need to use flexible teaching methods in a meaningful way to cater for all learners' abilities and needs.

4.7.5 Building a good teacher-student relationship

In addition, secondary schools in Germany unlike in Uganda, have teachers focused on building a good teacher-student relationship as an approach towards realization of inclusive pedagogy outcomes. Teachers pursue this approach through their regular interactions with and support to students. The practice of building a good teacher-student relationship identified in this study particularly in the context of secondary schools in Germany, has consistently been identified in previous studies such as Carballo (2022) and Cotán et al. (2021). These studies hold a general view that a good student-teacher relationship is important for students with the teachers facilitating interaction with the students to identify their learning experiences, challenges and needs. This in turn informs teachers on how to better design and effectively implement inclusive pedagogy methods. The current study has provided a deeper analysis of the student-teacher relationship and identified this relationship as one of the key foundations to promoting reflexive and reflective teaching as well as differentiation of learners, instruction and assessment methods. In addition, unlike the previous studies, the current study has identified the practices which can promote a good teacher-student relationship including organizing socialization events such as sports, games, music and dance, continuous one-on-one interactions between the students and teachers, close monitoring of the students with special needs as well as continuous encouragement of regular students to socialize and support students with special needs.

The practice of building a good teacher-student relationship, which was evident among teachers for the Germany case is theoretically supported by the UDL theory which observes that teachers of inclusive classes need to build reciprocity towards an inclusive mindset in which all learners are equal members. It gives courage, comfort and motivation to learners with disabilities which enhances their learning in an inclusive school environment.

4.7.6 Use of collaborative teaching

Finally, collaborative teaching or joint teacher support to the instruction process is another inclusive pedagogy approach used by teachers in inclusive schools, specifically in Germany secondary schools. This approach, though perceived by teachers in Uganda with potential to foster inclusive pedagogy was yet to be practiced, to address some school related challenges. The practice of collaborative teaching identified in this study is consistent with the findings from previous studies such as Li et al. (2022), Giese et al. (2022 and Lindner and Schwab (2020). The studies characterize collaborative teaching with having more than one teacher in class to support each other in view of the challenges and learning needs of students with special needs. For example, a study by Li et al. (2022) analysed the pupil perspectives of inclusive teaching strategies in Chinese regular primary schools and identified collaborative teaching as one of the popular inclusive pedagogy approaches. However, a study by Giese et al. (2022) observed that in Germany, collaborative teaching is not used in the context of Physical Education. This is however contrary to the findings of these students who identify collaborative teaching as a popular practice in secondary schools in Germany. This finding therefore suggests that use of collaborative teaching could vary across schools or program subjects.

In conclusion, a variety of approaches were found to be adopted in curriculum design, lesson planning, classroom instruction and assessment in a bid to effectively ensure inclusive pedagogy in the context inclusive secondary schools with learners with hearing impairments in Uganda and Germany. The approaches are implemented through a variety of practices which have been highlighted in the above analysis. Although there are noticeable similarities in approaches adopted in Uganda and Germany, significant differences exist. In both Uganda and Germany, the approach of differentiation of learners, instruction methods and materials was found to be applied. Similarly, group work, progressive and multi-dimensional approach to assessment is used as an aspect of assessment of learning outcomes.

However, Germany has adopted more inclusive pedagogy practices than Uganda. Unlike in Uganda inclusive pedagogy practices in Germany feature an approach of regular engagement of parents with their children/students and teachers, building a good teacher-student relationship through their regular interactions with and support for students as well as collaborative teaching or joint teacher support to the instruction process.

4.8 Discussion: Relating results in inclusive pedagogy challenges with theoretical and empirical perspectives

This section discusses the findings relating the key results on inclusive pedagogy challenges with the existing empirical and theoretical perspectives and they include a) School related challenges b) Teacher related challenges and c) Parent related challenges. The discussions provide a detailed understanding of how the challenges manifest to affect implementation of inclusive pedagogy in the schools.

4.8.1 School related challenges

In both Uganda and Germany secondary schools the curriculum for all secondary levels is not differentiated in terms of content, teaching duration, and assessment criteria. In both countries, the teaching for regular students and those with special needs is guided by the same curriculum. The challenge of an undifferentiated curriculum is in line with the findings from previous studies (Prediger & Buró 2021; Schwab et al., 2019; Lindner et al., 2019; Moosa & Shareefa, 2019), which identify differentiation as one of the inclusive pedagogy practices which can promote effective teaching and learning in an inclusive classroom setting of learners during teaching.

In both Uganda and Germany, there is no provision either financial or non-financial benefit for extra workload associated with teaching students of special needs in an inclusive setting, yet it takes more time and extra effort to do so. The lack of incentives for teachers of inclusive classes partly reflects limited support for teachers which is consistent with the findings by Johnson et al. (2012) which identified limited support for teachers among the inclusive pedagogy challenges. The challenge of inadequate support for teachers is also observed by Mabasa-Manganyi (2023) in the study of selected schools in Limpopo, South Africa.

Unlike in Germany, the schools in Uganda have inadequate teachers to match the high number of students and those with hearing impairments. This is mainly caused by the increasing number of special needs students and limited number of teachers inherent of the challenges in teaching

inclusive classes. This finding is consistent with the findings in previous studies such as the OECD Report (2020) and Mukelabai et al. (2021). The studies generally identify a high student to teacher ratio and link it to the challenges of teacher shortages, high turnover and attrition, and low attractiveness of the teaching profession. These challenges were identified in studies OECD (2019) conducted in United Kingdom with 50% of novice teachers reported to leave the profession within the first five years. The high student to teacher ratio in the current study was also linked with the high student numbers which is consistent with findings in a study by Mabasa-Manganyi (2023) in selected schools in Limpopo, South Africa.

Underlying most of the school related challenges and other challenges related to the teachers, is the issue of inadequate funding. In Uganda, the problem of inadequate funding is linked to very low funding to the schools from the central government. The challenge of inadequate funding has also been observed in previous studies such as Cotán, et al. (2021) which analyzed the methodological strategies that inclusive faculty members use in their classrooms and the difficulties that they find in the implementation of such strategies. The study revealed that promoting inclusive pedagogy in schools remain constrained by limited inadequate financial resources (Cotán, et al., 2021).

In both Uganda and Germany, management of teachers' competence in inclusive pedagogy was found to be inadequate. This is in regard to recruitment of teachers and their capacity building opportunities. Regarding recruitment, recruitment criteria for assessment of teachers' competencies was reported to be inadequate to support selection of teachers with the desired competencies to effectively teach an inclusive class.

4.8.2 Teacher related challenges

In both Uganda and Germany, teachers' competence in inclusive pedagogy was found to be inadequate. This was mainly attributed to the challenges and the gaps in recruitment as well as capacity building for teachers. Teachers' lack of competence identified in this study is consistent with the findings by Mukelabai et al. (2021) which identified knowledge of inclusive pedagogical practices and effective teaching and planning of lessons content among the critical challenges to inclusive pedagogy. The challenge of competence was also reported in a study by Lakkala et al. (2019) in the context of inclusive education in primary and subject teachers in Lithuanian primary schools, progymnasiums and gymnasiums. The study observes that teachers find difficulty in differentiating their teaching and including the students with special educational needs. In

addition, the OECD Report (2020) observed teachers' inadequate knowledge and experience and are therefore insufficiently prepared in areas related to diversity and inclusion.

In both Uganda and Germany, teachers of inclusive classes in secondary schools were inadequately motivated although this challenge is more pronounced in Uganda. This is mainly attributed to the relatively lower support given to the teachers in Uganda than in Germany. The low motivation of teachers is consistent with the findings by Cotán, et al. (2021), which was linked to the problem of limited teacher support by the schools as well as the learning weaknesses of students with special needs such as their low motivation to learn.

4.8.3 Parent related challenges

Unlike in Germany, inclusive pedagogy in Uganda is constrained by parent related challenges. The general view is that parents are not adequately supportive of their children who desperately need the support by virtue of their learning challenges and needs. The parents are reluctant to provide the necessary financial support in terms of paying the already subsidized school fees and providing the scholastic materials. In addition, they do not interact with their children to provide them the much-needed psycho-social support, yet their children are likely to face a lot of stigma and discrimination at school. These challenges were associated with high absenteeism among students with hearing impairment especially in the Uganda case. In contrast, students' absenteeism did not emerge as an issue in Germany mainly because of the policy that demands parents to support their children with special needs and ensure their compliance with school attendance schedules. The low morale or motivation of students to learn due to parent related challenges as well as low student learning ability are consistent with the findings by Cotán, et al. (2021) which revealed a critical challenge of low academic and education cultural level of the students, especially in their first years of university, as well as their lack of motivation and their apathy to learning.

The identified challenges to inclusive pedagogy in both the Uganda and Germany cases are consistent with the theoretical view of the Universal Design for Learning (UDL). Consistent with the identified challenges, the Universal Design for Learning theory observes that creating an inclusive learning environment can be challenging. On the other hand, identified challenges relating with the school classroom structures and learning facilities are typically physical challenges predicted by the UDL theory among other challenges. Similarly, the challenge of inadequate teacher training and knowledge in special needs education and specifically handling

students with hearing impairments identified in both Uganda and Germany cases is typically a cognitive challenge that affect a learner with memory, problem-solving and comprehension difficulties also identified by the UDL as a likely barrier to effective implementation of inclusive pedagogy among teachers. Additionally, the parents' socio-economic challenges related with domestic violence and financial incapability among parents reflect the social challenges observed by the UDL theory as likely to hinder inclusive pedagogy.

CHAPTER FIVE

CONCLUSION, RECOMMENDATIONS AND CONTRIBUTIONS OF THE STUDY

This chapter presents the conclusion, recommendations and contributions of the study. The chapter is divided into three sections. The first section presents the conclusions emerging from the discussions on inclusive pedagogy practices and challenges in line with the study objectives. The second section presents recommendations towards enhanced inclusive pedagogy in secondary schools. The recommendations are general and specific to secondary schools in Uganda and Germany, the two country cases under study. Finally, the chapter ends highlighting the contributions of the study and opens insight into areas for further research.

5.1 Conclusion

The study assessed the inclusive pedagogy practices and challenges in the secondary schools with a comparative analysis of Uganda and Germany as two countries can lend lessons to each other given difference in level of advancement of their education system. Specifically, the study sought to answer three research questions: (i) What are the inclusive pedagogy approaches that teachers use in inclusive classes with LHIs in Ugandan and German secondary schools? (ii) What are the challenges faced by teachers in inclusive classes with LHIs in Ugandan and German secondary schools? and (iii) Which recommendations can be given to improve inclusive pedagogy for LHIs in Ugandan and German secondary schools? To address these questions, the study drew insights from two theoretical perspectives, that is the Universal Design for Learning theory and the theory of Inclusive Special Education which were earlier presented in chapter two. The study also drew insights from previous empirical studies which explored the inclusive pedagogy practices and challenges in various education systems and country contexts.

In terms of methodology presented in chapter three, the study took a case of secondary schools in Uganda and Germany and the analysis adopted thematic analysis to derive themes, Observation to ensure credibility and create meaning of the views and experiences of ordinary inclusive class teachers in management and delivery of inclusive pedagogy in the schools. Further insights were drawn from analysis of the views of students as a matter of triangulation to enhance credibility of the findings. The analysis informed the results on the inclusive pedagogy approaches and practices which are presented in chapter four. The presentation of the results provides a clear comparison between the two country cases and draws similarities and differences with regard to the inclusive

pedagogy practices and challenges. In addition, the analysis of the results provided a clear link with the theory and previous empirical studies identifying the consistencies and deviations of the key findings and arguments with the theoretical assumptions and empirical facts from the previous studies. The analysis was sequentially done starting with the practices followed by the challenges. In both cases, data from each country case was analysed separately followed with a comparative analysis which also extended to the discussion of the findings in an attempt to position them in the existing theoretical and empirical perspectives on inclusive pedagogy practices and challenges. Consequently, the conclusions in this section are drawn in accordance with the study objectives starting with the inclusive pedagogy practices followed with the challenges.

5.1.1 Inclusive pedagogy approaches in secondary schools in Uganda and Germany

In line with the first research question which analysed the inclusive pedagogy approaches that teachers use in inclusive classes with LHIs in Ugandan and German secondary schools, this subsection presents the inclusive pedagogy approaches which were found to be applied in the secondary schools. Notably, a variety of approaches were found to be adopted in German and not in Ugandan schools.

In Uganda, I found the following to be the most common practices across the schools:

- Differentiation of learners, instruction methods, and materials
- Group work, progressive and multi-dimensional approach to assessment

In Germany, the most common inclusive pedagogy practices across the secondary schools studied are:

- Differentiation of learners, instruction methods, and materials
- Group work, progressive and multi-dimensional approach to assessment
- Parent, student and teacher engagement
- Reflective and flexible teaching
- Collaborative teaching
- Building a good teacher-student relationship

Notably, due to some challenges related with the schools, the teachers and the parents, the approaches were not applied across all the schools or all the teachers. The approaches are implemented through a variety of practices which have been highlighted in the above analysis. Although there are noticeable similarities in approaches adopted in Uganda and Germany,

significant differences exist. In both countries, the approach of differentiation of learners, instruction methods and materials was found to be applied in many of the schools and by almost all the teachers. Similarly, group work, progressive and multi-dimensional approach to assessment is used as an aspect of assessment of learning outcomes by some of the teachers.

However, Germany is richer in inclusive pedagogy practices than Uganda. Unlike in Uganda inclusive pedagogy practices among many of the teachers in Germany features an approach of regular engagement of parents with their children/students and teachers. This was generally considered quite important as it lends lessons to teachers for effective differentiation of learners, instruction methods and materials. It also helps to align the inclusive pedagogical methods with the social contexts of the children and challenges at home. This practice was however not popular among the teachers in Uganda because of the low motivation and a relatively bigger number of students with special needs.

Most of the teachers in secondary schools in Germany apply reflective and flexible teaching which is vital to addressing the unforeseeable uncertainties and challenges and to ensure effective teaching and learning. It informs decisions on differentiation of learners, methods and materials. However, outstanding efforts of some teachers to apply the reflexive and flexible teaching were noted, but this approach was quite limited among teachers in Uganda due to the high number of students in the inclusive classrooms.

In both Uganda and Germany, inclusive pedagogy approaches in the secondary schools have a focus on building a good teacher-student relationship through their regular interactions with and support to students. Notably, to a larger extent, many of the teachers in Germany strive to build a good teacher-student relationship than the teachers in Uganda. This is credited for its huge potential to foster integration of learners with hearing impairments with other regular students and helps teachers to provide specific tailored support to the individual learner's needs.

Collaborative teaching or joint teacher support to the instruction process is applied in some of the secondary schools in Germany unlike in Uganda where it is non-existent. Many of the classrooms in Germany are likely to have two teachers which is necessary to foster learning through positive energies realized by teachers complementing their skills and experiences and supporting each other in an inclusive class setting. In most of the schools in Uganda, it is less likely that an inclusive class will be supported with two teachers. Although across both country cases, use of collaborative

teaching is constrained by shortage of teachers in special needs education, the situation in Uganda is worse due to inadequate funding to recruit the teachers and the low compensation.

Finally, there is notable consistency between the inclusive pedagogy practices of differentiation of learners, instruction methods and materials, use of group work, progressive and multi-dimensional approach to assessment, use of a flexible teaching approach and building a good teacher-student relationship identified in this study, with the Universal Design for Learning theory and to a lesser less extent the theory of inclusive special education that Identifies the procedures and evidence-based teaching strategies to meet learning needs, the need for evidence-based practices for both special education and inclusive education and the need for an organizational framework for providing optimal education for all children with special needs from national to school levels . The consistency is in line with the fact that findings from the two country cases identify inclusive pedagogy practices which are in agreement and in support of the theoretical position underscoring the need for inclusive pedagogical methods tailored to the learning abilities and needs of special needs students.

5.1.2 Inclusive pedagogy challenges in secondary schools in Uganda and Germany

The second research question of the study sought to establish what challenges the secondary schools in Uganda and Germany face in implementation of inclusive pedagogy in the context of learners with hearing impairment. Based on the results presented in the previous chapter, I find that inclusive pedagogy remains challenging in secondary schools in Uganda and Germany. Although the situation is worse in Uganda than in Germany, in both countries, the challenges constraining inclusive pedagogy are more school related and characterized by:

- Undifferentiated curriculum content
- Management of inclusive pedagogy competencies in terms of the limited emphasis on skills in inclusive pedagogy at recruitment
- Limited capacity building in inclusive pedagogical practices
- Limited incentives or motivation measures for teachers of special needs students
- Inadequate teachers to match the higher number of students and those with HIs
- Inadequate classroom structures and facilities
- Unconducive classroom environment
- Inadequate funding

In Uganda specifically, I found inclusive pedagogy to be mainly constrained by teacher and parent related challenges including:

- Difficulty in interpreting words to sign language translations
- Difficulty in managing students with diverse special needs
- Limited support of students, both financially and psycho-socially which is linked to student absenteeism
- Limited parent engagement with teachers

Although more evident in schools in Uganda, inclusive pedagogy in the secondary school in Germany is also constrained by parent related challenges with linkages between the two. Unlike in Germany, parents in Uganda do not offer adequate support to their students both financially and psycho-socially which demotivates the students and causes their regular absenteeism from schools. Mainly in secondary schools in Uganda, limited financial support of the students in terms of untimely payment of school fees and provision of scholastic materials is associated with absenteeism, a problem especially for students with hearing impairments since most of the parents do not show much concern compared to other children without special needs.

Teachers find difficulty in managing an inclusive class with many students' diverse special needs, with this problem more pronounced in secondary schools in Uganda than in Germany. Teachers also find difficulty interpreting the sign language of students. These challenges generally undermine the extent to which teachers can effectively design, instruct and assess students in an inclusive classroom setting. Unless addressed, they bear far-reaching negative impacts on the commitment and effort to realize the inclusive pedagogy goals at school and national levels both in Uganda and Germany.

Finally, there is notable consistency of findings regarding inclusive pedagogy challenges in Uganda and Germany with the theoretical view of the Universal Design for Learning (UDL). As observed by theory, indeed the study affirms that creating an inclusive learning environment can be quite challenging in terms of school's classroom structures, learning facilities, the teachers' cognitive teaching ability and in the context of parents' socio-economic constraints.

5.2 Recommendations

This section provides the recommendations to Governments, the schools, and other players in promoting inclusive pedagogy in the context of special needs students especially those with

hearing impairment. The recommendations are aligned with the key aspects of the research questions which sought to identify the inclusive pedagogy approaches and challenges as well as provide recommendations to foster inclusive pedagogy in the context of learners with hearing impairment. The recommendations provided are therefore aligned with the emerging findings on either the inclusive pedagogy practices or challenges.

5.2.1 Inclusive pedagogy approach in secondary schools in Uganda and Germany

Results revealed that the schools in Uganda and Germany have adopted inclusive pedagogy approaches which can be effective in promoting learning of special needs students particularly those with hearing impairments. Such include differentiation of teaching methods, materials, building a strong teacher-student relationship, parents support to learners, reflexive and flexible teaching methods, collaborative teaching, among others. In view of the significance of these practices to inclusive pedagogy, the principals, head of departments and teachers in schools both Uganda and Germany should continue applying the identified inclusive pedagogy approaches and practices towards realization of the inclusive pedagogy goals.

In Uganda, results indicated that teachers in the secondary schools practise inclusive pedagogy through differentiation of learners, instruction methods, and materials as well as use of group work, and progressive and multi-dimensional approach to assessment. Notably, these practices are necessary but not sufficient to effectively foster inclusive pedagogy. Teachers of inclusive classes or schools in Uganda through the support from relevant government ministries such as Uganda's Ministry of Education and Sports, Department of Special Needs Education should therefore help teachers to adopt more inclusive practices particularly those observed in the secondary schools in Germany including parents, students and teacher engagement, use of reflective and flexible teaching, use of collaborative teaching, and building a good teacher-student relationship.

5.2.2 Inclusive pedagogy challenges in secondary schools in Uganda and Germany

Results further indicated that despite efforts to adopt practices or approaches which can foster inclusive pedagogy, many challenges exist which undermine implementation and realization of inclusive pedagogical goals particularly in the context of learners with hearing impairment. Although many challenges were identified, they appear to be centred on inadequate financial support from the relevant government departments in charge of special needs education and the inclusive schools which hinder investment in appropriate classroom structures, training of teachers and improvement of their welfare. Consequently, Government through the relevant Ministries such

as Ministry of Education and Sports and the Department of Special Needs Education in Uganda should increase financial support towards increased pedagogy structures and facilities which can effectively foster inclusive pedagogy in the schools. Some structures, particularly buildings or classrooms in some schools, are not up to standard while facilities are inadequate. In addition, teachers of inclusive classes need continuous skills development through training to keep them aligned with the latest teaching technologies in promoting inclusive pedagogy. With increased financial support, the government will be able to open up recruitment for more teachers, increase their financial benefits with a potential positive impact on the number and retention of teachers in the schools. This will ultimately lower the student to teacher ratio which remains a critical constraint to implementation of inclusive pedagogy practices such as differentiation, collaborative teaching, and student-teacher relationship building.

Findings further revealed that Government has limited financial resources to support inclusive pedagogy. This mainly explains the unconducive classroom environment in inclusive schools characterised by lack of appropriate structures and facilities, limited number of qualified teachers in special needs education, and limited research and innovations on inclusive pedagogy in specific contexts. Hence, the relevant Government institutions such as Ministry of Education and Sports and the Department of Special Needs Education in Uganda as well as the schools should scale-up partnerships and collaborations with Development Agencies which can potentially provide funding towards investments in promoting inclusive pedagogy. The Development agencies and NGOs should prioritize funding towards building a conducive learning environment in inclusive classes, training teachers in special needs and pedagogical methodologies, and research to expand the knowledge base, develop, test and scale-up innovations which can foster inclusive pedagogy

However, the results indicated that especially in Uganda, teachers of inclusive classes are not adequately motivated to handle inclusive classes which are quite challenging given the huge workload and inconveniences associated with teaching special needs students. Government, through the relevant departments such as the Department of Special Needs Education in Uganda and in coloration with the Heads of the schools, need to put in place a special incentive scheme or structure for teachers of inclusive classes in order to improve their motivation. Such teachers also need to be supported through financing programs or activities which can connect the teachers with the parents. Such programs include co-curricular activities and socialization events. These are critical activities which were reported to promote teacher, parent and student relationships although they were reported to be inadequately funded.

Results further revealed that the assessment of learners in the final examinations meant to promote them to higher education level was found to be conducted with no special consideration of the learners with special needs. This was because of the missing provisions for special needs students in the assessment regulations. This study therefore recommends to the institutions responsible for regulating students' examinations in Uganda and Germany, such as the Uganda National Examination Board in Uganda to provide provisions in the examination regulations which can take care of the unique challenges of learners with special needs especially those with hearing impairment. Such provisions may include ensuring that final assessments of learners with special needs through examinations such as UNEB and UACE in Uganda, as well as *Einfache Berufsbildungsreife* (BBR) and *Erweiterte Berufsbildungsreife* (MSR) or *Mittlere Reife* in Germany, make use of teachers who specifically are involved in inclusive pedagogy and understand the challenges of learners with special needs. This will ensure that the assessment of such learners is done fairly in view of their abilities and weaknesses.

Findings further revealed that parents of children with hearing impairment seemed to lack a positive mindset towards the need to educate their children and the value the education could have to them as they perceive learners with hearing impairment to be less likely to get jobs. This emerged as the main reason why the parents were reluctant to pay school fees for their children with hearing impairment, a challenge which was associated with absenteeism of the students. This was more specific to the parents in Uganda and more of a perception issue. Government, through the relevant institutional structures such as the Department of Special Needs Education in the Ministry of Education and Sports, should develop sensitization programs for parents to build a positive mindset towards children with disabilities and value them as the regular students. With a positive mind-set parents will be able to provide the much needed financial, academic and psycho-social support to the students with special needs.

The results revealed that learners with hearing impairments are less likely to make it to the best schools or join vocational programs since they are more likely to experience discrimination. This is mainly because the schools and vocation programs quite often lack the capacity to effectively deal with students with hearing impairment. In both Uganda and Germany, government and the schools should provide equal opportunities for students with special needs as well as the regular students. This can be done through upgrading the learning environment in the inclusive schools to ensure it equally provides facilities and opportunities for students with hearing impairments to be effectively taught and learn just as the regular students. This will ensure that learners with hearing

impairments can also access quality education and be provided with opportunity to enrol in vocation programs and employment organizations.

5.3 Contributions of the study

This section provides the contributions of the study in line with the results and conclusions regarding the inclusive pedagogy practices, challenges and recommendations embedded in the research questions. The contributions consider the prevailing theoretical and empirical knowledge gaps earlier presented in chapter two.

One of the key knowledge gaps was the missing comparison of the inclusive pedagogy practices and challenges in the context of an education system in a developed country and a poor country which this study sought to bridge through a comparative analysis of two secondary schools in Germany and two in Uganda respectively. The assumption was that education systems in developed countries are more likely to be less constrained to implement inclusive pedagogy than the poor countries, since inclusive pedagogy necessitates huge investments in specialized infrastructure, facilities and human resources. The study has therefore enriched the existing empirical field with this comparison which has indicated that indeed, even though inclusive pedagogy is likely to be constrained by school, teacher and parent related challenges in education systems, in both developed and undeveloped country contexts, the situation is worse in undeveloped countries.

The study has also provided a conceptual view of the challenges which can undermine inclusive pedagogy by categorising them into school, teacher and parent related challenges. This is a new conceptual view of the challenges which was missing in previous studies and theoretical perspectives. The previous studies identify a wide range of challenges which the current study analysed and consolidated into the three categories. This conceptual view of the challenges is further enriched with an indication of the existing relationships between the school, teachers and parents related challenges. This relationship can identify the underlying cause of each challenge and where more emphasis can be put in an effort to foster inclusive pedagogy. The conceptual view also opens insight into the factors and relationship which would be of interest for future quantitative analyses.

Regarding the contributions to policy and practise, the study has been able to precisely identify the inclusive pedagogy practices and challenges in the specific contexts of Uganda and Germany

hence building empirical contribution which can inform efforts to promote inclusive pedagogy in these specific country contexts, particularly regarding students with hearing impairments in secondary schools. The empirical evidence generated in the specific context of students with hearing impairments is a vital addition to knowledge, given the limited studies in this context.

To the theories of Universal Design for Learning (UDL) as well as the theory of inclusive special education on inclusive pedagogy, the study has expanded their applicability and has shown that they can be effective in explaining the inclusive pedagogy practices and challenges which undermine effective promotion of special needs education, provide perspectives of inclusive pedagogy and resonate well with the global inclusive education principles and goals. The theories provide insight into the potential challenges which can affect inclusive education at different levels such as national and school levels and underscore the need for inclusive pedagogies. The study has contributed to this view of the theories by bringing to light the specific school, teacher and parent related challenges which can constrain inclusive pedagogy. In addition, the theories open insight that implementing inclusive education can be challenging, different in different contexts, and has indeed contributed to this view by identifying that the challenges to promoting inclusive pedagogy can vary in magnitude between the socio-economic contexts, educational infrastructure, cultural norms, and government priorities of the schools and countries. Specifically, for example both secondary schools in Germany and Uganda face nearly similar challenges although the situation is worse in Uganda partly due to the country's and schools' limited financial resources.

5.4 Areas for further research

This section presents areas of further research arising from the research gaps which were identified from the literature, the attempts made by this study to bridge the gap as well as its limitations. Notably, the current study provided an analysis of the inclusive pedagogy practices and challenges comparing the case of selected secondary schools in Uganda and Germany. This has expanded the existing knowledge on inclusive pedagogy in varying contexts. Regarding the conceptual gaps identified in the literature, particularly limited empirical studies on inclusive pedagogy approaches and challenges in different contexts, the study could not cover all the possible contexts across which the inclusive pedagogy practices and challenges may vary. Such contexts include different levels of education system, varying socio-economic challenges, and institutional frameworks which regulate education at different levels for example, primary and secondary level in Uganda. Besides, for either the Uganda or German case, the study did not cover all provinces or districts,

yet the education system and challenges could vary across provinces hence constraining applicability of the study findings and recommendations. Regarding the conceptual gaps identified in the literature regarding lack of clear conceptualization of the inclusive pedagogy challenges, the study also contributed to bridging the conceptual view of the inclusive pedagogy. Methodologically, most of the studies identified in literature were qualitative and this study too adopted the qualitative approach in view of the research questions. While this approach was able to provide an in-depth understanding of the inclusive pedagogy practices and challenges which led to development of a conceptual framework on the challenges, the significance and magnitude of effect of the identified challenges to inclusive pedagogy remain unknown. In view of these attempts to bridge the knowledge gaps and the limitations of the current study, there is a clear indication of room for further research as proposed in this section.

Further research could assess the inclusive pedagogy practices in the context of education systems in other countries. This is because the current study has identified variations in inclusive pedagogy practices and challenges in secondary schools in Uganda and Germany. In addition, the study revealed more inclusive pedagogy practices in Germany and fewer challenges unlike in Uganda suggesting that the practices are likely to vary by the level of challenges in the education system. Since the challenges in the education systems are likely to differ across countries, it is important that further research assesses the inclusive pedagogy practices in the contexts of challenges in specific education systems in other countries. This will help to inform design of more effective strategies to foster inclusive pedagogy in specific education systems.

Further research is also needed in the context of education systems in other states in Germany. This is because Germany has sixteen Federal States which are more likely to have differing regulations since they have autonomy to regulate their education system at state level. This could bring about variation in challenges facing inclusive education across the states which can potentially lead to differing approaches to inclusive education. It is therefore important that decisions on strategies which can effectively foster inclusive pedagogy be informed by a clear understanding of the inclusive pedagogy practices and challenges in the context of education system in a specific governance state in Germany.

Finally, further studies could explore the possibility of applying a mixed methods research design in assessment of the inclusive pedagogy practices and challenges. This study and the previous of empirical studies too have used a qualitative approach. Although this approach provides a wider

and detailed view of the inclusive pedagogy practices and challenges, there is need to measure the magnitude of significance of the challenges as factors which affect inclusive pedagogy. For example, there is need to understand the extent to which student-teacher relationship, collaborative teaching, learners' difference and parent-teacher-student engagements foster or undermine inclusive pedagogy. Integrating a quantitative approach alongside the qualitative to estimate the magnitude of effect of these factors or challenges is paramount to informing decisions on prioritizing interventions to support inclusive pedagogy amidst the financial resource constraints facing many education systems particularly in low-income countries such as Uganda.

5.5 Conclusion, Practical and Theoretical Implications of this Thesis

The findings of this study provide valuable insights into the implementation of inclusive pedagogy for learners with hearing impairments (LHIs) in secondary schools in Uganda and Germany. Through a comparative lens, the study highlights key practices, challenges, and areas for improvement, offering evidence-based recommendations to strengthen inclusive education in these contexts. While both countries have made efforts to adopt inclusive pedagogy approaches, significant disparities persist, particularly in resource allocation, teacher capacity, and parental engagement. Addressing these gaps requires targeted strategies that build on effective practices, overcome systemic challenges, and create equitable learning opportunities for all students, regardless of their abilities. The recommendations outlined below are designed to inform policymakers, educators, and other stakeholders as they work towards fostering more inclusive education systems.

Research Question 1: What are the inclusive pedagogy approaches that teachers use in inclusive classes with LHIs in Ugandan and German secondary schools?

The study examined the inclusive pedagogy approaches used by teachers in inclusive classes with learners with hearing impairments (LHIs) in Ugandan and German secondary schools this study found notable practices with some similarities and key differences between the two countries. Across both contexts, common approaches included the differentiation of learners, instructional methods, and materials; group work; and progressive, multi-dimensional assessment strategies. These practices align with the principles of the Universal Design for Learning (UDL) framework, emphasizing tailored approaches to meet diverse learner needs.

However, German schools displayed a broader array of inclusive pedagogy practices compared to Uganda. Teachers in Germany frequently engaged parents and students collaboratively, adopted reflective and flexible teaching practices, and utilized collaborative teaching methods with two teachers in the same classroom. These practices were found to significantly enhance individualized support and foster inclusive learning environments. In Uganda, similar practices were limited due to challenges such as high student-teacher ratios, limited teacher training, and insufficient funding for special needs education.

The study's findings highlight the potential benefits of adopting Germany's more solid practices in Uganda, particularly in leveraging parent-teacher engagement and collaborative teaching, to overcome contextual challenges. Furthermore, these results underscore the importance of integrating inclusive pedagogy methods with reflective teaching and student-centered approaches as emphasized by UDL and the theory of inclusive special education. These theories advocate for evidence-based teaching strategies, organizational support, and methods tailored to the unique needs of learners with hearing impairments.

Research Question 2: What are the challenges faced by teachers in inclusive classes with LHIs in Ugandan and German secondary schools?

For the second research question, which explored the challenges faced by teachers in implementing inclusive pedagogy in classrooms with learners with hearing impairments (LHIs) in Uganda and Germany, this study found significant barriers in both countries, albeit more pronounced in Uganda. Across both contexts, the challenges were largely school-related and included undifferentiated curriculum content, insufficient emphasis on inclusive pedagogy skills during teacher recruitment, inadequate capacity-building opportunities, limited motivation or incentives for teachers of special needs students, a shortage of teachers relative to the high student numbers, and a lack of adequate classroom structures and facilities. Additionally, underfunding remains a critical issue that undermines the implementation of inclusive pedagogy in both Uganda and Germany.

Specific challenges unique to Uganda included difficulties in interpreting sign language, managing students with diverse special needs, and the limited psycho-social and financial support for students from parents, which contributed to absenteeism and demotivation among learners. In contrast, while Germany's education system faces fewer challenges, the study identified parental

engagement as a shared constraint in both countries, albeit more severe in Uganda, where parents often fail to provide adequate support for learners with hearing impairments.

These challenges hinder the ability of teachers to effectively design, instruct, and assess inclusive classrooms, impacting the achievement of inclusive pedagogy goals at both school and national levels. The findings align with the Universal Design for Learning (UDL) framework, which acknowledges the complexities of creating inclusive learning environments due to factors such as inadequate infrastructure, limited teacher competencies, and socio-economic constraints affecting parents and students.

Addressing these challenges is critical to fostering equitable and effective inclusive education. It requires targeted interventions at the policy, institutional, and community levels to empower teachers, enhance classroom environments, and strengthen parent-teacher collaboration.

Research Question 3: Which recommendations can be given to improve inclusive pedagogy for LHIs in Ugandan and German secondary schools?

To address the third research question, this study provides actionable recommendations aimed at improving inclusive pedagogy for learners with hearing impairments (LHIs) in secondary schools in Uganda and Germany. These recommendations target governments, schools, and other stakeholders, aligning with the challenges and practices identified in the study.

1. Strengthening Inclusive Pedagogy Practices

Building on effective approaches already in use, such as differentiation, group work, and teacher-student relationship-building, it is crucial for Ugandan schools to adopt additional practices observed in Germany. These include reflective and flexible teaching, collaborative teaching, and regular parent-teacher engagement. Ministries of Education and school leadership in Uganda should prioritize teacher training and capacity-building initiatives that integrate these practices.

2. Addressing Structural and Resource Challenges

In both Uganda and Germany, underfunding poses a significant challenge. Governments must allocate additional resources to upgrade classroom structures, provide specialized learning facilities, and increase teacher recruitment. In Uganda, addressing the severe shortage of special

needs education teachers is essential. Partnering with development agencies and NGOs to secure funding for these critical areas can ensure sustained improvements.

3. Enhancing Teacher Motivation and Training

Inclusive education teachers face unique challenges, particularly in Uganda, where high workloads and limited resources contribute to demotivation. A special incentive scheme, combined with ongoing professional development opportunities, can enhance teacher morale and retention. Financial support for co-curricular activities and social events can also strengthen relationships among teachers, parents, and students.

4. Fair and Adaptive Assessment Practices

To ensure equity, examination boards in Uganda and Germany must integrate accommodations for LHIs in national assessments. Employing inclusive pedagogy-trained assessors and aligning assessments with the specific needs of students can ensure fair evaluation of their abilities and potential.

5. Changing Parental Mindsets and Support

Particularly in Uganda, parents' negative perceptions of the value of education for LHIs undermine their support for their children. Government-led sensitization programs should promote the importance of education for children with disabilities, emphasizing their potential for success in both academic and vocational contexts.

6. Promoting Equal Opportunities

Schools and vocational programs should eliminate barriers to entry for LHIs by upgrading infrastructure and fostering an inclusive culture. Both governments must ensure that students with hearing impairments receive the same opportunities as their peers to access quality education, vocational training, and employment pathways.

Broader Implications

These recommendations underscore the need for a systemic approach to inclusive pedagogy, involving collaboration among governments, schools, parents, and external stakeholders. By addressing both immediate and systemic challenges, these interventions can significantly improve

educational outcomes for LHIs and foster a more inclusive education system in Uganda and Germany.

5.5.1 Theoretical Implications

This study contributes significantly to the theoretical discourse on inclusive education, particularly in the context of the Universal Design for Learning (UDL) and the Theory of Inclusive Special Education. By comparing practices and challenges in Uganda and Germany, the research demonstrates how these theories can guide the development of inclusive pedagogy. The findings affirm the UDL's emphasis on differentiated instruction and adaptable teaching strategies, showcasing how such practices can enhance the learning experience for students with hearing impairments. Additionally, the results underscore the importance of the theoretical frameworks' call for systemic integration of inclusive practices at all levels, from curriculum design to classroom interaction.

The study further reveals how contextual factors such as resource allocation, teacher training, and parental involvement influence the practical application of these theories. By providing evidence of both successful and constrained practices in Uganda and Germany, this research highlights the need to refine these theoretical models to address specific socio-economic and cultural contexts. This underscores the importance of localized interpretations of global theories in promoting inclusive education worldwide.

5.5.2 Practical Implications

The findings also have significant practical implications for policymakers, educators, and other stakeholders. Key insights include:

- a) For Policymakers: The study emphasizes the need for increased funding, policy reforms, and capacity-building initiatives to support inclusive pedagogy. Governments should prioritize resource allocation for infrastructure, teacher recruitment, and continuous professional development, especially in low-resource settings like Uganda.
- a) For Educators: Teachers can benefit from training that incorporates flexible teaching methods, collaborative approaches, and engagement with parents to better meet the needs of learners with hearing impairments. Practical strategies, such as reflective teaching and differentiated assessments, should become integral to teacher preparation programs.

- b) For Schools: Schools must create conducive environments for inclusive education by improving physical infrastructure, fostering collaborative teaching models, and integrating support systems for students with special needs. This includes engaging parents and communities to build supportive ecosystems for learners.
- c) For Development Agencies and NGOs: Collaborations with governments and schools can provide the necessary funding and expertise to develop scalable models of inclusive pedagogy. Investment in research and innovations tailored to specific contexts can further advance inclusive education practices.

By bridging theoretical insights with practical applications, this study provides a roadmap for creating equitable and inclusive learning environments for students with hearing impairments, offering lessons that extend beyond Uganda and Germany to other educational contexts globally.

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APPENDICES

Appendix: I Interview guide for Teachers

A Semi-Structured Interview Guide for Inclusive Secondary School Education teachers in Uganda and Germany on Inclusive Education Pedagogy for Students with hearing impairments.

Dear participant,

As one of the teachers of students with hearing impairments, you have been purposively selected as a key participant in the above titled study. You know the pedagogies used to ensure effective teaching in inclusive classrooms and this is what we are interested in. This study is a dissertation project for the Doctor of Philosophy in Education at the Carl Von Ossietzky University of Oldenburg, Germany. The information you provide will be treated with utmost confidentiality.

Yours faithfully,

Keti Kajumba

Objective one: Inclusive pedagogy approaches as practiced in schools for students with hearing impairments.

Instructional accommodation

1. Could you explain how you were trained or informed about the approach of inclusive/ special needs education, and how you practice this approach, especially as you handle learners with hearing impairments?

Pedagogical approaches

2. Could you tell me more about your approaches you use to suit the subject, the size of the group and the students' understanding?
3. Could you explain how you involve the students in group work and how you evaluate the progress of each individual student in class?

Teacher lesson plan

4. Please describe an experience where you identified a student's special need and modified a lesson plan for that individual.
5. What kind of activities do you incorporate into your classroom in order to increase interaction opportunities between students who are deaf or have hearing difficulties and their hearing peers?

Communication accommodations

6. Which reference teaching materials do you use when developing communication skills in your school?

Evaluation Modification

7. How have you modified assignments for gifted or special needs students?
8. What are some strategies for teaching your subject to students who may not be good listeners?

Instructional materials

9. To what extent are you supported by the school to ensure that appropriate approaches are used for the instruction of learners with hearing impairment?

Objective Two: Challenges faced by teachers in inclusive classes for students with hearing impairments

Selection of applicable approaches

10. Could you explain the challenges students face when using the selected learning approaches for the hearing impaired?
11. Could you explain in which ways was it difficult for you to use the approach of inclusive education for students with hearing impairments?

Teacher-student ratio

12. What would you say is a favourable teacher-student ratio for your teaching and the effective learning of all students in your class? Would you recommend the training of more teachers for the inclusive classroom and if so, why?

Academic progress

13. Could you explain how you rate the daily progress of your students and how you ensure that all students that you teach get promoted to the next level?

Instructional materials

14. Please tell me more about the inclusion of students with hearing impairments in the general education classroom at your school.
15. What are your overall feelings or concerns about the inclusion of students with hearing impairments in the general education classroom at your school?

Allocation of more funds

16. Could you tell me more whether there could be a need for the allocation of more funds within the inclusive education budget?

Class room management

17. Would you say that it is more difficult to maintain order in a general education classroom, which includes students with hearing impairments?

Objective three: Recommendations to improve inclusive pedagogy for students with hearing impairments

Review of the current Teacher Education Curriculum

18. What is your philosophy when it comes to inclusion and segregation and what is the most important thing for creating an inclusive school environment? Please share your opinion with us.

Physical environment of the school

19. Which things do you see at your school that indicates that inclusion is a positive experience for students with hearing impairments?

Restructuring of the national education policy

20. Would you feel that you should have separate policies for students with hearing impairments?
21. How could the students with hearing impairments and their families be helped to feel more integrated?

Instructional accommodation

22. Could you explain the teaching strategies that you prefer and why?
23. What do you need to improve on the challenges faced concerning these selection of learning approaches suitable to students with hearing impairments?
24. How can all students be treated equally, or should there be an individual approach to every student, in accordance with their abilities and potential?

Restructuring of the national education policy

25. What do you think the government should do to increase the educational success of children with hearing impairments and minimize the dropout rate?

Thank you very much

Appendix II: Interview guide for students

A semi-structured interview guide for students with hearing impairment in Uganda and Germany on Inclusive Education Pedagogy in Secondary school education

Dear Student,

As one of the students with hearing impairments, you have been purposively selected as a key participant in the above titled study. You know some of the pedagogies used by your teachers to ensure your effective learning and we are interested in your experiences. This study is a dissertation project for the Doctor of Philosophy in Education at the Carl Von Ossietzky University of Oldenburg, Germany.

Yours faithfully,

Keti Kajumba

Objective one: Inclusive pedagogy approaches as practiced in schools for students with hearing impairments

Instructional accommodation

1. Which teaching styles do you like that your teachers use in class?
2. How do you ask your teachers for clarification? (Do you go up to their desk and ask privately or do you raise your hand and ask questions in class?)

Communication and social skills

3. How do you **communicate and/or access information** at home, at school and with your friends?
4. What helps you understand what the instructor is saying and how do you communicate in a small-group setting like a discussion group?

Accommodations requested

Interpreting

5. Have you used interpreters in the past? If so, what has been your experience?

6. Do you prefer that interpreters use signing only, signing in English word order, or no signing but mouthing and gestures to lip read?

Use of interpreter

7. Would you prefer to speak for yourself or do you prefer the interpreter to voice for you?

Note Taking

8. What is your opinion in taking notes for a long lecture class when the instructor does not stop to be sure everyone has written the information?
9. Can you describe special circumstances that make you miss bits of information during lessons? E.g. when you look away, etc.

Captioning on Videos

10. What would you say about the use of videos while teaching?

Objective two: Challenges faced by teachers and in inclusive classes for students with hearing impairments in Uganda and German secondary schools

Technology and personal devices

11. Do you use a hearing aid and if so, for how long have you used it?
12. Some classrooms are small and don't have a built-in wired system. Do you have experience giving a transmitter and microphone to an instructor before each class?

Instructional accommodations

13. Could you tell me whether you have used speech –to- text services (which one?) and how you use it?
14. What would you prefer between watching a laptop screen to read the lecture and listening or lip-reading the instructor? Please explain why.

Communication accommodations

15. Could you explain how you seek the correct seat placement? Does the teacher remind you to sit in the best place?
16. How do you feel about asking classmates for repetition or clarification?

Academic Progress

17. What do you think are the major factors contributing to both good and poor academic performance of hearing-impaired students in your schools?

Instructional materials

18. If you have a cochlear implant, how have you configured it for use with a listening device?
19. Has your school helped you to access and use these assistive listening devices such as an FM system?

Objective three: Recommendations to improve inclusive pedagogy for students with hearing impairments

Curricular modifications

20. Are you distracted by environmental noise in the classroom while you take a test?
21. Could you describe how the use of resource rooms in your school helps you to study well?

Evaluation Modification

22. What methods do you use to understand the test questions to ensure that you pass them well?

Curriculum accommodation

23. Could you explain whether you would recommend a review of the current education curriculum that accommodates all learners?

Teacher-student ratio

24. What would you recommend about the numbers and size of your classroom?

Public policy

25. How could the general public be sensitized to embrace and support inclusive education?
What types of schools do you think there should be? More inclusive schools or more special schools?

Thank you very much

SECONDARY SCHOOL EDUCATION TEACHERS

Section A: Biography, background information and teaching experiences

A1. Gender: A) Male B) Female

A2. Age: A) 15-24 B) 25-34 C) 35-44 D) 45-54 E) 55-64

A3. Education level A) Diploma B) Bachelors C) Masters D) Postgraduate

A4. Class taught: A) Lower secondary B) Upper secondary

A5. Teaching experience: A) 0-1 years B) 2-5 years C) 6+ years

Teaching Experience

A1. How long have you taught learners with hearing impairments in school?

A2. How did you pick interest to teach learners with hearing impairments?

A3. How many students do you have in your class and how many of these have hearing impairments?

A4. What grade levels have you taught as special education teacher?

Appendix III: Interview guide for students with hearing impairment

Section A: Biography and back ground information

A1. Gender: 1) Male 2) Female

A2. Student class: 1) Lower secondary 2) Upper secondary

A3. Age: 1) 10-14 2) 15-19 3) 20+ years

Students' background on disability

A1. How do you identify yourself a) deaf, b) hard-of-hearing c) lately deafened, d) deaf blind, others -----

A2. How long have you been a) deaf, b) hard-of-hearing c) lately deafened, d) deaf blind, others-----

A3. Do you have any additional disabilities we need to be aware of? Which one?

A4. What kind of school did you attend in the past? a) Mainstream or public-school b) School for the deaf, C) other type of school environment?

A5. Could you tell me more about your feeling in this school?

A6. When was your most recent audiogram?

Appendix IV: Observation Schedule

NAME OF THE SCHOOL.....

CODE OF THE SCHOOL.....

DATE.....

DURATION OF OBSERVATION.....

1. CLASS ROOM OBSERVATION

a. Teaching learning facilities

S/N	TEACHING – LEARNING FACILITIES	Observation [Tick if observed]	Comments
1.	Print books/texts/sign language	books available books in use	
2.	Text books		
4.	Teaching aids	Teaching aids available teaching aids being used by the teachers	
5.	Hearing aids (HI)		
6	Other supportive materials eg. Computers, projector	Material available Materials being put to use	

b. Classroom arrangement and teaching strategies

S/N	CLASSROOM ARRANGEMENT AND TEACHING STRATEGIES	Observation	REMARKS
1.	Note the arrangement of desks, tables, chairs and space		
2.	seating arrangement for children with hearing impairment and children without hearing Impairment		
3.	Note the position of the teacher during teaching(speaking)	Teacher in the center Teacher rotates around the class	Teacher was well positioned
4.	Note the teaching method	A combination of Lip reading and sign language communication Teacher evaluates learners after teaching	Appropriate methods were being applied

		Teachers interacts with the student Teachers provides individualized assistance	
6	Note teacher's ability to communicate with the child with hearing impairments during teaching-learning process.	Teachers able to communicate in sign language, graphic & picture demonstrations used for learners with HI	
7.	Note the speed Of the teacher during presentation of the lesson	Students continuously asking teachers to repeat for them, more time, and engagement for students of HI	
9.	Note the teacher's knowledge of the children names/symbols	Teachers call students with hearing impairments by their sign names	Some teachers unable to do so
10.	Note if the teacher uses multi-sensory materials and approach	Teachers using visual aids	

II. Observation outside the classroom/Outdoor activities observation

a. The environment and play facilities

S/N	THE ENVIRONMENT AND PLAY FACILITIES	Observation	REMARKS
1.	Safety		
3.	Availability of play facilities	Are the facilities available Demarcated with signs to guide students with hearing impairments	
4.	Objects with colors		
5.	Moving objects		

b. Children interaction during play

S/N	CHILDREN INTERACTION DURING PLAY	Observation
1.	Note which type of play children with hearing impairment Play	Football Tennis Basket Ball Relay Volleyball
2.	Note if the child/ children with hearing impairment are involved in the play	Moderately Involved with reservation
3.	Note who initiates the play	Learners without Hearing Impairment
4.	Note if the child / children with hearing impairment play with Children without hearing impairment	They generally played together
5.	Note the communication style	Use sign language and lip reading when communicating
6.	Note the teacher's ability to communicate with the child with Hearing impairment during the play process.	
7.	Note if the teacher provides individual assistance to the child with hearing impairment during the play process	
8.	Note how the child with hearing impairment reacts or solves the conflict if any.	
9.	Note how long the child with hearing impairment stays in the play activity.	
10.	Note if the child with hearing engages in story/conversation With the hearing-impaired child	
11.	Note if the child with hearing impairment sits quietly (without doing anything)	
12.	Note if the child with hearing impairment plays alone	

APPENDIX V: AN INFORMED CONSENT FORM FOR STUDY PARTICIPANTS

Title of the study: Inclusive Pedagogy for Students with Hearing Impairments in Secondary Education: a comparative study in Uganda and Germany

Researcher: Kajumba Ketii

Institution: University of Oldenburg

Introduction

I would like to invite you to take part in my research study. I am a second-year student at the University of Oldenburg Germany pursuing a Doctor of Philosophy in Education. This document wants to elucidate the study to you. After the study has been explained and any questions you may have will be answered, I will ask you to sign the document in case you agree to take part in this research study. You will receive a copy of this document.

This research intends to investigate Inclusive Pedagogy approaches for students with hearing impairments in Secondary Education in Uganda and Germany.

This study is being conducted to learn

- more about the inclusive pedagogy approaches that teachers use in inclusive classes with LHIs in Ugandan and German secondary schools;
- The challenges faced by teachers in inclusive classes with LHIs in Ugandan and German secondary schools and lastly
- The current interventions that can be given to improve inclusive pedagogy for LHIs in Ugandan and German secondary schools.

Approval of the research proposal is sought from the University of Oldenburg and from a Research Ethics Committee in Uganda.

A brief description of the research project funders

The research study is funded through the Catholic Academic Exchange Service (KAAD). It is the scholarship institution of the German Catholic Church for post-graduate students and scientists from (developing) countries in Africa, Asia, Latin America, the Near and Middle East, as well as Eastern and Southeastern Europe

Purpose

The purpose of the study is to investigate inclusive pedagogy for students with hearing impairments in secondary education. The comparison of approaches in Uganda and Germany will increase the knowledge base of what works with the aim to support the curriculum policy

development. In this effect, the findings of this study could be used as a basis for identifying teaching and learning materials and methods that can enhance the participation of students with hearing impairment in education. This could also reduce the challenges faced by students with hearing impairments and their teachers during the teaching and learning processes in both countries.

Procedure

The participation in this research study will include the filling in of a questionnaire and a personal interview, meaning a face-to-face discussion for one to two hours. With the participants' permission, the interviews will be directed by the researcher, tape-recorded and later transcribed to analyse the data. There are no set or specific answers, feel free to give your opinion. We need to hear a wide range of perspectives. The audiotapes will be stored securely for purposes of confidentiality. These activities will be conducted within your school and you will be required to participate.

Time of participation

The data generation is planned to take place in September 2021.

Expertise of research participants

You have been approached to take part in this study because you are an expert in the field and I would like you to share your knowledge and experiences with me. The study will last for approximately one hour to two hours and 32 people will take part in this study.

Students with hearing impairments will be in groups of two persons and the teachers will be interviewed individually.

In Germany the study will be carried out in the part of lower Saxony, in the section of Oldenburg and it will involve two schools which are inclusive schools and accommodate students with hearing impairments.

Confidentiality

The researcher will use pseudonyms and anonymity strategies to protect your privacy and confidentiality. Information obtained will only be accessible by the research team. The soft copies of the data will be protected by password and hard copy files will be kept under lock and key. Confidential information will only be accessed by the researcher and her supervisor.

Please note that you do not have to answer any questions or discuss any topics that may make you feel uncomfortable. The anonymized results of the study will be published as a research paper and might be published in a professional journal.

Benefits

You will get feedback on the discoveries and advancement of the investigation. Any new data that influences the participation in this research study (including incidental discoveries) will be made accessible. The study concern will enable education service providers to try and promote inclusive pedagogy so that they avoid having special classes for LHIs in supposedly inclusive schools. Without this, LHIs will find themselves segregated during class hours. This is an experience that could be potentially more heart-breaking than if they had been left to study in special schools for LHIs.

Alternatives and Costs

If you are not interested, you do not have to participate in this study. You will not lose any benefit in case of no participation. There will not be any extra costs incurred as a result of participating in this research study.

Withdrawal of participation

In case you decide at any time during the interview or discussion that you no longer wish to participate, you may withdraw your consent without any consequences.

Further questions and follow up

In case of any question related to the study during the entire study process or information on your rights as a research participant, you are welcome to ask freely. Furthermore, if you have any further information or questions regarding the study, kindly contact the principal researcher (Kajumba Ket) or her supervisor (Prof. Dr. Karsten Speck) using the contact details below.

Researcher's Supervisors: Prof. Dr. Karsten Speck

Researcher's E-mail. Kajumbaketi@gmail.com

Researcher's contact: +4915214455178

Statement of voluntariness

Participation in this study is intentional and voluntary. You have the right to pull back from this study whenever without any consequence towards you. In the event that you have any issues relating to your rights and interest in the study, it would be ideal if you contact the Chairperson, Gulu University and also university of Oldenburg.

Consent Statement:

I confirm that the purpose of the study, the study procedures, the possible risks, and discomforts, as well as benefits, have been explained to me. All questions have been answered and I have agreed to participate in the study. I am aware that I may pullback at any point. I comprehend that by signing this form, I do not defer any of my legitimate rights but show that I have been educated about the exploration and consent to willfully to take part in the study. A duplicate of this form will be given to me.

Participant's signature _____ Date _____

Researcher's signature _____ Date _____

Appendix VI: Regionales Landesamt für Schule und Bildung Osnabrück

Regionales Landesamt für Schule und Bildung Osnabrück
Postfach 35 69 • 49025 Osnabrück



**Regionales Landesamt
für Schule und Bildung
Osnabrück**

Frau
Keti Kajumba
Groninger Straße 20
26129 Oldenburg

Bearbeitet von
Ina Voss

Ina.Voss@rlsb-os.niedersachsen.de
Fax: 0541 77046-443

Ihr Zeichen, Ihre Nachricht vom

Mein Zeichen (Bei Antwort angeben)
OS 1 R.22 - 0541/2 N

Telefon
0541 77046-443

Osnabrück
12.05.2021

**Umfragen und Erhebungen in Schulen;
Antrag auf Genehmigung einer Erhebung im Rahmen Ihrer Promotion mit dem Titel: „Inklusive Pädagogik für Schüler*innen mit Hörschädigung in der Sekundarstufe: eine vergleichende Studie in Uganda und Deutschland“**

RdErl. d. MK v. 1.1.2014 - 25b - 81402 - VORIS 22410 -

Sehr geehrte Frau Kajumba,

hiermit genehmige ich die Durchführung der von Ihnen geplanten Erhebung an der IGS Helene-Lange-Schule in Oldenburg und der IGS Flötenteich in Oldenburg.

Bei der Genehmigung gehe ich davon aus, dass Sie sich auf die von Ihnen genannten Schulen beschränken. Sollten Sie sich mit Ihrem Vorhaben an weitere Schulen wenden, bitte ich Sie, mir eine Liste dieser Schulen zu übersenden. Diese dient lediglich zur Ergänzung der Unterlagen, eine weitere Genehmigung ist dafür nicht erforderlich.

Vorsorglich weise ich darauf hin, dass die o. g. Schulen mit dieser Genehmigung nicht zur Teilnahme verpflichtet werden. Die Entscheidung über die Teilnahme obliegt der Schulleitung. Insbesondere aufgrund der aktuellen Situation im Zusammenhang mit dem Corona-Virus ist eine enge Abstimmung mit der Schulleitung erforderlich, ob und unter welchen Bedingungen in Ihrem geplanten Erhebungszeitraum das Forschungsvorhaben durchgeführt werden kann.

Den teilnehmenden Schulen bitte ich eine Kopie dieser Genehmigung vorzulegen.

Ich weise darauf hin, dass die Beteiligung der Betroffenen freiwillig ist und die erhobenen Daten zu anonymisieren sind. Die Betroffenen müssen vor Beginn der Erhebung auf die Freiwilligkeit der Teilnahme an der Erhebung hingewiesen werden und ihr zugestimmt haben. Bei minderjährigen Schülerinnen und Schülern ist das schriftliche Einverständnis der Erziehungsberechtigten einzuholen. Weiterhin sind sie über das Ziel und den wesentlichen Inhalt des Vorhabens, die Art der Beteiligung an der Erhebung sowie über die Verwendung der erhobenen Daten aufzuklären. Liegt die Zustimmung



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nur eines Teils Schülerinnen und Schüler vor, ist die Erhebung auf diesen Personenkreis zu beschränken. Die Freiwilligkeit der Teilnahme beinhaltet auch das Recht, einzelne Fragen zu beantworten, andere aber nicht. Hierauf sind die Teilnehmenden vor der Erhebung hinzuweisen.

Durch die Erhebung darf nicht in die schutzwürdigen Rechte der Betroffenen eingegriffen werden, zum Beispiel darf die Erhebung nicht zur Diskriminierung von einzelnen Personen führen.

Die zur Durchführung der Erhebung in der Schule erforderlichen organisatorischen Maßnahmen sind jeweils mit der Schulleitung abzustimmen und bedürfen deren Zustimmung.

Im Übrigen bitte ich die Ausführungen des o. g. Bezugserlasses zu beachten.

Bei etwaigen Veröffentlichungen über dieses Vorhaben bitte ich sicherzustellen, dass Rückschlüsse auf die Schule, Schulleitung und Personal sowie Schülerinnen und Schüler nicht möglich sind.

Ich halte fest, dass für das Land Niedersachsen keinerlei finanzielle Verpflichtungen aus dieser Genehmigung entstehen.

Für Ihre Erhebung wünsche ich Ihnen viel Erfolg und bitte Sie mir sowie auch dem Niedersächsischen Kultusministerium, Postfach 161, 30001 Hannover, zu gegebener Zeit das Ergebnis Ihrer Arbeit schriftlich mitzuteilen.

Mit freundlichen Grüßen
Im Auftrage


Ina Voss

Appendix VII: Kommission für Forschungsfolgenabschätzung und Ethik

CARL VON OSSIEZKY UNIVERSITÄT OLDENBURG 26111 OLDENBURG

Frau
Keti Kajumba
Carl von Ossietzky Universität Oldenburg

Stellungnahme der Kommission für Forschungsfolgenabschätzung und Ethik
zum Antrag Inklusiv Pädagogik für Schüler*innen mit Hörschädigung in Sekundarschulen: Eine vergleichende Studie über Uganda und Deutschland. - REVISION- AN: Keti Kajumba, Carl von Ossietzky Universität Oldenburg, Groninger Str. 20, keti.kajumba@uni-oldenburg.de, Telefon-Nr. 01514455178; weitere Beteiligte: Prof. Dr. Karsten Speck, Fakultät I Bildungs- und Sozialwissenschaften, Ammerländer Heerstr. 114-118, 26129 Oldenburg (Drs.EK/2021/020-01)

Sehr geehrte Frau Kajumba,

die Kommission für Forschungsfolgenabschätzung und Ethik der Carl von Ossietzky Universität Oldenburg hat in ihrer Sitzung vom 23.06.2021 obiges Forschungsvorhaben eingehend geprüft. Die Kommission hat keine Bedenken gegen die Durchführung des Vorhabens. An der Beratung und Beschlussfassung haben keine Kommissionsmitglieder teilgenommen, die selbst am Forschungsvorhaben mitwirken oder deren Interessen davon berührt werden. Die zustimmende Bewertung ergeht unter der Annahme gleichbleibender Gegebenheiten.

Bitte beachten Sie noch folgende Punkte:

- Die Ethikkommission ist über alle Änderungen am Studienprotokoll sowie den in diesem Antrag vorgelegten Dokumenten unaufgefordert und unverzüglich zu unterrichten. Ihr sind unaufgefordert alle schweren unerwünschten Ereignisse mitzuteilen, soweit sie im Zuständigkeitsbereich der Ethikkommission aufgetreten sind.
- Die Verantwortlichkeit des/der jeweiligen Wissenschaftlers/-in bleibt im vollen Umfang erhalten.



Kommission für Forschungs-
folgenabschätzung und Ethik

VORSITZ
Prof. Dr.-Ing. Andreas Hein

SACHBEARBEITUNG
Zentrales Gremienbüro

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OLDENBURG, 20.08.2021

ZENTRALES GREMIENBÜRO

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D-26129 Oldenburg
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Seite: 1/2

- Die Ethikkommission kann dieses Votum jederzeit zurückziehen oder ändern. Dies wird dem/der Antragsteller/-in mitgeteilt.
- Bitte machen Sie dieses Votum und die der Begutachtung zugrunde liegenden Dokumente allen beteiligten Wissenschaftlerinnen und Wissenschaftlern zugänglich.

Bitte beachten Sie, dass die Datenschutzgrundverordnung der EU (DSGVO) auf das Projekt anzuwenden ist. In Bezug auf die datenschutzrechtliche Information und Einwilligungserklärung sind daher zusätzlich zu den bislang üblicherweise dargestellten Datenschutzaspekten insbesondere folgende Punkte zu beachten:

- a) Die in dem Projekt für die Datenverarbeitung verantwortliche Person ist zu benennen. Auch wenn diese Person gleichzeitig die Projektleitung übernehmen sollte, ist sie ggf. zusätzlich als für die Datenverarbeitung verantwortliche Person ausdrücklich zu nennen.
- b) Der Name und die Kontaktdaten der zuständigen Datenschutzbeauftragten (lokal und Sponsor/Studienleitung) sind anzugeben.
- c) Auf das Bestehen eines Beschwerderechts bei einer Datenschutz-Aufsichtsbehörde (Landesdatenschutzbeauftragte oder Bundesdatenschutzbeauftragte des Prüfzentrums, Landesdatenschutzbeauftragte oder Bundesdatenschutzbeauftragte des Sponsors/Studienleitung) ist hinzuweisen. Die zuständigen Datenschutzaufsichtsbehörden sind zu nennen. Die Information sollte für jedes Prüf-/Studienzentrum angepasst sein.
- d) Die Betroffenen sind auf ihr Recht hinzuweisen, Auskunft (einschließlich unentgeltlicher Überlassung einer Kopie) über die betreffenden personenbezogenen Daten zu erhalten sowie ggf. deren Berichtigung oder Löschung zu verlangen.

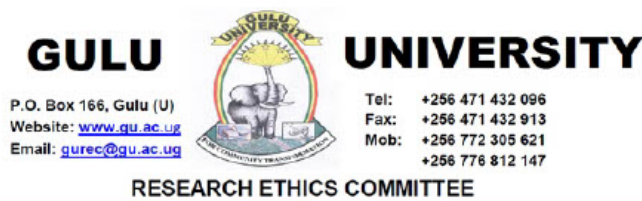
Details zu Ihren Informationspflichten gegenüber den Studienteilnehmern entnehmen Sie bitte insbesondere den Artikeln 13 ff. DSGVO. Die Ethikkommission prüft die Angaben zu den zuständigen DSB und Aufsichtsbehörden nicht auf Richtigkeit. Für die Angaben zu den lokalen Datenschutzbeauftragten und Aufsichtsbehörden reicht gegenüber der Ethikkommission die Angabe eines Platzhalters.

Für Ihr Vorhaben wünsche ich Ihnen viel Erfolg.

Mit freundlichen Grüßen

gez.
Prof. Dr.-Ing. Andreas Hein

Appendix VII: Recommendation for Ethical Clearance letter from Gulu University



21/08/2021

To: Kajumba Ketii

University of Oldenburg
+4915214455178

Type: Initial Review

Re: GUREC-2021-68: Inclusive Pedagogy for Students with Hearing Impairments in Secondary Education: A Comparative Study with Uganda and Germany, Version 2.0, dated 18.08.2021, 2021-08-20

I am pleased to inform you that at the 74th convened meeting on 15/04/2021, the Gulu University REC, committee meeting, etc voted to approve the above referenced application.

Approval of the research is for the period of 21/08/2021 to 21/08/2022.

As Principal Investigator of the research, you are responsible for fulfilling the following requirements of approval:

1. All co-investigators must be kept informed of the status of the research.
2. Changes, amendments, and addenda to the protocol or the consent form must be submitted to the REC for re-review and approval **prior** to the activation of the changes.
3. Reports of unanticipated problems involving risks to participants or any new information which could change the risk benefit: ratio must be submitted to the REC.
4. Only approved consent forms are to be used in the enrollment of participants. All consent forms signed by participants and/or witnesses should be retained on file. The REC may conduct audits of all study records, and consent documentation may be part of such audits.
5. Continuing review application must be submitted to the REC **eight weeks** prior to the expiration date of **21/08/2022** in order to continue the study beyond the approved period. Failure to submit a continuing review application in a timely fashion may result in suspension or termination of the study.
6. The REC application number assigned to the research should be cited in any correspondence with the REC of record.
7. You are required to register the research protocol with the Uganda National Council for Science and Technology (UNCST) for final clearance to undertake the study in Uganda.

The following is the list of all documents approved in this application by Gulu University REC:

No.	Document Title	Language	Version Number	Version Date
1	Informed Consent forms	English	Version 2.0, dated 18.08.2021	2020-08-20
2	Informed Consent forms	English	Version 2.0, dated 18.08.2021	2020-08-20
3	Data collection tools	English	Version 2.0, dated 18.08.2021	2021--20
4	Consent statement for video recording	English	Version 2.0, dated 18.08.2021	2020-08-20
5	Protocol	English	Version 2.0, dated 18.08.2021	2021-08-20
6	Covid-19 Risk Management Plan	English	Version 1.0	2021-03-28

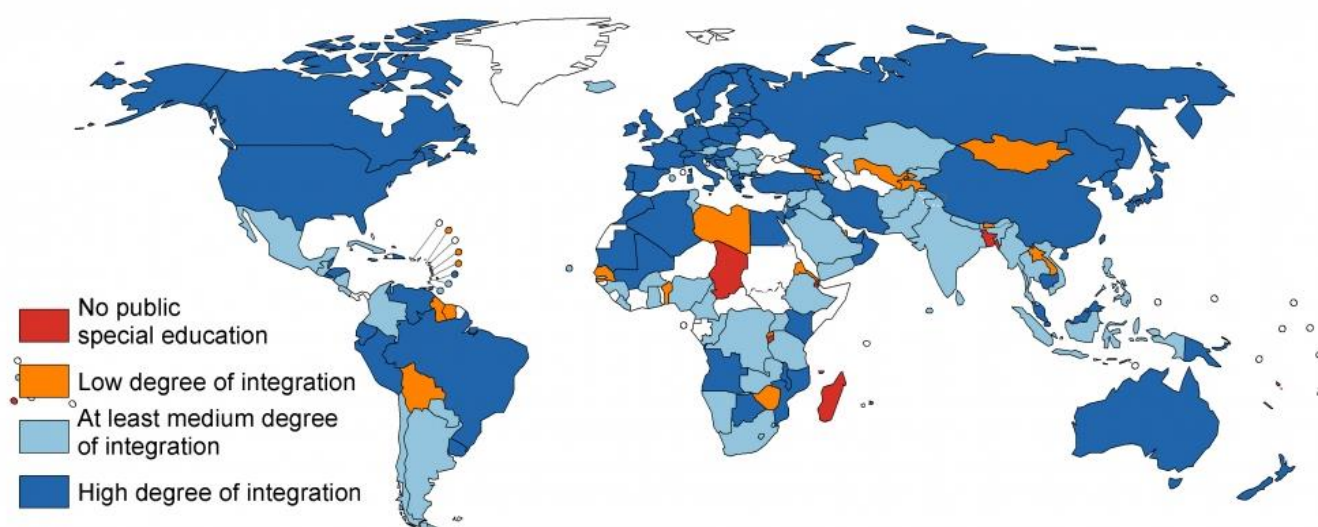
Yours Sincerely



Dr. Gerald OBAI
For: Gulu University REC

Appendix VIII: Audit Trail confirmation

Is inclusive education available for children with disabilities?

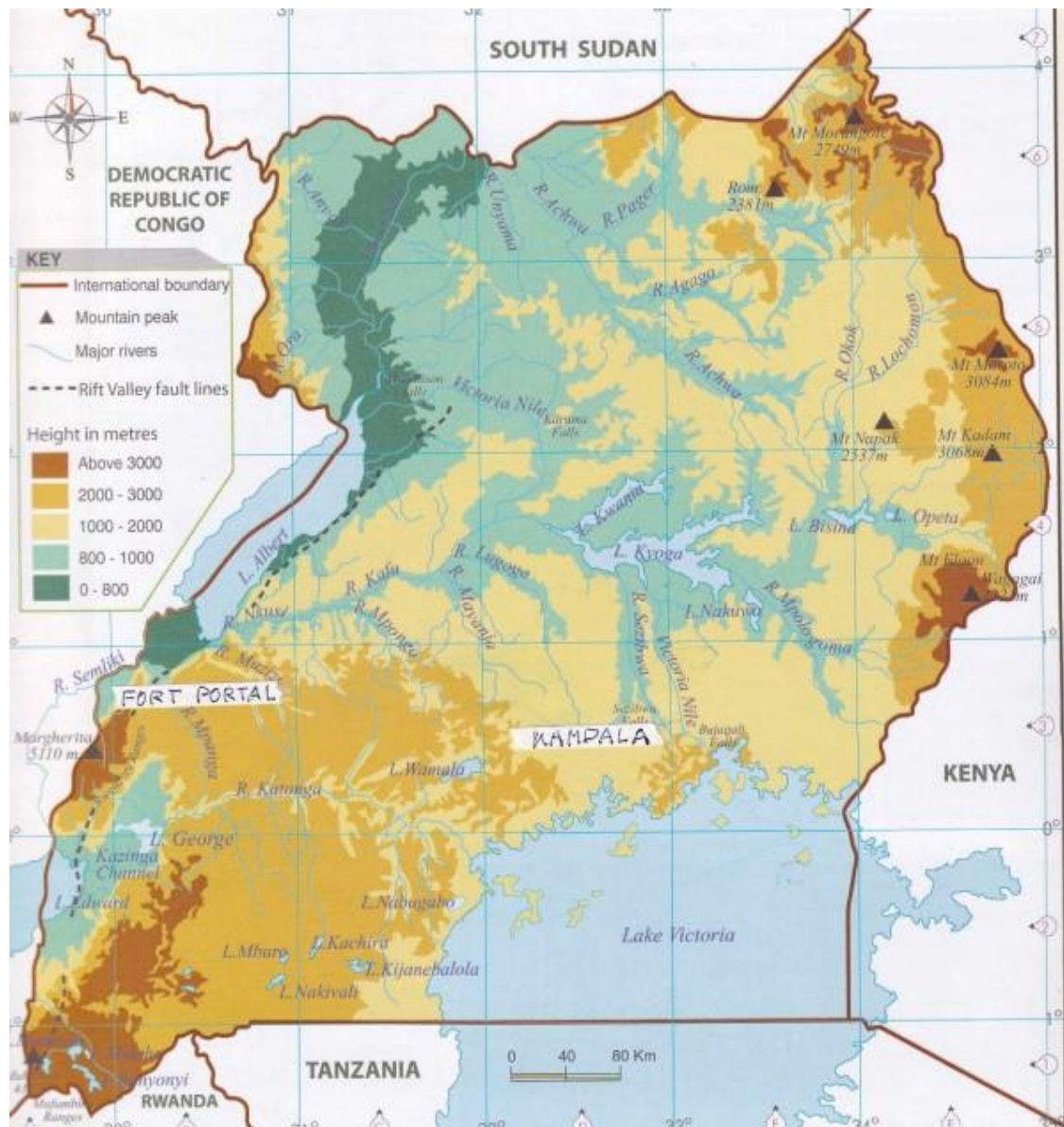


Source: WORLD Policy Analysis Center, Education Database, 2014

Appendix X: Map of Africa showing location of Uganda



Appendix XI: Map of Uganda showing location of Wakiso district, the study area



Appendix XII: Map of Germany showing location of Lower Saxony, the study area



Appendix XIII: Map of Europe showing location of Germany, the study area



APPROVAL

This is to certify that this thesis titled, “*Inclusive Pedagogy for Students with Hearing Impairments in Secondary Education: A comparative study about Uganda and Germany*”, has been submitted for examination with my approval as the researcher’s University supervisor for the Doctor of Philosophy in Education at the Carl Von Ossietzky University of Oldenburg, Germany.

SUPERVISOR

PROF. DR. KARSTEN SPECK

SIGNATURE: DATE:

DEDICATION

I dedicate this work to my lovely mother Kababiito Mary Abwooli for the educational inspiration she has spurred me with and her immeasurable efforts and support have made this thesis a reality.