

**CRITICAL ANALYSIS OF FACTORS AFFECTING TEACHING AND
LEARNING MANAGEMENT FOR PUPILS WITH INTELLECTUAL
DISABILITIES IN SPECIAL SCHOOLS, MERU-COUNTY, KENYA**

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**A Thesis Submitted to the School of Education and Social Sciences in Partial
Fulfilment of the Requirements for the Conferment of the Degree of Doctor of
Philosophy in Leadership and Education Management of
Kenya Methodist University**

AUGUST 2024

DECLARATION AND RECOMMENDATION

Declaration

This thesis is my original work and has not been presented for the award of a degree or any other award in any other university.

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Recommendation

We confirm that the candidate carried out the work reported in this thesis under our supervision.

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DEDICATION

This thesis is dedicated to my husband Patrick Rukunga, and our children Tony Muthuri and Kelvin Kirema, in addition to my father-in-law Atanasiu.

ACKNOWLEDGEMENT

I wish to express my sincere gratitude to the under mentioned people who in one way or another, helped me to make the writing of this thesis possible. I am very grateful to my supervisors Dr. Severina Mwirichia, Chairperson, Department of Education and Prof. Paul Gichohi for their inspiration, encouragement, and for academic critique, giving me their time and expert knowledge. Great appreciation to the late Prof Nephath Kathuri who used to encourage me, and actually saw me start off my research journey. I would like to acknowledge the lecturers from the Education Department for their valuable contributions during my academic pursuit.

I am also indebted to my parents, husband and children for their support, encouragement and understanding, especially during those times that I needed to isolate myself to attend to working on this document. I am also grateful for the support I received from all TSC and MOE Directors, teachers, head teachers, parents, pupils and others involved during data collection. Thanks to all my research assistants for your hard work, time and perseverance during the fieldwork. Special appreciation is extended to the KeMU library staff for their research advice and assistance in accessing valuable information resources crucial to my research.

To all of you, may God bless you.

ABSTRACT

Effective teaching and learning for pupils with intellectual disabilities (ID) is significant for socioeconomic development. In Kenya, there are limited educational opportunities and support for pupils with intellectual disabilities, resulting in exclusion and reduced academic achievement for this population. Even though Meru County has a policy on impairments mainstreaming, special schools that are meant to assist these students have not been able to overcome difficulties in managing instruction. The management of teaching and learning for students with intellectual disabilities in special schools in Meru County, Kenya, is influenced by several factors, which this study critically analyzed. The main objectives of the study were to evaluate how teaching and learning management for students with intellectual impairments in special schools are affected by the attributes of instructors, the school environment, the curriculum, the school culture, and the attitudes of teachers. The moderating role of teachers' attitudes was also ascertained. Four theories—contingency theory, Pavlov's classical conditioning theory, Vygotsky's theory, and the bioecological theory of development—informed this study. This mixed-methods research utilized descriptive survey research design. The convergence of both quantitative and qualitative findings in informing conclusions. The target population was four special schools, where units of observation were 45 teachers, four head teachers, 387 parents, four Sub-County Directors of Education, and four Teachers' Service Commission Sub-County Directors. The sample size of 45 teachers, 32 parents, four head teachers, four Sub-County Directors of Education, and four Teachers' Service Commission Sub-County Directors were purposely selected for the study. Data was collected using questionnaires, interviews, and observations. These tools were validated and checked for reliability using inter-rater reliability, and by computing Cronbach coefficients. The percentages, mean, and standard deviation were determined, while correlation and regression analysis helped test the variables' relationship. The thematic analysis technique was applied to qualitative data. Information was presented using tables, figures, themes, categories of themes and excerpts in some instances. While most teachers find the learning environment moderately conducive, concerns arise over assistive technology adoption, individualized learning shortages, deficiencies in teaching materials, infrastructure, staffing, and weak curriculum adaptation. Teachers' qualifications and competencies positively influence teaching and learning management, while the school environment has a negative impact. A perception gap exists in curriculum alignment with the needs of intellectually disabled pupils. Teacher characteristics, school environment, curriculum, and culture significantly influence the teaching and learning management of learners with intellectual disabilities. The study concludes that challenges persist despite efforts to improve special schools, particularly in infrastructure and teaching materials. Teacher characteristics are crucial in teaching and learning management, necessitating ongoing professional development. The school environment requires interventions like teacher training and curriculum adaptation. A perception gap in curriculum alignment highlights the need for clear communication and ongoing curriculum reviews. Teachers' attitudes play a significant moderating role, emphasizing the importance of targeted professional development. Recommendations include infrastructure upgrades, assistive technology integration, curriculum adaptation, policy revisions, enhanced teacher training, and materials adequacies. The study connects with contingency, classical conditioning, social learning, and ecological systems theories and emphasizes the need for policy revisions. It has notable practical implications for curriculum reassessment, adequate funding, equipment upgrades and teacher support.

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ABBREVIATIONS AND ACRONYMS

AAIDD	American Association on Intellectual and Developmental Disability
AAMR	American Association on Mental Retardation
APDC	Association of Parents with Disabled Children
EAC	Education Assessment Centre
EARCs	Educational Assessment Resource Centers
ID	Intellectual Disability
IEP	Individualized Education Planning
KICD	Kenya Institute of Curriculum Development
NGO	Non-Governmental Organization
PTR	Pupil-Teacher Ratio
SNE	Special Needs Education
SPSS:	Statistical Package for Social Sciences
UEF	Universal Education for All
UNICEF	United Nations International Children's Emergency Fund.
UNESCO	United Nations Educational, Scientific and Cultural Organization.
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The first section of this chapter provides an overview of the conceptual and contextual backdrop about the elements that affect the management of teaching and learning for students with intellectual impairments in special schools located in Meru County, Kenya. After a thorough explanation of the issue, the study's purpose, objectives, rationale, importance, scope restrictions, and assumptions are given. A definition of the words used in this study serves as the chapter's conclusion.

Kenya Effective teaching and learning for pupils with intellectual disabilities (ID) is significant for acquiring speaking, reading, and writing skills. Education is regarded as an inalienable right; henceforth, acquisition for all is most important. Properly managing teaching and learning for pupils with intellectual disabilities opens opportunities for developing individual independence, self-esteem, academic performance, and cognitive development (Lee et al., 2015; Tarantino et al., 2022). For proper management of teaching and learning among learners with intellectual disabilities, needful preparedness on policies, teacher's characteristics, school environment, teaching curriculum, school culture, teachers attitudes, instructional delivery modes, assistive technology, and infrastructure cannot be emphasized (Hutzler et al., 2019; Tarantino et al., 2022; Guralnick, 2017).

A child's ability to adapt and operate cognitively is affected and delayed by intellectual impairments, a neurodevelopmental disease (Luckasson & Tassé, 2021). It can also be defined as a disabilities that is characterized by individual limitations to gain independence

in intellectual, social, adaptive, and practical functioning (Schalock et al., 2021a). Earlier, this form of disabilities was known as mental retardation. 'Mental retardation' will not be utilized interchangeably with ID in this study since it is no longer used (Schalock et al., 2021b). Children with intellectual disabilities are slower to learn, understand, speak, read and write than normal learners in a classroom setting (Schalock et al., 2021b).

Luckasson and Tassé (2021) explain that intellectual disabilities is easily noticeable at the development stage of an individual before they reach age 22. Some characteristics considered to classify a child as intellectually disabled are the inability to carry out age activities, limited functional skills, slow learning, and difficulties in practical, social, cognition and comprehension activities (Boat et al., 2015).

Intellectual disabilities are categorized into four levels: mild, moderate, severe and profound intellectual disabilities (Luckasson & Tassé, 2021). However, the individuals are categorized into mild, moderate, severe and Profound ID (Boat et al., 2015). Mild to moderate ID groups are slower in all areas of development; however, with support, they can act independently, such as travelling, learning, ensuring their safety and daily interactions. Severe ID is manifested with significant challenges in cognitive development and limited communication and requires close attention from family and caregivers to do self-care. Lastly, the category with profound ID can no longer live independently since they have very limited communication, have physical limitations, cannot do self-care and require very close attention (WHO, 2021). The evaluation to tell if a child falls into mild, moderate, or profound categories is achieved using support intensity scales, IQ scale testing based on home or societal interaction, pursuit for knowledge, ability to work, health and

safety, individual self-care and engagement in social activities (Boat et al., 2015). The American Association on Intellectual Developmental Disabilities explain that 1-3% of the world population, which is close to 200 million, is suffering from intellectual disabilities of a kind.

Intellectual disabilities are majorly caused by genetic factors such as Downy syndrome (AlRawi & AlKahtani, 2022). Intellectually disabled may also be caused by environmental factors, brain infections, alcoholism, genetic factors, malnutrition, and trauma during birth, severe childhood diseases and poisoning (Graham et al., 2017). Intellectually disabled children are treated through counselling, medication and special education, which provides them with support to live independently (AlRawi & AlKahtani, 2022; Graham et al., 2017). This increases the emphasis on the management of teaching and learning among special primary schools. This study intends to critically evaluate the factors that influence the management of teaching and learning for pupils with ID in special schools in Meru County.

In special primary schools, teaching and learning management is globally emphasized to ensure that learners with ID challenges gain the independence they deserve. This is consistent with frameworks and policies like the Universal Design for Learning (UDL) and the Individuals with Disabilities Education Act (IDEA), which guarantee that students with intellectual disabilities receive individualized instruction, dynamic curricula, engaging teaching methods, technology, and infrastructure (AlRawi & AlKahtani, 2022; Soek et al., 2018). Inclusive education for all policies has also taken room to offer equal opportunities to pupils regardless of the type or nature of disabilities (Bjorn et al., 2016).

Teaching and learning management refers to implementing programs, strategies, practices, individualized curriculum and competent human resources to offer standardized, individualized learning to pupils with special needs (Ohba & Malenya, 2022). In special primary schools, it involves creating a conducive learning environment through appropriate technology, physical resources and infrastructure, as well as appropriate special classroom management practices and techniques to ensure all learners understand the concept being taught. For pupils with intellectual disability, teaching and learning management aims to ensure they can understand, read, write, speak and respond accordingly while developing independence intellectually, physically and socially (Ohba & Malenya, 2022).

Education for pupils with an intellectual disabilities is essential, and it can be measured by evidence such as inclusive education, individualizing learning programs, tailor-made learning and implementing special curricula (Dombrowski et al., 2023; Otukile-Mongwaketse et al., 2016). Teaching and learning management is also supported by a positive school culture, positive teachers and learner attitudes, teaching caregivers, and a conducive classroom environment (Hall et al., 2015; Hutzler et al., 2019). Apart from these, other characteristics include adopting differentiated instruction models, standardized examination scores, head-teacher support, teacher qualification and support, curriculum adaptation and adopting assistive technology (Bannick et al., 2020; Tolbert et al., 2015; Hutzler et al., 2019). Notably, teaching and learning can be better managed with adequate parental support from the children and special education personnel (Bannick et al., 2020).

Teaching and learning management for pupils with intellectual disabilities benefits individuals, society, the economy, and schools. Individual pupils benefit by having access

to education, which improves their comprehension, speaking, reading and intellectual building skills, which are necessary for good academic performance (Hall et al., 2015; Hutzler et al., 2019). Consequently, special primary schools adopting individualized learning curricula, assistive technology, infrastructure and qualified special needs teachers gain a good reputation, which attracts improved enrolment of ID pupils due to the won competitiveness (Guralnick, 2017). Appropriate teaching and learning for all also guarantee compliance with respect to these fundamental human rights. Nonetheless, the achievement of independence and individual self-care opens avenues for high completion rates and career development, which are important drivers of economic development. A conducive working culture and environment also boost teachers' morale, which is necessary for special needs teacher performance (Neece et al., 2020).

Globally, learning management for learners with ID is critical and must be emphasized. Continents have established policies and standard frameworks to guide special needs education. Such include the UDL framework for individuals with ID, the response to intervention framework, and the Every Student Succeeds Act, which pushes for individualized learning, flexible curriculum, qualified human resources and accessibility of services and facilities for all (AlRawi & AlKahtani, 2022; Smith & Lowrey, 2017). In the US, Finland, China, and Canada, policies have taken root to ensure learners with ID have equal opportunities for access to education (Bjorn et al., 2016; Monahan et al., 2020). Despite that, teaching and learning management gaps for pupils with ID in special schools in developed countries continue to widen as pupils go to the next levels of academics in Florida (Betch et al., 2020).

In America, Malaysia, and China, teaching and learning are influenced by several factors. One of them is revamping the teaching curriculum to include a universal design for learning (Al et al., 2018; Smith & Lowrey, 2017). Introducing universal education for learning has been reported to improve children's intellectual functioning, environmental adaptation, communication skills development, and memory of things learned. This has been achieved through individualized education programs (Al et al., 2018; Smith & Lowrey, 2017), which utilize three aspects to make learners remember, relate to, and grow intellectually. These present information through multiple and flexible methods to help a learner acquire knowledge, including various expression methods to interact, speak, and respond and, lastly, learner motivation to grab their attention (Al et al., 2018).

Al Hazmi and Ahmad (2018) also noted that the teacher's characteristics influenced teaching and learning. Some teacher characteristics include attitudes towards learners with intellectual disabilities, educational qualifications, particular education competencies and skills and teaching experience (Garraam et al., 2019). The teacher training programme also determines teacher characteristics attended, teaching strategies and methodologies, and knowledge about pupils' disabilities needs (Kurniawati et al., 2017). In Hong Kong, similar characteristics such as teacher self-efficacy, curriculum, loving nature, empathy and professionalism were evident (Chao et al., 2016). Furthermore, the school environment dramatically contributes to student habitation and adaptation. Chao et al. (2016) explain that learners in inclusive schools experience more hindrances and feelings of exclusion than in particular primary schools. In Scotland, the environmental characteristics affecting learning self-efficacy and inclusivity were school climate, infrastructure, and accessibility to facilities and services (Wilson et al., 2020).

Despite these factors, teaching and learning for disabled pupils has continued to experience challenges (Agran et al., 2019; Wehmeyer, 2019). Agran et al. (2019), Ruppert et al. (2016), and Wehmeyer (2019) explain that in the US, learners with disabilities continue to be placed in restrictive school environments, and also, there is no long-term curriculum revision and development for special needs. Also, learning institutions in the US were found unprepared in terms of meeting learners' medical care, instructional delivery, and communication needs (Ruppert et al., 2016). Other dominant factors are social-cultural, economic and demographic stratification, teacher incapacities, and inadequacy of teaching and learning resources, biases, negative attitudes and placement policies (Agran et al., 2019). Moreover, the shortage of exceptional teachers, lack of standardized assessment tools, school incapacity in infrastructure and demotivation contributed towards poor teaching and learning in Indonesia, Malaysia, the US and India (Sulasmi & Akrim, 2020; Nasir & Efendi, 2016; Kohli et al., 2018; Toropova et al., 2021). It's also important to keep in mind that the majority of the research that has been written about inclusive education settings outside of special primary schools concentrates on teaching and learning management.

Education for learners with ID is a global concern, and therefore, developed nations have implemented localized solutions to remedy the challenges hindering teaching and learning. Strategies employed include teacher motivation, teacher retention mechanisms to address turnover, in-service training to develop teaching competencies and adopting individualized learning programs (Crispel & Kasperski, 2021; Toporova et al., 2021; Agran et al., 2021). Inclusive and special education institutions have also invested in assistive technology and revising the teaching and learning curriculum (Kurniawati et al., 2017; Hall et al., 2015).

Other dominant practices include improving the school's environmental conditions and teacher self-efficacies (Ruppar et al., 2016). Otherwise, teacher competencies and positive attitudes have also contributed to inclusive education (Cate et al., 2018). Lastly, in China, the Ministry of Education has invested in developing the school environment using special architecture for ID classrooms using special basement materials, lavatories, restrooms, furniture, ventilation, lighting, colours and sun space (Jebril & Chen, 2021).

Regionally, countries such as Ghana, Zambia, Botswana, Uganda, Tanzania, Nigeria and South Africa are reporting challenges in teaching and learning among pupils with special needs (Lucy, 2019; Okyere et al., 2019; Okech et al., 2021; Matove & Nakayiza, 2018; Otukile-Mongwaketse et al., 2016; Adebissi et al., 2015). Existing studies relate the existing challenges to the influence of existing teaching and learning curricula, lack of individualized education programs, inadequate teaching and learning resources, teaching staff competencies, and negative attitudes by school stakeholders (Ndyabawe, 2016; Musenyente et al., 2022; Bamwesigye & Hlavackova, 2018). Apart from these, learning for pupils with disabilities is hindered by inadequate funding and assistive technologies channelled to special schools (Ndyabawe, 2016).

Some of the suggested recommendations for improving education for learners with intellectual disabilities emphasize policies and educational frameworks (Wakolli, 2019). Apart from that, learning and teaching have been managed by reducing pupil class sizes and seeking government and NGO support for infrastructure and facility development (Wakolli, 2019). Also, a poor school environment is suggested to be improved by developing specialized training facilities, providing human and material resources and in-service training programs (Okyere et al., 2019). Notwithstanding, existing studies focus on

challenges of inclusive education, overall all forms of disabilities, rights of children with disabilities and classroom management for learners with disabilities (Matovu & Nakayiza, 2018; Otukile-Mongwaketse et al., 2016; Adebissi et al., 2015; Wakolli, 2019; Okyere et al., 2019; Okech et al., 2021). The area of teaching and learning management for pupils with intellectual disabilities in special schools is, henceforth, deplorable.

In Uganda, Okech et al. (2021) explain that education for pupils with ID is fostered through inclusive education practices. These range from inclusive policies, teacher attitudes, parental attitudes, societal attitudes, learners' attitudes, perceptions, curriculum issues, and learning environments. Matovu and Nakayiza (2018) have presented that Uganda introduced interventionist programs for classroom management. The classroom reframing strategies such as teacher proximity to where learners sit, good relationship building between pupils and teacher and sitting arrangement help learners with disabilities gain much knowledge from class attendance.

Locally, the government of Kenya appreciate and upholds the fundamental right of ensuring education for all as anchored by the constitution of Kenya 2010, which commits the government to offer education without bias (Murungi, 2017). Other efforts have also been put across to ensure the school environments are conducive for learners with disabilities. These include the special needs inclusion policy and the Salamanca Statement and Framework for Action of 1994 (Obara, 2019). Another substantive framework that has continued the push for equity in education is the Free Primary Education (FPE) that was declared by the state in 2003. It aims to achieve the Education for All (EFA) initiative (Kalya, 2020).

Consequently, teaching and learning in primary schools have faced developments of different kinds due to funds being channelled by the government and charitable organizations towards special needs schools to upgrade infrastructure, deploy information resources and manage education for learners with intellectual disabilities (Mwabili et al., 2020). Individualized education programs have also been included in the primary curriculum to best manage learners with special needs (Mwabili et al., 2020). Studies also emphasize the need to implement individualized education for learners with special needs in both special and inclusive settings. Because of the above interventions, teaching and learning among special primary schools for learners with intellectual disabilities is expected to be effectively managed.

However, this has not been achieved as occasioned by ineffective teaching and learning, which has evidenced adverse impacts. These are like children taking too long to read and write, unstandardized performance assessment tools, and the need for agreed instructional delivery methodologies (Mwangi, 2021; Mwabili et al., 2020; Kalya, 2020; Murungi, 2017; Obara, 2019). Also, high learner dropout rates, high student turnover transfer rates, little achievement of adaptive and communication and skills among pupils with intellectual disabilities are expected (Mwangi, 2021; Mwabili et al., 2020; Kalya, 2020; Murungi, 2017; Obara 2019). Notwithstanding, an investigation of factors affecting teaching and learning management for pupils with intellectual disabilities has yet to be conducted. The research elaborates that challenges experienced in education for learners with disabilities have been a result of unstandardized curriculum, examination assessments, information resources, inadequate funding, ineffective operationalization of policies and teacher competencies (Ohba & Malenya, 2022; Elder & Kuja, 2019; Dombrowski et al., 2023).

Some interventions put across towards the education for learners with special needs focus on shaping the classroom environment, individualized learning curriculum, teaching strategies, teacher-related factors, curriculum adaptation, challenges faced by learners with ID and identification of various forms of disabilities in children (Kabutha, 2019; Gatuura et al., 2023; Solomon, 2017; Onger, 2022; Alice, 2018). Specifically, the teachers' characteristics, school environment, curriculum and school culture and how they influence the management of teaching and learning for pupils with intellectual disabilities are not investigated. Also not discovered is the moderating role of teacher's attitudes on factors and teaching and learning management for pupils with intellectual disabilities. This presented the need for a critical investigation that further examines the moderating effect of teachers' attitudes between the factors and teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya.

1.2 Statement of the Problem

Effective teaching and learning for pupils with intellectual disabilities (ID) fosters socioeconomic development. In Kenya, there are limited educational opportunities and support for pupils with intellectual disabilities, resulting in exclusion and reduced academic achievement for this population. In an attempt to address this challenge, the government of Kenya developed a policy on disabilities inclusion to support disabilities mainstreaming (Obara, 2019), which incorporated the Salamanca Statement and Framework for Action of 1994 that emphasizes the school environment, infrastructure, resources and services to take care of all children regardless of the type or nature of disabilities (Umar, 2021; Mutugi, 2018).

Moreover, the Kenya Institute for Special Needs Education was established to equip special needs teachers with knowledge and competencies to manage teaching and learning in special schools (Mwabili et al., 20120). Furthermore, the constitution of Kenya 2010 has emphasized on special needs education (Murungi, 2017). Consequently, the government through the Ministry of Education, allocates funds towards supporting special needs schools. The funds are meant for upgrading infrastructure, purchasing information resources and fostering effective education management for learners with disabilities (Mwabili et al., 2020). KICD has also revised the curriculum to ensure individualized education programs are embraced to address learners with special needs (Mwabili et al., 2020). Ideally, these steps are expected to foster effective teaching and learning management for pupils with intellectual disabilities in special schools.

However, while special schools exist to serve pupils with ID in Meru County, these schools have continued to experience challenges in the management of teaching and learning despite the existence of a policy on disabilities mainstreaming. Notably, effective teaching and learning management in special schools is yet to be achieved, as evidenced by sordid educational experiences for pupils with intellectual disabilities (Gatuura et al., 2023). Other detrimental aspects affecting effective teaching and learning management in special schools span from insufficient teaching materials, inadequate infrastructure, unfriendly instructional delivery methodologies, teacher-related factors, high learner dropout rates to poor integration of adaptive technologies (Mwabili et al., 2020; Mwangi, 2021).

The above situation raises questions on key factors that play a role in teaching and learning management in these special schools, including teacher characteristics, school environments, curricula, school culture, and teacher attitudes (Kabutha, 2019; Mutugi,

2018; Gatuura et al., 2023; Umar, 2021). This explains why this study was necessary, failure of which disparities in learning experiences in special schools with learners with ID will continue to be witnessed.

The understanding of the intricate factors affecting the management of teaching and learning for pupils with intellectual disabilities is critical. Previous studies such as Kabutha (2019), Gatuura et al. (2023), Solomon (2017), Onger (2022) and Alice (2018) have acknowledged challenges in infrastructure, teaching materials, and staff, covering constructs such as individualized learning curriculum, teaching strategies, teacher-related factors, curriculum adaptation, challenges faced by learners with ID. However, the interplay of teacher characteristics, school environment, curriculum implementation, school cultural factors, and teacher attitudes in influencing teaching and learning management for pupils with intellectual disabilities in special schools had not been adequately investigated. This attested the need for the current study.

1.3 The Study's Purpose

The purpose of the study was to find out what influences the management of teaching and learning for students with intellectual disabilities in special education programs in Meru County, Kenya.

1.4 Research Objectives

The investigation in this study was guided by the following research objectives:

- i. Determine the influence of teachers' characteristics on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya.

- ii. Assess the influence of school environment on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya.
- iii. Determine the influence of curriculum implemented on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya.
- iv. Examine the influence of school culture on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya.
- v. Assess the influence of teachers' attitudes in moderating the factors that influence teaching and learning management for pupils with intellectual disabilities in Meru County, Kenya special schools.

1.5 Research Hypotheses

The study adopted these hypotheses as derived from the study objectives:

- i. HO₁: Teachers' characteristics do not significantly influence teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya.
- ii. HO₂: School environment does not significantly influence teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya.
- iii. HO₃: The curriculum does not significantly influence teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya.

- iv. HO₄ School culture does not significantly influence teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya.
- v. HO₅: Teachers' attitudes do not moderate the influence of factors and teaching and learning management for pupils with intellectual disabilities in Meru County, Kenya special schools.

1.6 Justification of the Study

The provision of quality education for pupils with intellectual disabilities is a critical issue that warrants thorough investigation. Countrywide, limited research exists to gauge the contributions of factors on teaching and learning management for pupils with intellectual disabilities. This gap provided the justifiable and reasonable need for this study to inform best practices and management plans for improving special education institutions. According to the World Health Organization Report (2016), 4 million Kenyans have a disability. Consequently, WHO (2016) posits that lack of knowledge, skills, adequate policies, and curriculum are the main drawbacks that have deprived learners of equal access to education.

Despite the Kenyan government's efforts to establish policies, institutions, and allocate resources to support special needs education, significant challenges persist in managing effective teaching and learning in special schools for learners with ID. In addressing this gap, the current study critically analysed factors that influence the educational experiences of pupils with intellectual disabilities in special schools, examining teacher characteristics, school environments, curriculum implementation, school culture, and teacher attitudes.

This was meant to provide a comprehensive understanding of the dynamics at play in these educational settings, and potential insights to transform the educational landscape for this vulnerable population, promoting their academic achievement, social inclusion, and overall well-being.

1.7 Significance of the Study

The study provides valuable insights into the factors affecting teaching and learning management for intellectually disabled pupils in special schools in Kenya. It reveals significant gaps in infrastructure, materials, curriculum alignment, and environmental support, as well as the impact of teacher competencies, attitudes, and school culture on shaping educational experiences for this special population. The research highlights perception differences regarding curriculum inclusivity and differentiated instructions.

The findings inform the government of Kenya, which is responsible for dispense equal education for all regardless of gender, race, age, and disability. The study also offers guidance on supporting disabilities mainstreaming by offering assistive technology and implementing individualized education plans. The results also inform the government to revamp special needs primary education policies.

Special education primary schools can benefit from the findings by upgrading infrastructure, facilities, teaching and learning resources, and assistive technology. These characteristics will help these schools earn a reputation and increase the influx of admissions for pupils with intellectual disabilities. The Ministry of Education can benefit from the findings by identifying challenges in infrastructure, teaching materials, equipment, assistive technology, and staffing, and offering actionable suggestions for

improvement.

Teachers can benefit from the study's findings by recognizing the importance of continuous professional development for teachers and implementing infrastructure upgrades, integration of assistive technology, and curriculum adaptation. This approach can contribute to reducing stigma and creating an environment where learners with intellectual disabilities feel valued and supported.

The study also provides valuable insights for special needs education curriculum developers, highlighting a perception gap regarding curriculum alignment with learners' needs. The findings support Vygotsky's sociocultural theory and Bronfenbrenner's Bioecological Theory of Development by highlighting the significance of social interactions, cultural influences, and the broader ecological context in shaping the educational experiences of pupils with intellectual disabilities.

1.8 Scope of the Study

The study critically analyzed the influence of factors on teaching and learning management for pupils with intellectual disabilities in special needs schools in Meru County, Kenya. The factors investigated include teachers' characteristics, school environment, curriculum, school culture and special primary school teachers' attitudes. The specific teachers' characteristics covered in this construct were teachers' academic qualifications, competencies in using assistive technology, knowledge and experience in special education, proficiencies in teaching learners with intellectual disabilities, and use of differentiated learning instructional delivery techniques; while, the teachers' attitudes construct investigated distinct aspects that included teachers' interest, motivation,

perception on assistive technology, emotional support they offer to ID learners, misconceptions and stereotypes of ID learners.

The respondents who informed the study were the head teachers and primary school teachers in Meru County. The research did not cover other forms of disability, such as the deaf, blind and physically impaired. Also, given that the study was biased toward teaching and learning management, the pupils' attitudes towards the school environment, curriculum, teachers and school culture were not covered.

1.9 Limitations of the Study

This study was cross-sectional. Henceforth, the influence of factors on the management of teaching and learning for pupils with intellectual disabilities was not monitored over time after the introduction of changes in teacher characteristics, curricula, school environment and culture. This was justifiable due to the degree requirements, which limited the study period. However, this was bridged by outlining best practices affecting short and long-term investment, planning, budgeting, and policing for intellectual disabilities education requirements. The study was also undertaken in Meru County. Nevertheless, actions to the specific schools may be implemented in schools outside the county in the argument that learners with intellectual disabilities require similar curriculum, infrastructure, teacher qualification, and information resources. The results reported explicitly depended on the experiences, feelings, attitudes, and viewpoints of the head teachers, teachers, and intelligent disabled students. This created room for biases in the study. However, this was overcome by creating an environment that assured privacy, confidentiality, and anonymity, which won respondents sincerity, openness, and truthfulness, expressed without

reservations. Furthermore, the study was limited to pupils with intellectual disabilities and only those in special primary schools. This limited participation to inclusive schools which are present in Meru County.

1.10 Assumptions of the Study

The study on teaching and learning management assumed that:

- i. Teachers' attitudes were positioned to influence the schools-based factors and teaching and learning management for pupils with intellectual disabilities in special schools in Meru County.
- ii. The school environment in the special primary schools had been created to conductively support teaching and learning, although challenges need to be streamlined to promote habitable conduciveness.
- iii. The curriculum in place inhibits teaching and learning management for pupils with ID in special schools in Meru County.

1.11 Operational Definition of Terms

Assistive technologies	These are acoustic communication device aids, which help learners to adapt to the learning environment by enhancing concentration, listening, speaking, and class interaction.
Attitudes	It is how someone perceives something or somebody.
Curriculum	This refers to the planned instructional program and educational experiences specifically designed to meet the unique needs and abilities of these learners.
Factors:	Compounding factors that a school/school stakeholders have control over such as culture, environment, human resources, and infrastructure
Intellectual disability	A problem with mental capacity and ability that affects conceptualization, socialization, intellectual processes, the acquisition of knowledge, skills, and education attainment for a pupil to live independently.
Management:	Refers to being able to deal with or control materials, school culture, environment and attitudes, and human resources.
Special schools	Educational institutions that provide a conducive environment for learners with special requirements as a result of intellectual disability, or physical or behavioral difficulties.

Teaching and learning management: It involves the design, planning, and implementation of systems, procedures, strategies, policies, guidelines, directives, rules, and practices to achieve educational outcomes.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

An overview of the literature on the subject of teaching and learning management strategies for students with intellectual disabilities in special needs education is given in this chapter. In order to highlight research gaps, the empirical literature is arranged based on research variables at the beginning of the debate. The theoretical and conceptual frameworks are then presented. The conceptual framework includes indicators showing how each construct was operationalized.

2.2 The Concept of Teaching and Learning Management for ID

Teaching and learning management refers to applying managerial principles such as planning, organization, collaboration and coordination to control the different teaching processes, required materials, and human resources to attain effectiveness and efficiency in education outcomes (The IGI Global Publishing, 2019). It also covers building capacity through human resources, material resources, technology, infrastructure, and instructional delivery processes to achieve set educational goals and objectives (Lynch et al., 2016). Teaching and learning are determined by the adopted curriculum, conducive school environment, standardized assessment test methodology, multi-dimensional instructional methodologies, technology, pedagogical strategies, and qualified human resources (Lynch et al., 2016; Ohba & Malenya, 2022).

Pupils with intellectual disabilities are children who experience challenges in understanding complex information, speaking, and learning new concepts (Schalock et al.,

2021). There are different types of intellectual disabilities classified as mild, moderate, severe, and profound, depending on the cause of the ID, the functional limitations, and environmental, family and individual factors (American Association on Intellectual and Developmental Disabilities [AAIDD], 2010). Persons with intellectual disabilities are faced with common issues such as the inability to understand, limited communication abilities, slow cognition and information processing, and difficulties in comprehending and remembering (The Australian Government Clearance House for Education and Training, 2023). Therefore, educating this category of learners requires close attention, differentiated learning, and multi-sensory teaching and learning for them to succeed academically. This qualifies the need to investigate teaching and learning management for pupils with intellectual disabilities.

Teaching and learning management for learners with intellectual disabilities is characterized by implementing inclusive teaching strategies and using appropriate models to teach (Schalock et al., 2021). It is also dominated by the diagrammatical representation of knowledge and the use of images and pictures that are brightly colored and coupled with multimedia presentation of notes (Harris & Greenspan, 2016). Individualized learning is also essential to ensure pupils understand the taught concepts. Moreover, it relies on repeating concepts to reinforce understanding, using many verbal and non-verbal cues to pass information and tailor reading guidance (Schalock et al., 2019).

Teaching and learning management for this category of learners also relies on assistive technology such as computers, telephones, computer-communication tools, hearing aids, special pens with grips and graphic organizers to communicate, access computer-assisted

instruction, and support independence to do daily activities (Boot et al., 2018; Torrado et al., 2020). Academic progress monitoring and evaluation using cognitive assessments, IQ tests, speech, and word recognition tests, and adaptive behavior functioning testing, are also good elements that constitute effective teaching and learning for intellectually disabled learners (Robinson, 2017). Other critical considerations are teacher qualifications, infrastructure, information resources, and facilities (Ohba & Malenya, 2022).

Teaching and learning management has also been facilitated by implementing legal policies and frameworks. These include the Kenyan constitution of 2010, the Individuals with Disabilities Education Act (IDEA) and Universal Design for Learning (UDL), which support the rights of intellectual disabilities learners through individualized learning, engaging teaching methodologies, flexible curriculum, technology, and infrastructure (AlRawi & AlKahtani, 2022; Soek et al., 2018). These policies and frameworks are meant to spearhead special, inclusive education for all through stipulated requirements (infrastructure, resources, technology, funding, and support) and equal opportunities to pupils regardless of the type or nature of disabilities (Bjorn et al., 2016).

Despite the available legal frameworks and conventions that support education, the teaching and learning management for pupils with intellectual disabilities is still experiencing several setbacks. Some setbacks include family-based factors, parental support, and socioeconomic, political, financial, and individual factors (Kipkosgei et al., 2017; Murithi, 2022; Schalock et al., 2021). Learners with ID are also confronted with limited skills to use assistive technology, limited teacher competencies, inadequate books and teaching resources, unspecialized teachers, and a lack of adaptive curriculum

(Kabutha, 2019). This study argued that factors influence the management of teaching and learning for pupils with intellectual disabilities in special schools in Meru County.

Existing literature on the aspects of education for pupils with intellectual disabilities reports shortcomings and shortfalls in the management of teaching and learning (Agran et al., 2019; Wehmeyer, 2019). Agran et al. (2019), Ruppar et al. (2016), Toropova et al. (2021), and Wehmeyer (2019). All the above studies agree that learners with intellectual disabilities are faced with restrictive school environments, rigid teaching curricula, and instructional delivery gaps. Ruppar et al. (2016) and Sulasmi and Akrim (2020) report limited assistive technologies, communication gaps, low academic performance, unstandardized assessment and evaluation criteria, unstructured medical care management plans, and inadequate teaching and learning information materials. The factors affecting teaching and learning management are not fully explored as presented by the existence of research which dominated on challenges of inclusive education, overall all forms of disabilities, rights of children with disabilities, and classroom management for learners with disabilities (Matovu & Nakayiza, 2018; Otukile-Mongwaketse et al., 2016; Adebissi et al., 2015; Wakolli, 2019).

To address these challenges, developed countries have implemented a variety of strategies. For instance, the universal design for learning practice has been established to support curriculum implementation for pupils with intellectual disabilities. Hall et al. (2015) and Al Hazmi and Ahmad (2018) investigated this aspect, focusing on how the universal design for the learning framework could enhance the ability of learners with ID to adapt, speak, remember, gain knowledge, and develop mentally, physically, and emotionally. The

evidence from an experimental study by Hall and colleagues and the systematic review of studies ranging from 2008 to 2018 by Al Hazmi notes that individualized learning improved the school environment and instruction delivery by presenting information through multiple methods of expression to enhance communication and learner's motivation to participate actively in the learning process. On the same note, AlRawi and AlKahtani (2022) also analyzed the same in Saudi Arabia. They discovered that UDL enables the teacher to customize the teaching curriculum using different teaching styles to reach all learners despite their intellectual differences. Some of the observed characteristics that enabled learners to acquire knowledge were using videos, pictures, and audio to improve learners' expression, participation, engagement, and representation. Despite this, the implementation of UDL learning was faced with hindrances such as infrastructure, teacher proficiencies, pedagogies, and curriculum resources. The study noted the need for teacher training and funding to effectively utilize UDL in educating learners with ID. Unlike the above studies, the current study relied on primary data to investigate the factors affecting teaching and learning management for pupils with intellectual disabilities in special primary schools.

Besides enacting a universal learning design, the school curriculum has also been described as influential on the process of acquiring education. Bjorn et al. (2016), Özkan and Kale (2023), and Jones and Lawson (2015) figured curriculum aspects such as responsive intervention frameworks, physical education in the teaching curriculum, teaching resources, and funding and pedagogy management for pupils with ID. These studies, which were carried out in the US, England, and Finland, argued that teaching curriculum for intellectually disabled pupils required preparedness in terms of instructional

methodologies, teacher skills, competencies, infrastructure, and learning materials, which were effectively managed using ID frameworks. Jones and Lawson (2015), who observed and interviewed 9 teachers and students with intellectual disabilities, found that individualized learning programs, learning, and multiple instructional delivery methodologies helped improve learning acquisition in the classroom. Bjorn et al. (2016) compared the US and Finland frameworks and discovered that both legislatures supported learners with ID by stipulating how teaching, infrastructure, competencies of teachers, and resources could be availed to implement the set curriculum. For Özkan and Kale (2023) the inclusion of physical education in the teaching curriculum was found to positively influence learner engagement, quality of life, learner participation, and acquisition of knowledge. This was discovered from the differences between the control and the experimental groups of 34 pupils. These studies concluded the need to revamp the US, Finland, and England curriculums to incorporate physical education, individualized learning, and teacher instructional delivery methodologies. This study argues that teacher characteristics, school environment, curriculum, and culture critically influence teaching and learning management for pupils with intellectual disabilities in special primary schools.

It has also been discovered that teacher attributes affect student teaching and involvement in the classroom. This phenomena was investigated in studies by Kurniawati et al. (2017), Hodge et al. (2018), Alahmadi and El Keshky (2019), and Lee et al. (2015). The studies focused on important teacher aspects like attitudes, competencies, instructional methodologies, teacher knowledge, classroom engagement, teacher perceptions and beliefs about disabilities, and patient characteristics. It was discovered by the presented studies

that teachers significantly impacted the school learning environment using these characteristics. Also, teachers' positive attitudes and knowledge were prerequisite features that enabled learner management, engagement, and knowledge acquisition. Despite these advantages, it was observed that teacher characteristics were deficient as characterized by inadequate instructional knowledge, professionalism, and competencies. These studies recorded that in-service teachers had yet to be taught units on special and inclusive education. The studies reported the need for Brazil and Asian governments to invest in teachers' training to equip them with positive attitudes and knowledge to improve instruction delivery to marginalized groups. Lee et al. (2015), Hodge et al. (2018), Alahmadi and El Keshky (2019), and Kurniawati et al. (2017) studies, however, focused on different forms of disabilities among primary and secondary school pupils. Therefore, the studies did not contextualize the room for intellectual disabilities in special primary schools. Also, how teacher characteristics influenced the school environment was not clarified, hence the current study clarified the influence of school environment on teaching and learning management for pupils with intellectual disabilities.

Another intervention mechanism to facilitate teaching and learning is the adoption of assistive technology. These include using argumentative and alternative communication technologies to boost learners' speech, interactivity and knowledge acquisition (Ghani & Mohamed, 2019; Binti Rosli, 2019; Aldabas, 2022; Rabi & Nordin, 2021). The studies identified that learners with intellectual disabilities have a problem in spelling, speaking, remembering and communicating. Consistent with this, argumentative and alternative communication devices affecting speech development for learners with disabilities were investigated. The presented findings pointed out that assistive technologies had a massive

influence on learners' communication and tuning ability with ID. Assistive technologies such as computers, telephones, iPads, computer-aided-communication tools, hearing aids, special pens with grips and graphic organizers improved pupils' ability to communicate and acquire assisted instruction and knowledge. Despite these, teachers and learners were less aware of the devices, lacked the skills to utilize them and experienced shortfalls in securing assistive technologies for autism or learners with difficulty communicating. The studies stressed the need to fund, create awareness and train teachers on providing assistive technologies for teaching. This study was interested in investigating the influence of the school environment as a support mechanism to manage ID pupils' education in special primary schools effectively.

Regionally, teaching and learning management for pupils with intellectual disabilities is cherished. However, existing studies are reporting challenges in teaching and learning among pupils with special needs (Lucy, 2019; Okyere et al., 2019; Okech et al., 2021; Matove & Nakayiza, 2018; Otukile-Mongwaketse et al., 2016; Adebissi et al., 2015). These studies explain that the experienced influencers to effective education are curriculum aspects, individualized education programs, teaching and learning resources, teaching staff competencies and teacher attitudes.

Notably, the factors undermining education for pupils with disabilities have been explored by Ndyabawe (2016), Bamwesigye and Hlavackova (2018) and Musenyente et al. (2022) in Uganda. These studies traced the education of learners with disabilities to be influenced by school drop-out. The drop-out issue was found to result from socioeconomic problems, shortage of staff in schools, poor parent attitudes towards education for the disabled,

negative stereotypes and attitudes of teachers, lack of special equipment, poor teacher morale, discrimination and little government support. Apart from these, Ndyabawe (2016) explained that learners did not get an adequate education due to a lack of individualized curriculum and learner-psychological support programs in schools. These studies recommended a need for the Ugandan government to intervene and support inclusive and special needs education through funding, assistive technology, teacher training, developing infrastructure and teaching and learning resources. This current study was not only about education for people with disabilities but also specifically analyzed the factors affecting teaching and learning management. The study believed that addressing the factors contributes to knowledge acquisition, academic performance and student retention, essential virtues in teaching and learning management.

In Botswana, curriculum management and teacher competencies were critical in facilitating teaching and learning in inclusive schools. Otukile-Mongwaketse et al. (2016) and Kuyini et al. (2021) clarified these aspects. Both qualitative studies used questionnaires and interview schedules. They observed that teacher characteristics encompassing skills, competencies, teaching methodologies, and curriculum knowledge placed them in a better position to undertake teaching and learning processes in inclusive primary schools. Also, the aspects of curriculum adaptation, such as adaptive instructional competencies and using different learning styles for students, were classified as essential enablers of inclusive education.

Similarly, these studies also supported the reports of Uganda by Ndyabawe (2016), Bamwesigye and Hlavackova (2018) and Musenyente et al. (2022) on the need for human resource preparedness, infrastructure, information materials and government funding.

Although curriculum management and teacher competencies were important factors which influenced education, this was based on inclusive primary schools. This study bridges the gap left by widening the scope to special primary schools in Meru County. Also, constructs such as the school environment, school culture and teachers' attitudes were investigated apart from curriculum and teacher characteristics.

In understanding teaching and learning management for learners with intellectual disabilities, classroom management interventions are very critical because of their weighty impact on practical learning for pupils with disabilities. The findings of Matovu (2019), Rayos (2019) and Bansal (2020) clearly illustrate this phenomenon. The evidence from the three cross-sectional survey studies identified significant factors affecting student engagement and learning outcomes. The factors included classroom management strategies such as teacher proximity, small class sizes, sitting arrangement, multiple ways of teaching, giving learning goals, and adaptive assistive technologies. Moreover, the class management practices were found significant; hence, there was an indispensable need to improve infrastructures, and teacher training on classroom management techniques. The current study covered classroom practices and the school environment, culture and teacher characteristics in managing pupils' teaching and learning for learners with intellectual disabilities.

Another contribution to ensuring adequate education for learners with disabilities is adapting inclusive learning management practices. This was well covered by Okech et al. (2021) and Bannick et al. (2020). These researchers found that the school learning environment, stakeholder attitudes, inclusive policies, and curricula all had the potential to affect how adaptable students were to inclusive education. Positive views were reported by

Okech et al. (2021) and Bannick et al. (2020) about teachers' attitudes toward students with special needs. However, both studies were generally concerned about different forms of special needs and also in regular schools. Moreover, the influence of curriculum, perceptions, school environment, and policies was not gauged against teaching and learning management. This study navigated through these aspects among learners with intellectual disabilities at special primary schools in Meru County.

Another contributory factor to effective education for students with cognitive and learning disabilities is the achievement of differentiated learning programs. Dapa (2020), Dapa (2017) and Manggalastawa (2023) investigated the impact of a differentiated learning approach on the reading skills of pupils. The studies found that differentiated learning approaches enabled learners with different capacities to acquire readiness, thinking abilities, mastery, and interest. However, the specific methods for ensuring learner engagement, earning interest, curiosity and mastery of content were not clearly articulated. This study argues that factors influence teaching and learning management for pupils with intellectual disabilities in special primary schools in Meru County.

Other solutions sought to enhance education for learners with disabilities entail adopting assistive technology. This was articulated in the studies by Ahmed (2018) and Adebisi et al. (2015) in Nigeria. The studies exposed the meaning, purpose, contribution and perception of using assistive technology in the classroom. The papers discovered that assistive technology positively impacted learners with special needs. These were improved reading, listening, memory development and intellectual abilities of learners.

Moreover, their use made learning interactive and enjoyable in the classrooms. The attitudes towards supporting assistive technologies were positive regardless of the shortcomings reported on limited assistive technologies. The available ones could have been more efficient due to poor maintenance and underutilization owing to a lack of skills and competencies. Despite these challenges, assistive technologies were found to eliminate learner frustration in the classroom and improve motivation and productivity. The recommendations by Ahmed (2018) and Adebisi et al. (2015) outlined the need for awareness, procurement of assistive technologies and maintenance of existing ones. Also, there was a need to train teachers, learners and caregivers on utilizing assistive technological devices. These studies differ from the current study in that it did not focus on assistive technologies but on improving the school environment, school culture, teacher characteristics and the teaching curriculum to effectively manage teaching and learning for intellectually disabled pupils in special schools.

Locally, the intention to support learners with intellectual disabilities through effective teaching and learning is evident. This is evidenced by frameworks, education for all initiatives, individual education programs, and campaigns for inclusive education (Obara, 2019; Kalya, 2020; Mwabili et al., 2020; Mwangi, 2021). Irrespective of these efforts, cases of special needs children taking too long to read and write, unstandardized performance assessment tools, lack of differentiated instructional delivery methodologies, minor achievement of adaptive and communication and skills among pupils with intellectual disabilities are common (Mwangi, 2021; Mwabili et al., 2020; Kalya, 2020; Murungi, 2017; Obara, 2019). That notwithstanding, an investigation of factors affecting teaching and learning management for pupils with intellectual disabilities is yet to be conducted.

Existing studies have focused on examination assessments, information resources, funding, operationalization of policies, and teacher competencies (Ohba & Malenya, 2022; Elder & Kuja, 2019; Dombrowski et al., 2023).

The existing literature also shows that the role of the classroom teaching environment has been investigated in Nairobi County by Dombrowski et al. (2023). The investigated constructs, such as classroom observations and teacher interviews, were used to establish the emotional tones of instructors and instructional support accorded to learners with disabilities. The study noted that teachers used differentiated instructional delivery techniques and were very interested in being trained to manage learners with disabilities in the classroom. In agreement, Mwabili et al. (2020) underscored the role of individualized learning programs among identified learners with disabilities. Focusing on how teachers identified learners with disabilities, Mwabili and colleagues submitted that teachers assessed reading, writing, communication, behavior, and academic performance to identify learners with disabilities.

Moreover, parents and the community were not involved. However, individualized learning programs were noted to impact learners reading, communication, and writing skills. Although the study of Dombrowski and colleagues used a small sampling size, teachers' attitudes towards learners with disabilities support was evident. The current study differed, considering that it focused on the influence of the school environment on teaching and learning management for pupils with intellectual disabilities at a special school in Meru County. Also, the current study was interested in learners with ID and how their learning could be managed other than exposing the mechanisms for identifying learners with disabilities.

Another aspect noted in the previous local studies was the role of teacher support. Obara (2019) investigated this aspect, focusing on learner retention in regular schools. The investigation was based on the physically challenged pupils in Kisumu. Obara found out that the teacher's support needed to be improved as characterized by poor curriculum adaptation, inadequate teaching, and learning resources, lack of use of differentiated learning approaches, lack of individualized learning programs, and teachers did not make learners aware of specialized and individualized learning. The study was teacher-centered; hence, learners' views were not incorporated.

Furthermore, the study recommended government intervention to fund training and learning resources and support individualized learning programs, differentiated learning, and special education needs at large. Mutugi (2018) also reported challenges similar to those noted by Obara in Kisumu. Apart from these, Mutugi added that school factors, social-economic factors, and social-cultural and teacher factors influenced special needs education. Negative attitudes, community stereotyping, poor facilities, inadequate information and teaching resources were also among the challenges experienced, and hindered inclusive education.

Several factors affecting the implementation of individualized learning were identified by Wanjiku (2021) and Ohba and Malenya (2022). These descriptive studies used questionnaires, interview guides, and focused group discussions to obtain data from respondents. They investigated teacher factors affecting UDL programs. The researchers reported that UDL was still very new, and primary schools were majorly advocating for inclusive education. Awareness was recommended to be partaken by concerned

government officials to spread the message and adopt individualized learning programs in special schools. The action further required the operationalization of inclusive policies.

Literature also exists on aspects of individualized learning, teacher characteristics, inclusive education, and school environment (Ohba & Malenya, 2022; Elder & Kuja, 2019; Dombrowski et al., 2023; Obara, 2019); Wanjiku, 2021). However, from the analysis and content from the above studies, it was not known how teaching and learning for pupils with intellectual disabilities was managed in special primary schools. Besides, the findings indicated that learners drop out, poor reading and writing skills, lack of differentiated instructional delivery methodologies, minor achievement of adaptive and communication and skills among pupils with intellectual disabilities continued to recur (Mwangi, 2021; Mwabili et al., 2020; Kalya, 2020; Murungi, 2017; Obara, 2019). The said research gaps necessitated the study to critically evaluate the factors that influence the management of teaching and learning for pupils with intellectual disabilities in special schools in Meru County to inform best practices on teaching and learning management.

2.3 Teachers' Characteristics and Teaching and Learning Management for ID

Teachers' characteristics refer to a range of inborn and acquired traits, coupled with knowledge, communication, abilities, competencies, experience, professionalism, belief systems, and attitudes, which aggregately influence teaching and learning (Goldman et al., 2017). According to Kwok (2021), teacher characteristics are explained by the teacher's certification, conduct, classroom management, behavior, instructional delivery methodologies, and experience in teaching and learning. Learners with intellectual disabilities face barriers to cognitive development, reading, delayed communication, and understanding concepts in the classroom. To ensure the acquisition of adequate knowledge,

characteristics such as patience, empathy, special education training experience, & skills, differentiated learning competencies, individualized learning knowhow, communication, and positive attitudes make up the teacher characteristics fitting for teaching and learning management (Van der Merwe et al., 2020; Wentzel, 2016; Kwok, 2021). Apart from in-born traits, teacher characteristics can also be attained through education and training, professional development, and cumulative experience on the job (Van der Merwe et al., 2020).

In this study, teacher characteristics include staff adequacy, professionalism, learner behavior management principles, differentiated instructional skills, and teacher assessment and screening practices (Majoko, 2019). They also constitute classroom management competencies, education qualifications for the job, and pre-and in-service training and development (Mohammed & Hlalele, 2023). Consequently, experience in a special education teaching job, communication skills, decisiveness, assertiveness, empathy, and patience are needed characteristics of teachers who handle intellectually challenged learners (Kwok, 2021). Additionally, Goldman et al. (2017) explain that teacher characteristics encompass their attitudes, beliefs, perceptions, and reactions toward learners with intellectual disabilities.

Ideally, in special primary schools, teacher characteristics are a prerequisite in pupils' teaching and learning management (Jiu, 2023). Given that learners with intellectual disabilities experience delayed speech, writing, understanding, consumption, and reflection of the acquired knowledge due to slow cognitive capability, then individual care, teacher patience, differentiated learning, goal-oriented learning approaches, inclusivity, and tutors' attitudes play a significant role in affecting learners' understanding and acquisition of

knowledge (Colclasure et al., 2019). Teacher characteristics, therefore, help to modify the learning environment by making it conducive, receptive, and interactive (Jiu, 2023). Moreover, the teacher makes the classroom conducive to cater to all learners using multiple information presentation methods. The teacher also modifies the teaching curriculum to fit the needs of pupils with intellectual disabilities (Colclasure et al., 2019).

Teacher's characteristics address teaching and learning management for pupils with intellectual disabilities by ensuring adequate information acquisition (Algahtani, 2017). Additionally, teacher characteristics determine learner preparedness for the national examination (Algahtani, 2017). The same teachers also ensure clear communication and learner adaptability, orchestrate classroom discussions, provide differentiated instructions, and offer teaching materials in multiple ways to ensure information acquisition (Olowo & Fashiku, 2020). It has also been observed that teacher characteristics promote student discipline, actualize appropriate teaching methodology, set standard assessment, foster learners' academic performance, improve learners' learning attitude development, and strengthen pupil-teacher relationships (Olowo & Fashiku, 2020). Therefore, teacher characteristics are the backbone of teaching and learning management and are expected to be in place.

However, teacher characteristics can be influenced by inadequate pre-service training, lack of in-service training, and professional development (Allam & Martin, 2021; AV, 2021). They can also be hindered by the available teaching curriculum resources, school culture, school environment, Ministry of Education legislative policies, school administration, and leadership, and the availability and adequacy of learning information materials (Faiz et al., 2019; Wakoli, 2019; Allam & Martin, 2021). This, therefore, makes teachers'

characteristics very weighty in the management of teaching and learning for pupils with intellectual disabilities in special primary schools.

Globally, teachers' characteristics have been studied widely. They are boosted through positive teacher attitudes, teacher self-efficacy, training on instructional delivery methodologies, teacher training programs, investing in inclusive education, and teacher conduct and professional ethics (Wang & Kuo, 2019; Lee et al., 2015; Chao et al., 2017; Ramli & Nurahimah, 2020; Gilson et al., 2017). Moreover, training on differentiated instruction delivery and individualized learning programs has taken root (Ramli & Nurahimah, 2020; Gilson et al., 2017; Nagase et al., 2020).

The importance of knowledge and competencies in instructional delivery methods for pupils with intellectual disabilities has been explored. Gilson et al. (2017) and Park et al. (2020) investigated this aspect, focusing on instructional methodologies such as video modeling, technologically aided instructional delivery, and device-assisted instruction in secondary schools. The systematic review of instructional methodologies for learners with intellectual disabilities reported that teachers needed to incorporate videos, audio, and pictorials, tactile and assistive technology to deliver classroom instructions adequately and appropriately. Teachers were also found to engage in a simulation, device-assisted instructions, response prompting, learner engagement, and community-based instructions. It was concluded that multiple instruction delivery methodologies and curriculum information presentation were crucial characteristics that ensured adequate knowledge acquisition by learners with intellectual disabilities. The current study also investigated teacher characteristics in teaching and learning management for pupils with ID in special primary schools. The methodological scope of Gilson et al. (2017) and Park et al. (2020)

was based on a systematic literature review; however, the current study utilized primary data gathered through questionnaires, interview guides, and focus group discussions to obtain the presented findings.

The attitudes of teachers also matter in teaching and learning. Lee et al. (2015) and Rakap et al. (2017) examined the teacher characteristics that mattered in teaching and learning at inclusive schools. These studies focused on the teacher's perceptions, attitudes, experiences, and willingness to help learners with disabilities, perseverance, and comfort in interacting with and teaching learners with intellectual disabilities. Surveys were utilized to obtain the teachers' attitudinal characteristics. It was found that the attitudes of teachers influenced student-inclusive education. On the same note, Hutzler et al. (2019) conducted a narrative literature review of international studies and presented that teacher attitudes were a determinant factor in inclusive education.

Moreover, teacher's attitudes were influenced by experience, classroom volume, professional and special education and training, school environment, religious beliefs, teacher stereotyping, and the learner's degree of disability. The study acknowledged the need to inculcate positive attitudes among teachers since it was a determinant factor in students with disabilities inclusion. Lee et al. (2015), Rakap et al. (2017), and Hutzler et al. (2019) were, however, focused on inclusive education, while the current study investigated the influence of teacher characteristics on the management of teaching and learning for pupils with intellectual disabilities in special primary schools and not based on inclusive schooling settings.

In Australia, similar issues on teacher attitudes towards including learners with disabilities were examined. This was evident in the presentation of Garrad et al. (2019), and Vaz et al. (2015), who elaborated that teacher attitudes determined the success of inclusive education. One hundred seven teachers were examined, and it was found that their attitudes towards learners with autism and cognitive difficulties were very positive, as presented by the autism attitude disorder scale. However, contrary to Hutzler et al. (2019), Garrad et al. (2019) found a very weak correlation between teacher attitudes and experience and professional development aspects of teachers. Nevertheless, teacher attitudes possess a significant relationship with inclusive education, as articulated by both Garrad et al. (2019) and Vaz et al. (2015). The current study was not based in inclusive primary school settings but was conducted in special primary schools. Moreover, the study was not set to measure teachers' attitudes towards learners with disabilities but examined the moderating effect of teacher attitudes between factors and teaching and learning management for pupils with intellectual disabilities.

Certainly, developed nations have continuously improved primary school teacher characteristics through investing in training and professional development. The study by Kurniawati et al. (2017) conducted in Indonesia supported this argument through research which was based on inclusive educational settings. Some variables that were investigated included teacher knowledge, teacher communication skills and professional development. The findings obtained cherished the power of professional and competence development among teachers in improving instructional delivery, teacher attitudes towards learners with disabilities and teaching strategies. A comparison was made before and after the introduction of teacher training programs in the public primary schools. The presented

ANCOVA results noted that teacher training programmes significantly improved positive attitudes, instructional delivery, individualized learning programs and differentiated learning in inclusive settings. In Greece and Hong Kong, a similar trend in teacher-inclusive education training programs and its influence on teacher self-efficacy, instructional delivery and inclusive education was presented by Mouchritsa (2022) and Chao et al. (2016). This study investigated the influence of teacher characteristics on teaching and learning management for pupils with intellectual disabilities in special primary schools in Meru County.

Another teacher's aspect that influences the management of teaching and learning is the adoption of a universal design for learning. Studies by Alnahdi (2015) and Lindström and Lemons (2021) illustrated this phenomenon. Alnahdi did a systematic review, while Lindström and Lemons conducted an observational study to interrogate the teaching and learning methods for students with intellectual disabilities. The findings indicated that different teaching approaches, early reading approaches, comprehensive learning and individualized learning programmes, when incorporated together, improved learners with ID abilities to read, communicate and enhance vocabulary comprehension. Another study by Al Hazmi and Ahmad (2018) in Malaysia submitted that adopting universal education for learning has the advantage of improving ID learners' reading, thinking, writing, speaking, remembering, understanding, adapting and problem-solving skills. Out of these studies, a framework supporting UDL was suggested to be implemented to ensure teachers implement it in learning and classroom management. However, instructional delivery barriers were reported as drawbacks to effective teaching and reading skills acquisition among learners with intellectual disabilities. The studies suggested the need to upgrade

teachers' skills and instructional knowhow to effectively implement universal design for learning practices. The current study was not about differentiated learning or individualized learning programmes but focused on the teachers' characteristics and their influence on teaching and learning management for pupils with intellectual disabilities.

The value of investing in teachers' characteristics was expounded by Crispel and Kasperski (2021). The study determined the role of skills, competencies and professional development of special needs teachers. It was found that professional development eliminated teacher frustrations when handling users in classrooms improved teacher attitudes, learning experience and adequate learner preparedness to face examination. Despite these benefits, inclusive primary schools in Israel were reported to need more teacher preparation in teaching competencies, self-efficacy, skills, knowledge, in-service training and development. The study recommended the implementation of a training framework to improve teacher's professionalism. The current study agrees with Crispel and Kasperski (2021) on the need to focus on teacher characteristics to help them address teaching and learning management for learners with intellectual disabilities in special primary schools.

Another strategy to ensure the management of teaching and learning for learners with intellectual disabilities is the adoption of goal-oriented training and physical-based training. Imai et al. (2023) adopted a pre-test and post-test measure design where seven boys with developmental difficulties were engaged in physical activities and goal-oriented training to improve development abilities. The results reported improvement for boys who participated in goal-oriented training. However, the study utilized a very small sample size. The current study was cross-sectional and adopted questionnaires, interviews and focus

group discussions to obtain data, unlike Imai et al., who used observation. Other differences were noted in the study variables where the above study focused on goal-oriented learning while teaching and learning management took centre stage.

Little literature exists in African countries, like in the developed nations, on teacher characteristics. Most existing studies have focused on some teacher characteristics and are mainly biased toward inclusive schooling systems, just like in developed countries (Majoko, 2019; Mohammed & Hlalele, 2023; Shayo, 2022; Mangope, 2017; Weiss et al., 2018). The influence of teachers' characteristics on teaching and learning management for pupils with intellectual disabilities in special primary schools is scarce. Existing ones focus on teacher requirements, school environment, school management, special learner retention, and inclusive practices required for learners with special needs (Majoko, 2019; Mohammed & Hlalele, 2023; Shayo, 2022; Mangope, 2017; Weiss et al., 2018).

In Botswana, the inclusive practices required for pupils with intellectual disabilities in inclusive schools were interrogated by Mangope in 2017 and Okreye et al. in 2019. The two studies identified that the governments of Botswana and Ghana cherish education for all. Therefore, teachers predominantly played a pivotal role towards ensuring pupils with intellectual disabilities were accommodated and had a conducive environment that improved their teaching and learning experiences. The qualitative studies, which administered interviews and observation checklists to four primary schools, focused on the inclusive teaching practices by special teachers dedicated to teaching the special units for pupils with ID. A content analysis was conducted, and the obtained results indicated that teachers had some knowledge of special education in general and that tutor and group teaching methods were the dominant strategies teachers utilized to reach the needs of ID

learners. It was also evident that teachers did not know differentiated instruction and systematic instructional delivery procedures like progressing, chain, and prompting, as well as backward and forward teaching criteria. It was recommended that progressive professional development of teachers be implemented to iron, equip and develop teacher knowledge on instructional delivery strategies to bridge the exclusion gap existing among pupils with ID. The current study was not based on inclusive education but critically examined the influence of teachers' characteristics on teaching and learning management. Another difference between the studies is the research approach adopted, where a mixed methods research approach was utilized to qualify the use of questionnaires, interview guides and focus group discussions in data collection.

The required competencies for educating learners with special needs have also been investigated in Africa. For example, Majoko (2019) and Mohammed and Hlalele (2023) covered this phenomenon in Zimbabwe and Ghana. Twenty-four primary teachers were engaged in the study in inclusive primary schools, and the results indicated that teachers perceived differentiated learning, classroom management, participatory teaching methods, jigsaw, learner behaviour management, collaborative learning and student assessment and screening as key to improving special needs education. However, adopting these practices was a nightmare considering drawbacks such as teachers' incompetence, lack of experience and little knowledge of handling learners with special needs. Teachers persistently noted a need for in-service training to respond to children's diverse learning needs in inclusive education adequately. However, the study did not investigate this aspect among a specified set of disabilities in inclusive primary schools. The current study bridged this gap by focusing on learners with intellectual disabilities in special primary schools.

The hindrances to implementing inclusive education for learners with special needs have also been identified. Mohammed and Hlalele (2023), Majoko (2019), Okreye et al. (2019), and Shayo (2022) explain that inclusive education has not been a success as a result of limited information and learning resources, incompatible curriculum, inclusivity gaps, teachers experience, teacher competencies, instructional delivery methodologies and classroom management shortcomings. To overcome these challenges, the studies fasten on the need for implementing inclusive education frameworks, teacher training, pre-service development, in-service professional development and development of school infrastructure. These practices indicate an indispensable need to provide equity education for learners with special needs. The current study critically investigates the influence of teacher characteristics on teaching and learning management for pupils with intellectual disabilities in special primary schools since little is known about the special schools.

In Kenya, research done in special primary schools on the influence of teacher characteristics required for pupils with intellectual disabilities is likewise scarce. Empirical studies already published have featured the aspects of teacher preparedness, teacher training practices, learners with disabilities transition to secondary education, instructional resources, learners performance, instructional strategies and inclusive education (Wanjiku, 2019; Laki, 2020; Kamau, 2015; Gitahi, 2018; M'mbijiwe et al., 2018; Gathumbi et al., 2015). From the content of these studies, it is clear that studies in teaching and management for learners with intellectual disabilities were very scanty.

Teacher preparedness in teaching learners with disabilities has been elaborated by Gathumbi et al. (2015) and M'mbijiwe et al. (2018), who noted that learners with disabilities receive poor education due to teacher and school administration

unpreparedness. The descriptive studies found that secondary schools in Kenya and Meru County face challenges due to inaccessible school facilities, unsuitable learning resources, lack of teacher training, unadaptable curriculum, poor pedagogies, and dismal teacher knowledge for handling learners with disabilities. Also, teacher collaboration and inclusive policies are less supportive. For M'mbijiwe et al. (2018), the results of the inferential statistics indicated that, despite the challenges, teacher education and training practices influenced the growth of the transition of learners from primary to secondary schools. Both studies noted the need for the Ministry of Education to establish and finance teacher training programs to enrich them with pedagogy, curriculum adaptation, and school environment development. These studies were, however, based in inclusive secondary schools and did not narrow to a specific form of disability. The current study is different since teachers' characteristics requirements were assessed in the context of special primary schools for learners with intellectual disabilities.

Undoubtedly, the education for learners with special needs is hindered by limited instructional resources and materials. Gitahi (2018), Wanjiku (2019) and Kamau (2015) studies illustrate this aspect in detail. The studies reported that teaching and learning for pupils with disabilities in both inclusive and special schools face inadequate instructional and information resources. Some inadequate resources include inadequate teaching facilities, assistive technologies, games resources such as swimming pools, communication books, pictures, and charts, drawing items, computers, and audio-visual materials. Apart from that, the studies submitted that learners with disabilities perform poorly in examinations and experience difficulties in communication, reading, counting, socializing, speaking, remembering, and memorizing. The studies complained about insufficient funds

to finance school activities and learning processes. These studies demonstrate a need for quick, short and long-term solutions to special needs education. The current study believed that improving teacher characteristics such as knowledge, expertise, competencies, multiple presentations of information, class management skills, attitudes, and pedagogy practices will improve teaching and learning management among learners with intellectual disabilities.

Teacher instructional delivery practices have also been found to improve the instructional needs of learners with disabilities. Gitahi (2018) and Laki (2020) have provided compelling evidence by presenting the importance of individualized education programs, differentiated learning, and multiple presentations of teaching notes. However, it was found that teachers needed to implement these teaching strategies at both secondary and university levels among students with physical and hearing challenges. This was attributed to the lack of teacher training, poor teacher induction on teaching methodologies, lack of teaching policy guidelines, inadequate knowledge of special education, and the lack of adequate academic qualifications for teaching learners with special needs. The study recommended that universities and the Ministry of Education fund teacher training and professional development.

Despite scarce literature on special needs education, the few studies reviewed were biased toward inclusive education, hearing impairment, physical impairment, and teaching strategies. The influence of teacher characteristics such as experience, qualification, communication, attitudes, and knowledge on teaching and learning management was largely unexplored. Also revealed in the study is that learners with disabilities are frustrated with the quality of education considering inadequate infrastructure, teachers, unfriendly

environment, weak policy framework, and resource limitations. The current study was based on special primary schools and investigated the influence of teachers' characteristics on teaching and learning management for learners with intellectual disabilities.

2.4 School Environment and Teaching and Learning Management for ID

A school environment has several elements, structures, and circumstances that explain a location, such as its mission, vision, objectives, infrastructure, culture, rules and regulations, facilities, terrain, accessibility to facilities, and available resources (Wilson et al., 2020). It can also be explained as the aspects of relationships and practices that enable teaching and learning to thrive effectively (Zulling et al., 2015). School environment also comprises distinctive features that make a particular school unique compared to others. The uniqueness may observed in the physical, structural, human, personnel, and other community affairs (Barrett et al., 2019). Nevertheless, another study done by Tapiá-Fonllem et al. (2020) described a school environment as distinctive features that make a school unique in its functions, leadership, workers, infrastructure, physical resources, and policies (Stadler-Altmann, 2015).

When described from the perspectives of pupils with disabilities, the school environment encompasses a flexible location where functional teaching and learning activities occur. It is generally characterized by accessibility to services, assistive technology, support services, classroom design, and arrangements that suit learners with disabilities (Barrett et al., 2019). According to Barret et al. (2015) and Stadler-Altmann (2015), for learners with intellectual disabilities, a school environment entails administration taking charge of conditions such as classroom size, temperature, sound, pollution, air quality, temperature,

individualized services, and accessibility to premises, and adequacy of teaching and learning resources.

The school environment is also characterized by the colors painted in rooms, classroom sizes, staff qualifications, and the school buildings' adequacy (Barrett et al., 2015). Other features include the school topology, naturalness, temperature, proximity to the road, cleanliness, variety of playing facilities, school ethics, rules and regulations, and vision objectives (Barrett et al., 2019). Additionally, a conducive learning environment must be equipped with good lighting, good sewage management, pollution management, adequate school land area, library, learning and teaching resources, and qualified staff (Barrett et al., 2019).

Ideally, pupils with intellectual disabilities experience cognitive, learning, and intellectual development delays. Therefore, it is one thing to have an attractive school environment that is different from having adequate support services required by this category of learners (Wray et al., 2022; Hosford & O'Sullivan, 2016; Barrett et al., 2019). Also, pupils with intellectual disabilities require support in making the infrastructure and facilities easily accessible (Wilson et al., 2020). The school leadership is also expected to develop an ambience environment, showing positive social interaction, perceptions, and humanistic relationships towards the learners (Stadler-Altmann, 2015; Zulling et al., 2015).

In primary schools, the school environment for learners with disabilities has been found to influence their well-being in learning processes and model their perceptions and attitudes towards education (Conn, 2017). A feature like classroom colors has been found to influence pupils' emotional and physiological mood management, which are very

important in enhancing understanding, attention, and concentration in the teaching hallways (Barrett et al., 2015). Moreover, classroom shapes, sizes and equipment, charts, pictures, and diagrams affect pupils' absorption, remembering, memorizing, and recalling information. These aspects are essential characteristics to be nurtured among pupils with intellectual disabilities (Barrett et al., 2015). Apart from these, lighting, air circulation, and accessibility to facilities influence learner's health, safety, well-being, and academic performance (Masino & Niño-Zarazúa, 2016; Conn, 2017). Therefore, the critical contributions of the school environment in teaching and learning cannot be overemphasized. This study critically investigated the influence of the school environment on teaching and learning management for pupils with intellectual disabilities in special primary schools.

Special primary schools for learners with intellectual disabilities develop conducive and supportive school environments by implementing policies, interventions, strategies, and practices (Kleinert et al., 2015; Gilson et al., 2017; Hudson et al., 2020; Stevens et al., 2017). Some of the interventions commonly practiced to manage teaching and learning are utilizing assistive devices to develop communication skills, offering supportive services like assisted reading, and adopting standardized performance assessment criteria (Hudson et al., 2020). The school environment is also taken care of by augmentative and alternative assistive communication technology, having self-contained classrooms, a tailor-made curriculum, making facilities easily assessable, and multiple formats of teaching and learning information resources (Stevens et al., 2017). Notably, differentiated and individualized learning instructional methods have also taken root to improve classroom environment management for learners with ID (Gilson et al., 2017).

Developing a conducive school environment for learners with disabilities has been classified as a foundation for managing learner cognitive development, freedom, attitudes toward education, and academic achievement. This has been emphasized by Barrett et al. (2019) in the United Kingdom, who established the impact of classroom design on teaching and learning. The researchers majored in naturalness, stimulation, and individualization aspects. Some of the investigated classroom features include class size, color, air circulation, lighting, temperature, and flexibility. One hundred and fifty-three classrooms in 27 schools were investigated, and the hypotheses developed confirmed that classroom environment conditions potentially influenced learners' concentration, development of speech, and recalling. This study also observed that classroom environment contributed up to 53% of effective teaching and learning by affecting learners' psychology, concentration to learn, and improved interactivity. This study builds on this argument by holistically analyzing the whole school environment, including classrooms, and ascertaining its influence on teaching and learning management. Another distinction from the above study is that the current one focuses on learners with intellectual disabilities.

The teacher characteristics and qualifications have also been classified to influence the school environment in inclusive teaching. Wilson et al. (2020) utilized the social cognitive theory to verify this statement in Scottish schools. Some aspects that were interrogated were teacher attitudes, self-efficacy, school climate, and perceptions. Data was obtained using questionnaires that were issued to teachers in 148 mainstream schools. The analysis demonstrated that teacher confidence, characterized by competencies, skills, knowledge, and experience, created a conducive environment for teaching and learning. However, the study did not focus on learners with intellectual disabilities. This gap was bridged by Weiss

et al. (2018) in Germany, who emphasized teacher requirements for effective teaching and learning. Weiss and colleagues reported that individualized, differentiated, and developing adaptive learning resources were necessary to support the school environment.

Moreover, it was uncovered that teacher-student relationships such as perceptions, attitudes, teacher closeness to pupils, and willingness to help impacted teaching and learning for pupils with ID. It was concluded that teacher-work practices and competencies were significant in teaching and learning. However, these studies did not link the relationship between teacher characteristics and the management of teaching and learning, which this study did.

Adopting technological infrastructure is another investment made in developed nations to boost the school environment. This is illustrated in studies such as Van der Kleij et al. (2015) and Gray and DiLoreto (2016), which focused on online teaching tools' impact on improving learning experiences and satisfaction. Some of the facets that were considered by Van der Kleij et al. (2015) and Gray and DiLoreto (2016) in online teaching and learning were course structure, feedback, and student engagement. It was concluded that using technology made learning interactive and improved student engagement and instructional delivery. However, delayed feedback influenced the acquisition of knowledge. The studies, however, ascertained this in secondary and undergraduate students. The current study critically investigates the impact of the school environment on teaching and learning management for pupils with intellectual disabilities in special primary schools.

Adequacy of human resources, information and learning resources also affects the management of teaching and learning. Masino and Niño-Zarazúa (2016) adopted the theory

of change typology to identify what works to improve the quality of education at secondary schools in Finland. Masino and Niño-Zarazúa found that the critical drivers to the quality of education were adequacy of information, revision, syllabus, teaching and human resources. The discoveries concluded that adequate teaching and learning materials and competent teaching staff were vital to learning. The two studies noted a need for policy initiatives to ensure their availability and adequacy. However, the study was based on secondary school counterparts other than students with disabilities. The current study investigated the effect of information resources as a parameter of the school environment and its influence on teaching and learning management for pupils with intellectual disabilities.

Another way the school environment is developed is by implementing conducive instructional methods which favour knowledge acquisition for learners with intellectual disabilities. An illustration of this intervention was well articulated in the findings of Gilson et al. (2017) and Park et al. (2020) in the United States of America. These researchers assessed the standard instructional designs that developed learners' independence and impacted employability skills and communication abilities among secondary school learners with intellectual disabilities. While Park et al. (2020) did an experimental study to ascertain the impact of video modelling, Gilson et al. (2017) accomplished the purpose of their study by conducting a detailed systematic review which included other instructional delivery models such as community-delivery, peer-teaching, response-prompting, device-assisted and performance-feedback models. Apart from that, both studies established the importance of audio, pictorial, video, multimedia, tactile and self-management devices in the classroom setup to create a receptive learning environment. The studies concluded the

significant contribution of technology-based instruction as an enabler of teaching and nurturing employability skills among secondary school learners with intellectual and developmental disabilities. The current study differed from those of Gilson et al. (2017) and Park et al. (2020) in the aspect of the sample population involved in the study, where pupils with ID enrolled in special primary schools were the main respondents of the study.

Despite the contributory role of the school environment in realizing effective teaching, communication, and acquisition of employability skills, developed nations are experiencing challenges in sustaining conducive environments for learners (Bemiller, 2019; Iacono et al., 2021; Chatzigeorgiadou & Barouta, 2022). Bemiller (2019) explains that elementary schools in the US need to improve related to shoestring budgets to cater for facility and infrastructure development. In addition, deficiencies are reported in teacher expertise, unequal access to education and inadequate teaching and learning resources. In Canada, Jahnukainen (2015) echoed that few buildings, limited facilities and traditional pedagogical practices characterized a restrictive environment. One of the interventions to improve school conditions is implementing policies for inclusive and special education. Another researcher based in developed nations who carried out a study to improve the school environment is Weiss et al. (2018). Their study identified teacher working practices, professional development, and funding and resource allocation as critical requisite for improving school conditions in inclusive schools in Germany. Other supportive mechanisms relate to co-teaching, curriculum revision, and multimedia instruction materials, differentiated learning approaches and modified instructional modalities (Iacono et al., 2021; Strogilos et al., 2015; Chatzigeorgiadou & Barouta, 2022).

Regionally, developing a conducive environment for teaching and learning is appreciated (Udoba, 2017; Nel & Grosser, 2016). This is because removing restrictive barriers in the school environment promotes respect for human rights and education for all (Van Reenen & Karusseit, 2017). The school environment also goes a long way in affecting learner's attitudes, intellectual development, interdependence, and acquisition of employability skills for learners with intellectual disabilities (Udoba, 2017). The presence of a conducive environment also makes learners do well academically.

Remarkably, most inclusive and special schools in African countries have improved their school environmental conditions through support from the government (Nel & Grosser, 2016). This has been reflected in the form of funding, structured, inclusive education systems, support for special needs teacher training systems, and the distribution of assistive technology equipment (Nel & Grosser, 2016; Van Reenen & Karusseit, 2017). Apart from these, the World Health Organization, NGOs, and faith-based organizations have collaborated with a plausible number of republics in Africa that boost infrastructural development, deploy teaching and learning resources and other resources to make special primary schools habitable (Rohwerder, 2018; Udoba, 2017).

However, despite the abovementioned efforts, low socioeconomic countries in developing nations need better school environmental conditions. The studies are also very few in existence, and elaborate shortcomings in poor school conditions are caused by teacher shortages and inadequate teaching resources (Udoba, 2017; Nel & Grosser, 2016; Van Reenen & Karusseit, 2017; Rohwerder, 2018). Also, in countries like Tanzania, South Africa, Kenya, and Uganda, the schools are confronted with hindrances, including limited funding, lack of assistive technology, limited physical resources, and instructional delivery

practices; hence, poor adaptive environments (Garbutt, 2018; Udoba, 2017; Nel & Grosser, 2016; Van Reenen & Karusseit, 2017; Rohwerder, 2018).

The study aimed to investigate the school environment's influence on teaching and learning management for pupils with intellectual disabilities in special primary schools. Although there is a lack of studies that established this link, the challenges teachers face when teaching learners with developmental disabilities have been investigated by Udoba (2017) and Possi and Milinga (2017). These reported that Tanzanian schools experienced a shortage of teachers, poor education quality, a high student-teacher ratio, limited teacher professionalism, limited teaching resources, and undifferentiated teaching methods. Another research in Nigeria, as presented by Isawumi and Oyundoyin (2016), distributed questionnaires to fifty pupils with intellectual disabilities, and the results hinted that library services, teacher attitudes, sports resources, and classroom environment hindered learner's social development. This descriptive study recommended the development of a conducive school environment by equipping them with the requisite resources to encourage social development. The current study was interested in investigating the impact of the school environment on teaching and learning management for pupils with intellectual disabilities.

Other aspects that have been studied are the effect of classroom management and inclusive education on academic achievement among learners with intellectual disabilities. In South Africa, Sebothoma et al. (2022) and Van Reenen and Karusseit (2017) hinted at these aspects. They clarified that poor inclusivity practices, such as lack of acoustic technologies, noise pollution, and barriers to access to buildings, hindered learning and teaching in special primary schools. Van Reenen and Karusseit (2017) added that noise was a major

hindrance to effective classroom learning, affecting learners' attention and academic achievement. Both studies recommended procuring acoustic technologies and devices to regulate classroom environments. Since schools were not barrier-free environments, revising existing policies to address noise pollution and purchasing acoustics was necessary. The current study was interested to know if the school environment affects teaching and learning management for pupils with intellectual disabilities in special primary schools.

Locally, literature exploring the influence of the school environment on teaching and learning management for pupils with ID is limited. Existing empirical reviews pin on teachers' attitudes, knowledge, competencies, inclusive education, and academic achievement for learners with disabilities. For example, Kibias (2015) established the impact of teachers' attitudes, competencies, and school facilities and learners' attitudes on including learners with disabilities in the Kakuma Refugee Camp. The descriptive survey study observed that teachers' attitudes, competencies, and accessibility of building facilities influenced learner's inclusion in the camp. However, the camp environment was considered uncondusive for learners with special needs, especially the physically challenged.

Moreover, teachers have negative attitudes towards the enrolled pupils. The study demonstrated the value of enhancing an assessable, conducive environment through revamping buildings, training in-service teachers, and funding to erect infrastructure. Kibias (2015), however, was generally concerned about including learners with disabilities in the refugee camp. The current study sought to understand the effect of the school

environment on teaching and learning management for pupils with intellectual disabilities in special primary schools in Meru County.

For a conducive learning environment, support services are critical. Garbutt (2018) assessed teacher awareness of the support required for students with disabilities. Focusing on inclusive schools in Trans-Nzioa County, the mixed methods study identified that teachers were moderately aware of the needs of learners with disabilities to 59%. Some of the support services they were aware of were administrative and knowing which learners had disabilities. However, despite the moderate awareness, the implementation of inclusive education experienced hurdles. It was concluded that teachers only knew about learners with disabilities and the administration's role in supporting inclusive education but not the curriculum needs, infrastructure, and training support. The study argued that developing appropriate support services such as assessable facilities, flexible curriculum, and professional development on differentiated and individualized instructional delivery was critical. This study differs from that of Garbutt (2018) in that the principal respondents will be learners with intellectual disabilities from special primary schools. Nevertheless, Garbutt demonstrated the relationship between teacher awareness of support services and the achievement of inclusive education. The study assessed the relationship between school environment and teaching and learning management.

There are explained efforts towards addressing the school environment for learners with disabilities in Kenya. Some of them are teacher professional development, teacher provision of support services, physical facilities development, and implementing a special needs curriculum (Bett, 2016; Garbutt, 2018; Kibias, 2015; Toroitich, 2019). Undoubtedly, there is a lack of studies that explain the relationship between the school environment and

the management of teaching and learning for pupils with intellectual disabilities despite the existence of human rights policies promulgated on education for learners with disabilities. This study critically investigated the effect of the school environment on teaching and learning management for pupils with intellectual disabilities in special primary schools in Meru County.

2.5 Curriculum and Teaching and Learning Management for ID

Curriculum refers to a combination of practices, strategies, values, manuals, and scope of knowledge covered to offer quality programs of study (Strogilos et al., 2015). According to Mulenga (2018), a curriculum is a developed rubric that guides the achievement of the intended objectives, values, competencies, and progressive development of a learner over some time. Therefore, a curriculum means a combination of well-organized, selected, criticized, moderated, evaluated, and integrative educational experiences that an institution utilizes to meet the needs of learners, such as cognitive, communication, and intellectual developments as well as employability skills over some time (Mulenga, 2018). It can also be described as a detailed report on how subjects, topics, and programs may be achieved to sustain self-efficacy, continuous improvement, growth, development, cognition, maturation, competencies, problem-solving abilities, and life-long learning (Allen, 2023).

Learners with intellectual disabilities are characterized by individual limitations to gain independence in logical, social, adaptive, and practical functioning (Schalock et al., 2021). From the context of this study, teaching and learning management refers to implementing programs, strategies, practices, and individualized curriculum through competent human resources to offer standardized, individualized learning to pupils with special needs (Ohba & Malenya, 2022). Therefore, curriculum directly impacts how, what, which, and who of

teaching and learning management in special primary schools. The school curriculum is a management issue and involves curriculum decision-making, evaluation, monitoring, assessment, and implementation (Mulenga, 2018). Good curricula are also moderated by policies, managed by a designated school body, and regularly revised in the stipulated timeline to offer relevance to learners (Strogilos et al., 2015).

Three significant components define a school curriculum. These are coherence, control, and content (Wood & Hedges, 2016). Coherence is a term that explains how the learning programs and objectives are to be attained systematically, progressively, and sequentially. It comprises instructional design, assessment criteria, multimedia information resources, teacher-learner relationships, parent-child relationships, school-community relationships, talent management, co-curricular activities, music, and playing. The second telnet is control, which is about regulatory practices through government and other governing frameworks for maintaining the quality of service offered. Control in the school curriculum is achieved through inspections, teacher performance evaluation, funding, quality assurance, quality management systems, pupil evaluation, performance measurement, teacher professional development, and school governance. The last component is content, which is characterized by the accredited subjects, programs, physical education, values, practices, and the programs offered to achieve the intents of a curriculum.

Learners with intellectual disabilities have problems understanding, remembering, and concentrating in the classroom. For this reason, their curriculum needs to be adapted to their needs to achieve adequate knowledge acquisition (Kleinert et al., 2015). Therefore, the ID curriculum should have features such as differentiated and individualized learning techniques and multisensory presentation of information to make them visualize, hear, and

repeat for ease of remembering (Mulenga, 2018). Moreover, the curriculum requires to be backed up with multidimensional forms of information resources such as books, audio, pictures, diagrams, videos, and images (Gilson et al., 2017). Others are achievable objectives, standardized assessment measures, and attentiveness to attention to emotional and behavioral development (Allen, 2023).

Globally, school curriculum for learners with intellectual disabilities is regarded as critical in teaching and learning. This is evidenced by measures and practices put in place, such as student support, talented learners, curriculum design, curriculum coherence, pedagogy issues, multisensory learning approaches, and differentiated instruction delivery (Bondie et al., 2019; Whitley et al., 2019; Suprayogi et al., 2017; Knight et al., 2019; Algrni, 2020). The elements such as individualized learning, assisted instruction, and legal frameworks guiding curriculum and instructional practices are also essential (Knight et al., 2019; Douglas et al., 2016; Strogilos et al., 2015).

Bondie et al. (2019) and Whitley et al. (2019) addressed the effect of differentiated learning in teaching. Bondie et al. utilized literature to establish this, while Whitley et al. carried out a focused group discussion and a survey, which helped to confirm the claims. The findings reported that teachers' self-efficacy, attitudes, competencies, belief systems, perceptions, and organizational support contributed to using DI in teaching pupils. Apart from this, the frameworks that supported DI, teacher practices, and the state of implementation of DI were also studied. The findings opined that DI frameworks improved teachers and the practice. However, the adoption of differentiated instruction in grades 1-12 was moderate. Irrespective of this, curriculum implementation was hindered by teacher knowledge, unsupportive management, limited teaching resources, and lack of in-service staff

professional development plans. The study recommended strengthening curriculum frameworks to accommodate teacher proficiency development and procurement of teaching and learning resources. The studies focused on teachers' points of view; hence, the learners' experiences in the study were not accommodated. The current study collected views from both teachers and learners with ID.

Other iconic pioneers who focused on the aspect of school curriculum were Wood and Hedges (2016), Strogilos et al. (2015), and McLachlan et al. (2018) in the UK. These studies explained the importance of teaching strategies and the struggles UK schools underwent to deliver and meet education requirements for learners effectively. For instance, the qualitative study by Strogilos et al. (2015) explained the contributions of co-teaching learners with ID. Opinions from teachers, parents, and learners with ID reported by Wood and Hedges (2016) exposed critical aspects that should be considered in a curriculum. These included pedagogy, coherence, content, and control. For McLachlan et al. (2018), curriculum assessment and implementation practices were necessary to deliver quality education. The studies found that curriculum aspects such as teacher training, student assessment, teacher performance, understanding, differentiated learning, curriculum evaluation, quality assessment, performance appraisal, and a body mandated to govern curriculum implementation improved education. The study concluded that a comprehensive framework was critical in ensuring quality education. However, the relationship between school curriculum and the management of teaching and learning was not established. The current study bridged this gap.

The contributory role of universal learning design (UDL) was investigated concerning the support to the access to school curriculum. In Malaysia, America, and China, Al Hazmi

and Ahmad (2018) and Smith and Lowrey (2017) studied this subject matter among learners with ID. As identified, pupils with ID were confronted with special characteristics such as slow learning, development, and intellectual capacities, resulting in slow speech, understanding, and solving daily problems. UDL was one of the focuses, and this learning model was found to influence general access to the curriculum by easing the existing barriers in instructional delivery. In Rao and Meo (2016), the issue of UDL was specifically presented with flexible learning practices, which provided a supportive environment for easy learning. This is because it permitted the instructor to modify the curriculum to suit pupils' needs and allowed information to be shared through multiple means of inclusion, engagement, and communication like videos, pictures, audio, writing, and images. UDL, therefore, improved access to curriculum because the learners who did not read were able to be educated alternatively through videos and pictures. The current study builds on this foundation by examining the contributory role of school curriculum in teaching and learning management for pupils with ID in special primary schools.

Other factors influence the general access to school curriculum among learners with intellectual disabilities. These include instructional methods, teacher preparedness, and inclusive education access. Knight et al. (2019), Wang and Kuo (2019), Agran et al. (2020), and Gilson et al. (2017) investigated these aspects in European and Asian nations. The study noted that the role of instructional practices, teacher training, professional development, and inclusive policies were among the factors that influenced curriculum delivery. Apart from that, the findings of Knight et al. (2019), Agran et al. (2020), and Gilson et al. (2017) noted that trainers adopted different pedagogy strategies to educate

learners with autism and ID. However, the curriculum needed to be revised, and teachers were irregularly developed since there were no clear criteria for enhancing professional development. Teacher preparedness was regarded as necessary; hence, professional development and training investments were needed. Despite this, the studies did not link the contributions of teacher preparedness on school curriculum with the management of teaching and learning for pupils with ID. This current study aimed to critically establish the influence of school curriculum and teaching and learning management in special schools.

Despite the significant contributions challenged towards ensuring effective implementation of school curricula such as UDL, differentiated instruction, and curriculum implementation, developed nations are encountering curriculum-related challenges. Some of these shortcomings are explained in the report presented by Agran et al. (2019), Ruppert et al. (2016) and Wehmeyer (2019). These studies explained that in the US, learners with disabilities continue to be placed in restrictive school environments and that there was no long-term curriculum revision and development for special needs. Other challenges that inhibit curriculum execution are teacher incapacities, inadequacy of teaching and learning resources, bias, negative attitudes, and limited placement policies. There is, therefore, an indispensable need to determine the influence of school curricula on teaching and learning management to obtain solutions to experienced problems.

The studies by Hettiarachchi et al. (2022) and Moustafa and Ghani (2017) seemed to bridge these gaps by investigating the effectiveness of multisensory learning to improve reading, spelling, and communication abilities among learners with autism, severe disabilities, and ID. In addition, inclusive and special education institutions have also invested in assistive

technology by revising the teaching and learning curriculum (Kurniawati et al., 2017; Hall et al., 2015). These parameters have helped improve education access to learners with intellectual disabilities. This study believes that the school curriculum can be influential in the management of teaching and learning for pupils with ID in special primary schools.

Regionally, low-income nations show progress in the education of learners with disabilities. Some interventions put in place to improve education outcomes for learners with disabilities are adopting outcome-based curriculums, purchase of resource materials, legislation, inclusive education, funding and teacher preparedness (Chitiyo & Muwana, 2018; Kisanji, 2019; Kaumba et al., 2020; Chimhenga, 2016). Apart from this, the prevalence of children with disabilities, according to the United Nations Children's Fund (2021), is 28.9 million children in Africa. Samia et al. (2022) also explain that, in South Africa, out of 1000 children, 37.6% have a form of intellectual condition. This presents a growing burden for learners with disabilities, noting that this population is for young children of school-going age. This trend explains the key importance of investigating the contributory role of school curricula on teaching and learning management.

The study noted that literature covering the aspects of school curriculum on teaching and learning management for pupils with ID needs to be improved. Existing literature hints at outcome-based curriculum, education barriers, special education, inclusive education and teacher experiences (Nel & Grosser, 2016; Chitiyo & Muwana, 2018; Chimhenga, 2016; Samia et al., 2022; Engelbrecht et al., 2015; Okyere et al., 2019). Although it has slightly improved access to education, its quality still needs to improve owing to drawbacks

related to resources, knowledge, school environment, culture, policy and support systems barriers.

A study exists which examined critically the challenges that Zimbabwe as a country faced in teaching and learning in primary schools. This was conducted by Mupa and Chinooneka (2015) in a mixed methods approach, which was informed by the cases of poor academic performance in Zimbabwe. The results attributed the poor academic performance in primary schools in Zimbabwe to the lack of a variety of teaching methods, lack of multimedia presentation of subjects, few books and teacher guides, unconducive school environment, and teacher incompetency. It was further established that learners needed more parental, school environment and management support to attain their educational goals. The study recommended NGO sponsorship for books and learning resources, employment of qualified teachers and head-teachers and Ministry of Education supervision of teachers in the classroom to improve teaching and learning. Although the study mentioned essential factors which the current study investigates, such as school environment, teacher characteristics and attitudes, it needed to establish the issues of curriculum and teaching and learning management. Apart from this, the situation was not established among schools with pupils with disabilities challenges. The current study aimed to bridge the gaps on school curriculum for learners with ID in special primary schools.

Some aspects that align with school curriculum issues comprise outcome-based curriculum and civic education for learners. These issues were discussed by Kaumba et al. (2020) and Oliver et al. (2020) in descriptive survey studies conducted to establish the opinions of

teachers and learners in secondary schools in Zambia and Zimbabwe respectively. It was found that curriculum implementation experienced shortfalls related to teacher knowledge and skills and poor curriculum design. The status of the implementation of civic education was termed poor, as teachers needed an adequate understanding of the designed curriculum. Apart from that, learning resources for supporting the curriculum were scarcely available. The study recommended teachers' development and curriculum practitioners' involvement in aligning curriculum needs with the required resources. However, these studies did not cover learners with intellectual disabilities. This exposes a gap which was addressed in the current study, which assessed the contributory role of school curriculum on the management of teaching and learning for pupils with ID in special primary schools.

The role of pedagogy in facilitating education for learners in basic education is also critical. Engelbrecht et al. (2015) and Oliver et al. (2020) in South Africa and Zambia covered these aspects, focusing on classroom teaching practices. Their studies noted that teachers were hardly aware of individualized learning, differentiated instruction or employed multiple ways of delivering their instructions. Interviews, observations and focus group discussions enlightened that teachers also did not adopt emancipatory approaches to teaching. As a result, the school environment was uncondusive for learners. Apart from teaching approach deficiencies, there needed to be more qualified teachers, books, and playgrounds.

Literature shows that several studies have focused on the role of inclusive education for learners with disabilities. Okyere et al. (2019), Franck and Joshi (2017) and Majoko (2019) in Ghana, Ethiopia and Zimbabwe noted that inclusive education has been adopted in the respective African countries even though there are drawbacks hindering its effectiveness.

The studies identified drawbacks, including uncondusive environments and limited human, physical and material resources. There is also the dominance of negative perceptions experienced in inclusive settings. Specifically, Okyere et al. (2019) elaborated that learners with intellectual disabilities were experiencing negative school experiences. Other challenges cited in moderate levels in low-income countries were inadequate funding and assistive technologies in special schools (Ndyabawe, 2016).

Some suggested recommendations for improving education for learners with intellectual disabilities emphasize policies and educational frameworks (Wakolli, 2019). Also, the poor school environment is suggested to be improved by developing specialized training facilities, provision of human and material resources and in-service training programs (Okyere et al., 2019). That notwithstanding, the existing challenges of inclusive education are suggested to be remedied through classroom management practices and the development of appropriate curriculum (Matovu & Nakayiza, 2018; Otukile-Mongwaketse et al., 2016; Franck & Joshi, 2017; Majoko, 2019).

Locally, according to the national census, 1.0 million to 2.2% of the 47.6 million population have a form of disabilities (The et al. Initiative [CHAI], 2021). Among the population with a high level of representativeness are children. This presents a weighty burden for education for learners with disabilities. Although the contributions of school curriculum to teaching and learning management for learners with ID is not explored, at least in Kenya, critical aspects of curriculum have been assessed by Maina and Muthee (2018), Kagema (2018), and M'mbijiwe et al. (2018).

M'mbijiwe et al. (2018) and Maina et al. (2018) examined the role of curriculum management in learners with disabilities transition to secondary schools and workplaces. This was triggered by the low and diminishing trends of learners from primary to secondary education in Kenya. It was found that learners with disabilities were subjected to the mainstream education curriculum. Their learning was also affected by short lesson timelines and examination timelines. As a result, learners with disabilities performed poorly, which explains the 30% transition of such learners to secondary schools. Maina et al. (2018) also noted that apart from unsuitable curricula, there needed to be more teaching and learning resources in special schools in Nakuru County. The studies urged the Kenya Institute of Curriculum Development to develop a friendly and adaptable curriculum for special needs students. Although the researchers did not clarify the relationship between school curriculum and management of teaching and learning among ID pupils, the study shed light on the need to embrace a flexible learning program that suits education for a special category of learners.

Kagama (2018) assessed the impact of teaching curriculum on teacher motivation. Kagama's study adopted a survey design, which utilized a mixed-method approach to implement the study. Forty-six secondary schools were engaged in Nyeri and Kirinyanga. The study found that teachers were less motivated, directly affecting their work-performance. Specifically, poor motivation practices for teachers fathomed dissatisfaction, laziness, truancy, and absenteeism, which affected continuous learning for students. As a result, teachers should have covered their syllabus on time. It was expressed that teacher motivation significantly influenced curriculum implementation. There was a need to work on teacher work conditions and get supportive management, incentives, resources, and

training to encourage teacher engagement. The current study critically investigated the influence of school curriculum on teaching and learning management for pupils with intellectual disabilities.

Aspects of individualized learning and programs have also been included in the primary curriculum to manage learners with special needs best. Mwabili (2020) investigated this aspect in Taita-Taveta County and found that individualized curriculum faced implementation challenges, including limited teaching materials and qualified personnel. Notable recommendations included support for teacher professional development and learning resources. Alice (2018) also emphasized the need to implement individualized education for learners with special needs in both special and inclusive settings.

Because of the above interventions, teaching and learning among special primary schools for learners with intellectual disabilities is expected to be effectively managed. However, this is not the case, as children take too long to read and write (Mwangi, 2021; Mwabili et al., 2020). In the special education sector, learners lack adaptive curriculum and standardized performance assessment tools and are faced with limited instructional delivery methodologies (Kalya, 2020; Murungi, 2017; Obara, 2019). That notwithstanding, an investigation of factors affecting teaching and learning management for pupils with intellectual disabilities is yet to be conducted. This study critically examined the contributory effect of school curriculum on teaching and learning management for pupils with ID in special primary schools in Meru County.

2.6 School Culture and Teaching and Learning Management for ID

School culture is a multifaceted concept encompassing the collective values, beliefs, attitudes, behaviors, and norms that define the social environment within a school community. It plays a pivotal role in shaping the interactions and experiences of students, teachers, administrators, and staff, thus affecting the educational journey (Turnbull & Turnbull, 2020). Understanding and nurturing a positive school culture within primary schools is essential in fostering an environment conducive to learning, growth, and development.

Primary schools typically exhibit specific features and characteristics that define their culture. These include inclusivity, shared values, respect, collaboration, high expectations, positive relationships, open communication, safety, student engagement, and a commitment to ongoing professional development for educators. These elements synergize to create a nurturing and thriving learning environment where students can develop academically, socially, and emotionally (Brown & Smith, 2019).

When focusing on primary schools serving learners with intellectual disabilities, an ideal school culture is expected to extend its principles further. It should be characterized by warmth, encouragement, and a dedication to personalized learning (Turnbull & Turnbull, 2020). Such a culture should prioritize these students' full participation and integration into all aspects of school life. A significant emphasis should be placed on fostering a sense of belonging and inclusion to reduce stigma and misconceptions about disabilities. Key educational priorities should include individualized education programs, specialized support services, and an unwavering commitment to helping students realize their full potential (Individuals with Disabilities Education Act, 2004). Collaboration between the

school and parents or guardians is paramount in ensuring accessibility to the physical environment and curriculum materials. Positive reinforcement should be the standard, celebrating students' strengths and achievements. Furthermore, the school should actively advocate for the rights and inclusion of individuals with intellectual disabilities within the broader community.

According to Hart et al. (2018), school culture profoundly influences the educational experiences and outcomes of students with intellectual disabilities. Failure to cultivate a diverse and supportive culture can hinder students' academic progress and restrict their access to high-quality education. The school environment significantly impacts these students' social and emotional well-being, with negative or exclusive cultures, hence contributing to feelings of isolation, low self-esteem, and mental health challenges (Murray et al., 2019).

A supportive school environment can empower students with intellectual disabilities to develop essential life skills and a sense of self-determination, enhancing their long-term prospects (Wehmeyer & Schalock, 2001). Conversely, ignoring the importance of school culture can limit learners' ability to lead autonomous and fulfilling lives. Furthermore, as Artiles and Kozleski (2016) noted, disregarding school culture can perpetuate prejudice and educational disparities, potentially subjecting these learners to marginalization, bullying, or limited access to educational resources and ultimately creating a cycle of disadvantage.

In the United States, school culture is a broad notion that includes a variety of factors affecting the learning environment. Due to the nation's breadth and regional variations, it

has a varied and dynamic terrain (Brown & Smith, 2019). The focus on independence and fair opportunity is one salient aspect of American school culture (Smith, 2020). With the idea that education may contribute to personal achievement and growth, students are encouraged to follow their special interests and abilities.

The importance of academic accomplishment in the USA is frequently demonstrated by standardized testing and college preparedness initiatives (Johnson, 2018). Diversity and inclusivity are also essential components of American educational culture. Over time, efforts to lessen stigma and foster understanding of people from different origins and abilities have progressed (Brown & Green, 2021). Schools strive to establish inclusive settings where kids from many socioeconomic, racial, and ethnic backgrounds can flourish. Anti-bullying activities and programs encourage positive peer interactions and social contact (Smith, 2020).

In addition, the American educational culture is fundamentally based on the separation of church and state (U.S. Department of Education, 2019). Public schools often refrained from teaching religion to establish a secular education system that respects the various religious beliefs. To promote student success, teacher collaboration is encouraged, and many schools have adopted inclusion models to offer suitable support (U.S. Department of Education, 2019). With educators realizing the value of establishing challenging goals for all students, including those with disabilities, expectations for student performance are rising (Brown & Green, 2021).

In elementary schools in the USA, school culture is crucial in addressing learning and teaching management for students with intellectual disabilities. Several research shed light

on the potential effects of school culture on these students' educational experiences. For example, studies have shown that students with intellectual disabilities perform better academically and socially when their schools foster inclusivity, high standards, and staff collaboration (Hart et al., 2018; Turnbull & Turnbull, 2020). Developing a feeling of community, individualized support, and incorporating parents and the community in the educational process are all examples of best practices (Brown & Smith, 2019). Technology use and creative teaching methods that are adapted to each student's needs are emerging trends. However, the generalizability of some research may be hampered by sample size restrictions. Furthermore, while most studies stress the need for a positive culture, they do not necessarily offer concrete implementation solutions (Murray et al., 2019).

The Canadian school culture exhibits commonalities that shape the educational landscape. It prioritizes diversity and inclusivity, mirroring the nation's commitment to multiculturalism (Smith & Jones, 2019). The aim is to create a welcoming atmosphere where students from diverse backgrounds, including those with intellectual disabilities, feel valued and appreciated (Brown, 2020). This dedication aligns with Canada's national policy on multiculturalism (Government of Canada, 2021). Another integral aspect of Canadian school culture is focusing on students' physical and mental well-being. Schools have become increasingly attentive to students' mental health, offering programs and services to address stress, anxiety, and other mental health concerns (Johnson et al., 2022; Smith, 2018).

Furthermore, ecological education and environmental sustainability are prominent in Canadian schools, with many institutions incorporating environmental education into their curricula (Green & White, 2017; Robinson, 2019). This commitment to diversity,

inclusivity, student well-being, and environmental sustainability forms the foundation of Canadian school culture. Within this positive school culture, students with intellectual disabilities find an inclusive and equitable learning environment (Brown, 2020). Ignoring the importance of this culture may lead to exclusion, social isolation, and harm to these students' self-esteem (Johnson et al., 2021).

German school culture is characterized by a clear hierarchy, strict discipline, and a significant emphasis on academic accomplishment (Husen, 1967). This disciplined environment, known for achieving high academic standards and rigor, is pivotal in shaping the educational experiences of primary school students with intellectual disabilities in Germany. One crucial aspect of this school culture is its individualized and inclusive approach to education, mandated by rules and regulations. Individual Support Plans (ISPs), or "Individuelle Förderpläne" in German, tailored to each student's specific needs and abilities, outline educational goals and adaptations to the curriculum (Jung & Rittberger, 2018). These plans ensure that each student receives personalized education, effectively addressing the diverse learning needs of students with intellectual disabilities.

Moreover, Germany's school culture strongly emphasizes inclusive education, aligned with the United Nations Convention on the Rights of Persons with Disabilities (EADSNE, 2020). Rules and regulations uphold the right of students with intellectual disabilities to attend mainstream schools when possible, fostering an inclusive environment where they learn alongside typically developing peers (Scheid & Lachmann, 2021). Early intervention and support are paramount in the German school culture, with rules and regulations mandating early assessment and identification of intellectual disabilities (Hegarty et al., 2019). This proactive approach allows for timely interventions and tailored teaching

strategies, preventing potential learning challenges from becoming insurmountable obstacles. Additionally, the school culture promotes collaboration among educators, parents, and specialized support staff, delineating their roles and responsibilities (Bollmann et al., 2018). This collaborative approach ensures a coordinated effort to support learners with intellectual disabilities.

In terms of learning and teaching management, adherence to rules and regulations within the German school culture brings several benefits. It provides educators with a structured framework, offering clear guidelines on developing and implementing Individual Support Plans, thus enabling targeted support for each student (Jung & Rittberger, 2018). Furthermore, the emphasis on inclusion fosters a supportive learning environment where students with intellectual disabilities can interact with their peers, receive peer support, and enhance their social and cognitive development (Scheid & Lachmann, 2021). This inclusive atmosphere contributes to improved learning outcomes. Moreover, the school culture's early intervention focus helps identify and promptly address learning difficulties. Early support and intervention strategies, guided by rules and regulations, prevent academic challenges from escalating, ultimately leading to more successful educational experiences (Hegarty et al., 2019).

In Japan, the distinctive aspects of school culture significantly influence how pupils learn. This culture strongly emphasizes discipline, teamwork, group cohesion, and high regard for teachers and authoritative figures (Doi, 1973). These cultural values are mirrored in primary schools' approach to educating students with intellectual disabilities, profoundly impacting learning and teaching management. Embedment in this cultural context is the fundamental belief that every student, regardless of their abilities, should be integrated into

the school community to foster a sense of belonging (Takeda & Ando, 2020). This belief, common in most German schools, fuels efforts to ensure the inclusion of students with intellectual disabilities in regular classrooms and activities, reflecting a commitment to diversity and inclusivity. Actualizing this belief is exemplified through peer support systems, where typically developing students are encouraged to assist their peers with intellectual disabilities (Igarashi et al., 2019). This practice promotes inclusivity and nurtures empathy and mutual respect among students. The value placed on inclusivity contributes to a school culture that actively seeks ways to include all students.

Additionally, Japanese school culture places great importance on the teacher-student relationship and the role of educators as moral guides (Rohlen, 1983). This perspective extends to students with intellectual disabilities, where teachers embrace a caring and nurturing role. Special education teachers, in particular, are recognized for their vital role in providing individualized support and adapting teaching methods to meet the diverse needs of their students (Shinohara, 2015). Moreover, Japanese society values effort and perseverance, qualities instilled in students with intellectual disabilities through the school culture (Iwakuma et al., 2018). Educators believe in the potential for growth and development in every student, shaping their approach to teaching and support.

The impact of this school culture on learning and teaching management for learners with intellectual disabilities is profound. The emphasis on inclusivity and the belief in the worth of every student foster a supportive and nurturing learning environment (Takeda & Ando, 2020). Students with intellectual disabilities are encouraged to participate in class activities and interact with their peers, improving their social and communication skills (Igarashi et al., 2019). The solid teacher-student relationship, characterized by care and guidance,

cultivates a sense of security and trust among students with intellectual disabilities (Shinohara, 2015). This positive relationship enhances students' willingness to engage in learning and seek help when needed. Furthermore, the values of effort and perseverance drive educators to provide tailored support and adapt teaching methods to help students with intellectual disabilities overcome challenges (Iwakuma et al., 2018). The belief in continuous improvement fosters a growth mindset among educators and students, positively impacting academic progress.

The school culture related to language and communication is a critical factor affecting learning and teaching management in Australian primary schools that cater to students with intellectual disabilities. This culture fosters effective communication, creates inclusive environments, and prioritizes individualized support. These elements significantly impact the educational experiences of students with intellectual disabilities (Florian & Black-Hawkins, 2011). Australia strongly emphasizes inclusive education, as outlined in the Disabilities Discrimination Act of 1992 and the Disabilities Standards for Education 2005 (Australian Government, 2020). This emphasis on inclusion extends to language and communication, with the belief that all students, including those with intellectual disabilities, should have access to adequate communication support and resources (Florian & Black-Hawkins, 2011).

Inclusive communication strategies are actively promoted in Australian primary schools, emphasizing the importance of using various modes of communication to cater to the diverse needs of students (Lindsay & Dockrell, 2012). This includes augmentative and alternative communication (AAC) systems, sign language, and assistive technology. Teachers and support staff are trained to incorporate these methods into their teaching

practices to ensure that students with intellectual disabilities can express themselves and engage in the learning process (Hemsley et al., 2018). Furthermore, the school culture encourages a collaborative approach involving educators, speech therapists, and other specialists to address communication challenges (Hemsley et al., 2018). This collaboration ensures that students receive tailored support and interventions aligning with their communication abilities and needs.

The focus on inclusive communication fosters a supportive and accessible learning environment where students with intellectual disabilities can actively participate in classroom activities (Lindsay & Dockrell, 2012). Effective communication strategies enable these students to express their thoughts, questions, and ideas, promoting engagement and participation in the learning process (Florian & Black-Hawkins, 2011). This enhances their academic progress and contributes to their social and emotional development. Moreover, the collaborative approach involving educators and specialists ensures that students receive comprehensive and individualized support (Hemsley et al., 2018). This personalized approach considers each student's unique communication profile, facilitating targeted interventions and teaching strategies. As a result, students with intellectual disabilities are more likely to overcome communication challenges and make meaningful educational gains.

In Sweden, the school culture related to stigma and perception of students with intellectual disabilities has been notably lowly actualized in some primary schools. Sweden is known for its commitment to inclusive education, and efforts have been made to reduce stigmatization and promote a positive perception of students with disabilities (Lundqvist, 2014). Sweden's strong commitment to inclusive education has reduced the stigma

associated with intellectual disabilities. Students with intellectual disabilities are typically educated in mainstream classrooms alongside their peers (UNESCO, 2019). This inclusive approach helps to mitigate the negative perceptions and stereotypes associated with disability. Sweden has anti-discrimination laws to protect the rights of individuals with disabilities, including students, in the educational context (Diskrimineringsombudsmannen, 2021). These laws contribute to creating an environment where discrimination and stigmatization are discouraged. The literature reviewed shows that in some countries in Sweden, where the stigmatizing school culture and perception is highly espoused, the impact on learning and teaching management for learners with intellectual disabilities is significantly negative. In such contexts, students with intellectual disabilities face less social exclusion and limited access to education (Mittler, 2000).

In African countries, primary schools serving students with intellectual disabilities, the school culture represents a complex amalgamation of cultural, social, and educational elements, with a focus on creating inclusive and equitable learning environments. While primary school strives to provide quality education and support for every child, they face challenges from resource constraints, diverse cultural beliefs, and varying levels of infrastructure development across different African nations (Mutanga & Walker, 2013).

Existing literature in Africa shows a growing recognition of the importance of inclusive education in these settings, emphasizing the need to accommodate the diverse learning needs of students with intellectual disabilities within mainstream classrooms (Nyende, 2011). The cultural context in Africa often highlights community and family support values, which usually implies a strong sense of responsibility among educators and

communities to provide education and support for students with disabilities (Englert & Mungai, 2016). However, it is essential to acknowledge that societal attitudes and stigmas around disabilities still present significant barriers to fully including students with intellectual disabilities in African primary schools (Mutepa & Mutepa, 2017). Solid stigmatization leads to segregated educational settings and inadequate support for these learners. This introduces complexities in implementing inclusive education practices, as cultural beliefs and perceptions about disabilities vary within and across different African regions.

In Nigeria, the extent to which cultures are embraced in primary schools for intellectually disabled students varies. While elements of culture like school rules and regulations and educational priorities are well-embraced, addressing deeply ingrained societal stigma and promoting positive peer relationships remain ongoing challenges to ensuring equitable and inclusive education for learners with intellectual disabilities in Nigeria. The Nigerian primary schools generally uphold school rules and regulations. These guidelines provide a structured learning environment for all students, including those with intellectual disabilities (Eze et al., 2019). This country also places significant emphasis on education, including special education. Government efforts prioritize education for students with disabilities, underscoring a commitment to providing educational opportunities (Federal Ministry of Education Nigeria, 2017). Collaboration among teachers and support staff is encouraged, especially in special education settings. This collaborative approach can positively impact teaching and learning management by providing tailored support to students with intellectual disabilities. While there is a growing recognition of inclusive education and opportunities for students with intellectual disabilities in primary schools in

Nigeria, deeply entrenched societal attitudes and beliefs about disabilities persist. This attitude variance impacts how students with disabilities are perceived and treated (Iloabuchi et al., 2019). Efforts are made to promote positive peer relationships and social interaction, but challenges still persist. Some students with intellectual disabilities still face social isolation and stigma due to prevailing societal attitudes (Ebigbo et al., 2021). Effective communication strategies for intellectually disabled students may not always be fully implemented.

Resource constraints and limited training for educators can hinder students' ability to express themselves and engage in learning (Ebigbo et al., 2021). While there is recognition of Nigeria's cultural and ethnic diversity, celebrating diversity in the context of disabilities is not always fully realized. Additionally, culturally sensitive approaches to education for intellectually disabled students are not always prioritized (Iloabuchi et al., 2019). This study did not address how the non-embraced culture affects the teaching and learning management of pupils with intellectual disabilities. The current study covers the gap by addressing that aspect.

In Zambia, the school culture encompasses beliefs, values, and attitudes that significantly shape primary schools catering to students with intellectual disabilities, and these eventually impact learning and teaching management (Chileshe & Masha, 2018). This culture reflects a commitment to inclusive education, firmly believing in providing educational opportunities for all children, including those with intellectual disabilities (Chileshe & Masha, 2018). This commitment is evident in policies and practices that reduce exclusion and foster inclusivity.

Furthermore, Zambian culture strongly emphasizes community and family values, extending these to the education of students with intellectual disabilities. This fosters a shared responsibility among educators, families, and communities (UNESCO, 2017). The diverse cultural landscape in Zambia influences its approach to special education, with schools striving to incorporate cultural sensitivity into their teaching practices. They recognize that cultural beliefs and practices may impact the learning experiences of students with intellectual disabilities (Zulu &imba, 2017).

In this inclusive environment, students with intellectual disabilities in Zambian primary schools benefit from learning alongside their typically developing peers, which promotes social interaction, acceptance, and peer support (Chileshe & Masha, 2018). This stresses community-centred values that enhance collaboration between schools, families, and local communities (UNESCO, 2017), enabling a holistic approach to the education of these students. However, despite these positive elements, challenges persist. The study by Chileshe and Masha (2018) and Chisholm (2018) revealed that resource constraints, inadequate teacher training, and limited infrastructure can hinder full implementation of these inclusive values and beliefs. Additionally, societal stigma and misconceptions surrounding intellectual disabilities were still persistent, impacting the social integration of students (Human et al., 2014).

In Ethiopia, teacher collaboration and support play a crucial role in primary schools, catering for students with intellectual disabilities, which significantly impact learning and teaching management. This culture is characterized by a collective approach to education, where teachers work together to create an inclusive environment for all students, including those with intellectual disabilities (Gudeta, 2019). Teacher collaboration in Ethiopian

primary schools involves educators from different disciplines working together to develop and implement strategies tailored to the unique needs of students with intellectual disabilities. This collaborative effort is crucial in addressing the diverse challenges that students may face in their learning journey. This practice is actualized through regular team meetings and discussions where educators share their experiences, insights, and best practices in teaching students with intellectual disabilities (Gudeta, 2019). These meetings create a supportive network of teachers who learn from each other and collectively problem-solve to improve these students' education quality.

According to Gudeta, this cultural practice enhances the quality of instruction by allowing teachers to pool their expertise and resources. They can also share effective teaching methods, personalized learning plans and resources tailored to the specific needs of students with intellectual disabilities. This ensures that students receive a well-rounded and individualized education. Students benefit from the coordinated efforts of their teachers, who work together to create an atmosphere of acceptance and understanding. This not only fosters peer support but also boosts the self-esteem and confidence of these students. Educators can assess students' progress collectively, make necessary adjustments, and provide timely interventions. This ensures that no student is left behind and that their learning experiences are continuous (Gudeta, 2019).

The actualization of inclusive education in Ugandan primary schools involves fostering positive attitudes and setting high expectations for students with intellectual disabilities. This cultural attitude begins with training educators and staff to recognize and challenge biases and stereotypes, promoting a more inclusive and accepting environment (Kalyegira, 2016).

One key way attitude in the school is realized is through awareness campaigns and professional development for teachers. These initiatives aim to sensitize educators and school personnel about the potential and capabilities of students with intellectual disabilities, challenging any preconceived limitations (Kalyegira, 2016). This helps change the attitudes toward more optimistic views of these students' educational prospects.

The impact of attitude on learning and teaching management for learners with intellectual disabilities in Ugandan primary schools is profound. Firstly, positive attitudes and high expectations from teachers and peers boost students' self-esteem and motivation (Kalyegira, 2016). When students believe in their abilities and sense that their educators expect them to succeed, they are more likely to engage actively in learning. Additionally, setting high expectations leads to increased academic rigour. Teachers provide challenging but attainable tasks for students with intellectual disabilities, pushing them to reach their full potential (Kalyegira, 2016). This results in improved academic outcomes and a greater sense of accomplishment among these students.

Furthermore, this school culture promotes a more inclusive classroom environment. When students with intellectual disabilities are treated with respect and seen as valued members of the school community, their peers are more likely to accept and support them (Kalyegira, 2016). This fosters positive peer interactions, reduces stigmatization, and enhances the overall social experience of students with intellectual disabilities.

There has been a growing recognition of the importance of inclusive education in Kenya, which covers learners with intellectual disabilities in regular mainstream schools (Kithome & Ongili, 2018). This shift in educational philosophy signifies a positive development in

the school culture, aiming to provide equitable access to education for all learners. Notably, Kenyan schools are influenced by a cultural emphasis on community and family values. This cultural element promotes a sense of shared responsibility among educators, families, and communities in supporting the education of students with intellectual disabilities (UNESCO, 2017). However, it is essential to note that resource constraints and teacher training gaps continue to impact the full support in implementing intellectual disabilities education in Kenya. The interaction of these elements in Kenya's school culture for students with intellectual disabilities plays a crucial role in shaping their educational experiences. It sets the stage for opportunities and obstacles, impacting the learning and teaching management in primary schools nationwide.

In Nairobi, Kenya, the school culture regarding learners with intellectual disabilities is a complex amalgamation of beliefs, values, attitudes, stigma, perceptions, and language and communication practices, all of which exert a profound influence on the educational experiences of students with intellectual disabilities, and consequently impacting the management of teaching and learning. Beliefs, values, and attitudes, whether held by educators, administrators, students, or the broader community in Nairobi, play a pivotal role in shaping the inclusivity and support extended to learners with intellectual disabilities (Kithome & Ongili, 2018). Positive beliefs that underscore the potential and worth of these students result in adopting more inclusive educational practices. Conversely, stigma and negative perceptions surrounding intellectual disabilities create formidable barriers to inclusion in Nairobi's primary schools (Kalyegira, 2016). These negative attitudes can translate into discrimination, isolation, and limited opportunities for learners with intellectual disabilities. Therefore, Effective communication strategies emerge as a critical

necessity in supporting these students, necessitating adapting communication approaches in Nairobi's primary schools to cater to their diverse needs. This adaptation encompasses simplified language, visual aids, and augmentative and alternative communication (AAC) systems (Kithome & Ongili, 2018).

Most of Nairobi's primary schools were noted to have implemented a range of initiatives to challenge stereotypes, foster inclusion, and adapt teaching and communication methods to suit the unique requirements of learners with intellectual disabilities. The two studies, Kithome and Ongili (2018) and Kalyegira (2016) differ significantly from the current study because both were conducted in inclusive primary schools, while the current study was conducted in special schools in Meru County.

The school culture in Meru, specifically concerning beliefs, values, and attitudes towards students with intellectual disabilities, plays a pivotal role in shaping the educational landscape in special primary schools. The school culture dynamically influences the learning experiences and teaching management for learners with intellectual disabilities in various ways.

In Meru, educators, administrators, students, and the broader community hold a spectrum of beliefs, values, and attitudes toward learners with intellectual disabilities. These perspectives significantly influence the support provided to this group (Smith & Njagi, 2020). Positive beliefs that emphasize these students' potential, worth, and unique abilities tend to result in more inclusive educational practices. Conversely, negative attitudes and stigma can create formidable barriers in primary schools for intellectually disabled learners (Mwenda & Kamunde, 2019). The positive beliefs and attitudes among teachers and peers

can boost these students' self-esteem, motivation, and overall well-being (Smith & Njagi, 2020). Educators who embrace inclusive practices, guided by these affirmative beliefs, are more likely to implement tailored and effective teaching strategies that cater to diverse learning styles. This, in turn, can lead to increased student engagement and improved academic outcomes.

Furthermore, adapting communication methods to suit the diverse needs of learners with intellectual disabilities is essential in Meru's primary schools. Effective communication strategies, including simplified language, visual aids, and augmentative and alternative communication (AAC) systems, have enhanced students' access to instruction and active participation in classroom activities (Mwenda & Kamunde, 2019). This personalized approach fosters better communication skills and enriches the overall learning experience for learners with intellectual disabilities.

According to Mwenda and Kamunde (2019) and Smith and Njagi (2020), some initiatives have been implemented to challenge stereotypes, promote inclusion, and adapt teaching and communication methods to meet the unique needs of learners with intellectual disabilities. The studies recommended effective communication strategies, the availability of adequate teaching materials, and the need for government to support teacher training and professional development programs. They also identified a need to sensitize educators and the community on the potential and capabilities of students with intellectual disabilities. These two studies, however, do not elaborate clearly on how these cultures affect the education process of intellectually disabled students, but the current study has addressed this gap.

2.7 Teachers' Attitude Teaching and Learning Management for ID

Teaching and learning management for pupils with intellectual disabilities necessitates a specialized educational approach that addresses the unique needs and challenges these students encounter. Effective management of teaching and learning for pupils with intellectual disabilities aims to create a nurturing environment that promotes their cognitive, social, emotional, and physical development (Smith & Johnson, 2018). However, this ambition may be curtailed by the disposition of the teachers' attitude.

Teachers' attitude refers to the nature, mindset, and outlook that educators have toward their profession, students, colleagues, and the process of teaching and learning. It is manifested through beliefs, feelings, and values held regarding teaching and learning. A teacher's attitudes can significantly influence their teaching methods, interactions with students, and the overall learning environment in the school. From the context of intellectually disabled learners, teachers' attitudes include the specific disposition that teachers have when working with learners with intellectual disabilities. In that connection, the teacher's attitudes are critical in shaping the educational experience and outcomes of intellectually disabled learners.

A teacher's attitude encompasses many qualities, including positivity, respect, patience, adaptability, empathy, professionalism, inclusivity, passion, reflection, and supportiveness (Jones et al., 2020). These attitudes collectively mold the classroom atmosphere, affecting student motivation, engagement, and overall educational outcomes. A positive, respectful, and student-centered attitude proves indispensable for effective teaching and in fostering an environment conducive to learning.

In the context of primary schools, particularly those serving pupils with intellectual disabilities, teachers' attitudes encompass a set of vital qualities and characteristics integral to effective teaching and cultivating a positive, nurturing learning environment. These attitudes include warmth and approachability, fostering a sense of safety and comfort among students (Brown & Green, 2019). Patience is crucial when working with primary school children who may require additional time to grasp concepts or complete tasks. Adaptability allows teachers to tailor their methods to accommodate diverse learning needs.

Furthermore, enthusiasm for teaching and the subject matter can ignite students' interest and foster engagement. Empathy helps teachers establish emotional connections with their students, providing essential support when needed. Effective communication ensures explicit instruction and positive interactions, while respect for each student's uniqueness cultivates a sense of fairness and value. Positive reinforcement enhances student confidence and motivation, while professionalism underscores punctuality, organization, and responsibility. Individualized support recognizes and addresses specific learning challenges or strengths, enhancing the educational experience (Van der Merwe et al., 2020; Wentzel, 2016; Kwok, 2021).

Moreover, motivation and inspiration encourage students to explore and actively participate in their learning journey. Collaboration skills enable teachers to work effectively with colleagues, parents, and professionals, facilitating students' holistic development. Reflective practice promotes continuous improvement as teachers assess and adapt their teaching methods based on their experiences and outcomes (Smith & Johnson, 2018). Besides, a passionate attitude toward special education can be a powerful motivator,

inspiring students and peers and contributing to a positive and supportive school environment (Goldman et al., 2017).

Teaching students with intellectual impairments (I.D.) is a difficult but essential part of the American educational system. Many elements play a major role in these students' performance, and the attitude of their professors is one of the most important ones. In the US, inclusive education is becoming more popular, with kids with intellectual disabilities attending classes with their classmates who are usually developing. Instructors are essential in fostering an inclusive atmosphere. Positive attitudes toward inclusion are characterized by acceptance, flexibility, and a willingness to adapt teaching methods, which have been proven to improve the educational experience for students with intellectual disabilities (Forlin, 2012). Teachers' self-efficacy, which is their belief in their ability to teach effectively, influences the learning outcomes of students with intellectual disabilities. A teacher who has a positive attitude towards their students' capabilities and a strong sense of self-efficacy is more likely to provide tailored instruction and support, leading to improved learning outcomes (Jiu, 2023).

The attitude of teachers also affects the classroom climate. A positive and inclusive classroom environment fosters social interactions and peer relationships, essential for developing students with intellectual disabilities. Conversely, a negative attitude can create a stigmatizing atmosphere, hindering social and emotional growth (Siperstein et al., 2002). The study by (Colclasure et al., 2019) shows that teachers' attitudes shape their teaching strategies. An open-minded teacher attitude can lead to innovative and differentiated instruction tailored to individual learner's needs. Conversely, a negative attitude may result

in limited instructional strategies, impeding the overall educational experience (Algahtani, 2017; Scruggs et al., 2007).

In the US, Colclasure et al. (2019) describe a case about inclusive education and the importance of teachers' attitudes in teaching students with disabilities. In that case, there was a young boy with autism who attended public school in Douglas County, Colorado. His parents were dissatisfied with his progress in the public school system and decided to place him in a private school that specialized in educating children with autism. They argued that the school district was not providing their son with a free and appropriate public education (FAPE), as required by the Individuals with Disabilities Education Act (IDEA). The parents took their case to court, arguing that the school district had failed to provide their son with sufficient educational services. They contended that the district's Individualized Education Program (IEP) for Endrew was not tailored to his specific needs, so he was not making meaningful educational progress. In a unanimous decision, the U.S. Supreme Court ruled in favor of the parents. The court held that the school district had not met the IDEA's requirement of providing a FAPE to students with disabilities. The key takeaway from this case was that the standard for providing a FAPE was not merely providing "some" educational benefit but rather providing an education that is "reasonably calculated to enable a child to make progress appropriate in light of the child's circumstances." This case underscores that teachers' attitudes, along with their commitment to providing meaningful educational opportunities, can profoundly impact the educational outcomes of students with disabilities. It serves as a reminder that educators should approach their work with a positive and proactive attitude, seeking to maximize the potential of every student, regardless of their disabilities (County School District, 2017).

In a case at a primary school in London in the United Kingdom, a teacher's inclusive approach that emphasized collaboration and peer support allowed a student with Down syndrome to participate in classroom activities actively, enhancing their social and academic development (Davies & Turner, 2019; Smith et al., 2018). When teachers hold high expectations for these students, it can lead to positive outcomes. In Birmingham, a teacher's belief in a student's abilities led to significant progress in reading and mathematics for a student with an intellectual disability, showcasing the impact of high expectations. Effective communication is another vital attitude, as evidenced in a case in Manchester, where Johnson and Thompson (2017) reported that teachers' patience and clear communication methods improved interactions and learning experiences for students with intellectual.

Conversely, negative attitudes can have detrimental effects. In Glasgow, a teacher's stigmatizing behavior unintentionally marginalized a student with an intellectual disability, underscoring the need to address negative attitudes to ensure inclusive education in the U.K. Therefore, when practiced effectively, positive attitudes of inclusivity, high expectations, effective communication, and flexibility contribute to improved learning and teaching management for learners with intellectual disabilities in U.K. primary schools (Wilson, 2020; Brown & Green, 2016).

In Canada, the teaching and learning of students with intellectual disabilities are closely intertwined with teachers' attitudes, and this can significantly shape the educational experience for these students. Positive attitudes among teachers play a crucial role in fostering an inclusive classroom environment (Forlin & Chambers, 2011; Olowo & Fashiku, 2020). For instance, in a study conducted in Toronto, a teacher's welcoming and

supportive attitude towards a student with an intellectual disabilities created an atmosphere where the student felt valued and included, leading to improved engagement and academic progress (Forlin & Chambers, 2011). Additionally, educators' high expectations for these students often translates into better academic outcomes. In Vancouver, a teacher's unwavering belief in a student's abilities led to remarkable improvements in their literacy skills, highlighting the impact of high expectations (Slee et al., 2016). Effective communication, which involves patience, clear language, and alternative communication methods when needed, is essential in supporting students with intellectual disabilities. A study done in Calgary illustrated how teachers' communication strategies enhanced interactions and learning experiences for students with intellectual disabilities. However, it is crucial to address negative attitudes and stigmatizing behaviour, as seen in a case in Montreal, where such attitudes unintentionally marginalized students with intellectual disabilities, underscoring the need for continuous training and professional development to promote positive attitudes and ensure inclusive education for all in Canada (Slee et al., 2016).

The teaching and learning of intellectually disabled students in Australia have evolved significantly in recent years. However, challenges related to teachers' attitudes continue to play a crucial role in shaping these students' educational experience. While many teachers demonstrate inclusive and supportive attitudes towards students with intellectual disabilities, there are instances where negative attitudes hinder the educational process. For example, in a real-life case reported by Forlin and Chambers (2011), a teacher's negative attitude toward an intellectually disabled student resulted in limited interaction and engagement, leading to a lack of progress in learning. The results showed that teachers who

exhibit positive attitudes and a willingness to adapt their teaching methods can create an inclusive and supportive learning environment, as demonstrated in the study by Slee et al. (2016), where a teacher's proactive approach enhanced the educational experience of a student with an intellectual disability. Therefore, teacher training programs and professional development initiatives in Australia must emphasize the importance of fostering positive attitudes, as they have a profound impact on the overall education process of intellectually disabled students, ultimately affecting their academic and social outcomes.

In France, the education of intellectually disabled students has undergone significant changes over the years, reflecting evolving societal attitudes towards inclusion and accessibility. One crucial aspect of this transformation is the attitudes exhibited by teachers towards these students (Smith, 2021). Historically, intellectual disabilities was often stigmatized, which could manifest in educators holding low expectations for the academic potential of such students. However, there has been a notable shift towards a more inclusive approach in recent years, with the understanding that intellectual disabilities does not equate to an inability to learn. Nevertheless, there remain instances of teachers who may unintentionally perpetuate negative stereotypes or exhibit biases that can hinder the education process for intellectually disabled students (Smith, 2021). For instance, a study conducted in a French primary school revealed that a teacher's negative perceptions of an intellectually disabled student led to lower levels of support and attention, ultimately impeding the student's progress. On the contrary, cases, where teachers exhibit positive attitudes, patience, and a commitment to adapting teaching methods to individual needs, have shown significant improvements in the academic and social development of

intellectually disabled students. This shift in attitudes, facilitated by teacher training programs and changes in educational policies, is essential for fostering a learning environment that allows intellectually disabled students in France to reach their full potential (Durlak et al., 2011).

In Sweden, the education of intellectually disabled students is governed by a solid commitment to inclusive practices within the framework of the Swedish Education Act. However, there have been notable challenges related to teachers' attitudes that have influenced the educational process for these students. Research has shown that while Sweden has made significant strides in inclusive education, there remains a need for continuous professional development to address teacher attitudes and perceptions towards intellectually disabled students (Swedish Education Act, 2010).

One real-life case that illustrates the impact of teacher attitudes on education is the story of a young boy named Erik, who has Down syndrome. Erik's parents were determined to enrol him in a regular school, as Sweden's inclusive education policy mandated. However, they encountered resistance from some teachers who needed clarification about their ability to meet Erik's educational needs (Lovgren, 2018). This hesitancy among a few teachers can be attributed to a lack of training and exposure to inclusive teaching methods. It underscores the importance of ongoing teacher education and support to foster a more inclusive mindset, as such attitudes can significantly impact the quality of education provided to intellectually disabled students (Nilhom, 2018).

The education of intellectually disabled students in Saudi Arabia is a critical aspect of the country's educational system and poses unique challenges for both educators and students.

Teachers play a pivotal role in shaping the learning experiences of these students, and their attitudes significantly impact the educational process (Al Hassan, 2022). The attitudes of teachers towards intellectually disabled students in Saudi Arabia vary widely. Some teachers exhibit a positive and inclusive attitude, recognizing the potential of these students and striving to create an inclusive learning environment. Al Hassan (2022) demonstrated instances where teachers showcase negative or discriminatory attitudes towards these students. Such attitudes were attributed to low expectations, lack of patience, or even reluctance to accommodate individualized learning needs. These negative attitudes have detrimental effects on the education process, hindering the intellectual and emotional development of intellectually disabled students. For instance, a recent case study conducted in Riyadh found that a teacher's negative attitude towards a student with Down syndrome led to isolation, decreased self-esteem, and limited academic progress for the student (Al Hassan, 2022).

The treatment and education of intellectually disabled students in Africa vary significantly across the continent. The education and attitudes of teachers towards intellectually disabled students in Africa can also vary widely as influenced by factors such as government policies, funding, infrastructure, and societal beliefs (Mji & Braathen, 2017).

In a broader sense, the attitudes of teachers towards intellectually disabled students in Africa range from highly positive and supportive to negative, largely depending on the level of awareness, training, and cultural perceptions about disabilities (Mji & Braathen, 2017). In many cases, negative attitudes are rooted in stigma and misconceptions about intellectual disabilities, making it crucial for educational systems and advocacy groups to work towards changing these perceptions (Mangope, 2017; Okreye et al., 2019). While

there are positive examples of inclusive education efforts in Africa, there is still much work to be done to ensure that intellectually disabled students have equal access to quality education across the continent (Mariga, 2018).

In countries with limited resources and less developed education systems, such as many sub-Saharan African nations, the situation may be more challenging for intellectually disabled students due to inadequate infrastructure and a lack of trained educators (Mariga, 2018).

In South Africa, as in many other parts of the world, teachers' attitudes toward intellectually disabled students play a crucial role in shaping the quality of education they receive. Unfortunately, negative attitudes persist in some cases. For instance, a study conducted by Smith et al. (2019) found that many teachers in South Africa admitted to feeling overwhelmed when tasked with educating intellectually disabled students. Some teachers expressed reluctance or discomfort in adapting their teaching methods to meet the diverse needs of such students. The attitudes displayed by teachers can have profound effects on the education process of intellectually disabled students. One significant consequence is the creation of a hostile learning environment. In a study by Johnson (2021), a teacher's negative attitude toward an intellectually disabled student resulted in the student feeling isolated and demotivated. This not only affected the student's academic performance but also their emotional well-being. Such instances hinder academic progress and perpetuate a cycle of exclusion and stigmatization. Moreover, the lack of positive teacher attitudes often leads to reduced expectations for intellectually disabled students. The study by Williams and Mbatha (2018) documented cases where teachers set lower academic standards for these students, limiting their potential for growth and development.

The education of intellectually disabled students in Nigeria is often influenced by the attitudes exhibited by teachers toward such students. A study conducted by Okoro and Ameke (2020) revealed that some teachers in Nigeria harbour misconceptions and prejudices about intellectually disabled students, resulting in limited educational opportunities. The attitudes displayed by teachers toward intellectually disabled students have far-reaching consequences on the educational process in Nigeria. One significant effect is the creation of an unwelcoming and exclusionary learning environment. In a recent study by Adeniyi (2022), it was reported that a teacher's lack of understanding and empathy led to an isolated and demoralized intellectually disabled student. This hindered the student's academic progress and negatively impacted their self-esteem. From this scenario, the negative attitudes of teachers can lead to inadequate teacher-student relationships. When teachers display impatience or frustration, students may become withdrawn and disengaged from the learning process (Onzi et al., 2023). This lack of connection with educators can perpetuate a cycle of underachievement and low self-confidence.

The education of intellectually disabled students in Zambia is an essential aspect of the country's commitment to inclusive education. In Zambia, like in many countries, the negative attitudes and misconceptions about these students were reported in several studies. For example, the study by Banda and Mwansa (2021) revealed that some teachers in Zambia held stereotypes and biases that affected their perceptions of intellectually disabled students. Such attitudes reveal low expectations, limiting access to educational resources and opportunities.

The attitudes teachers display have profound consequences on the education process of intellectually disabled students. One significant effect is the creation of an unwelcoming

and exclusionary learning environment. Chilufya (2023) recently reported that teacher's lack of understanding and patience led to isolated and demoralized intellectually disabled students. This is linked to poor attitudes of a teacher and can hinder the student's academic progress. It can also adversely affect learners' self-esteem and emotional well-being. Furthermore, negative teacher attitudes can lead to strained teacher-student relationships (Van der Merwe et al., 2020). When teachers display impatience, frustration, or a lack of empathy, students may become disengaged from the learning process, hindering their academic development and participation in classroom activities (Kabwe, 2022).

The education of intellectually disabled students in Tanzania is a critical aspect of inclusive education and is regarded as key in promoting equal opportunities for all learners regardless of their abilities. However, the successful attention of intellectually disabled students heavily depends on the attitudes and perceptions of teachers. Studies show that in Tanzania, teachers' attitudes towards intellectually disabled students vary significantly (Mwageni, 2018). While some educators are dedicated to fostering an inclusive environment, others exhibit negative attitudes that hinder these students' effective learning and development, including intellectually disabled students. One prevalent issue is the lack of adequate training and awareness among teachers on handling intellectually disabled students. This lack of preparedness often leads to apprehension and discomfort, which may occasionally lead to negative attitudes by teachers. For instance, a study conducted by Mtebe and Raphael (2017) found that some teachers in Tanzanian schools lacked knowledge regarding learners with disabilities. They exhibited reluctance when tasked with teaching intellectually disabled students. The study revealed the negative perceptions held by teachers towards intellectually disabled students. The teachers were also apprehensive

about adapting their teaching methods to accommodate diverse learning needs. This kind of attitude can have detrimental effects on the student's self-esteem and overall learning experience.

One significant impact is the limited access to quality education for these students. When teachers are not adequately prepared or willing to support intellectually disabled students, it can result in exclusion and isolation. A case example was reported in a primary school in Dodoma where a disabled student faced discrimination and neglect from her teacher, leading to poor academic performance and emotional distress (Mwageni, 2018). However, when teachers exhibit supportive attitudes, it can make a significant difference in an intellectually disabled learner. Matovelo et al. (2019) highlighted the case of a teacher in Dar es Salaam who embraced a positive attitude and demonstrated love and care to an intellectually disabled student. This had an enormous impact on student's academic performance. The study also reported how the student improved socially. The case was a motivation for other teachers to adopt similar attitudes and practices.

In Uganda, the education of intellectually disabled students remains a significant challenge despite the country's commitment to inclusive education. The attitudes of Ugandan teachers towards intellectually disabled students were diverse, reflecting a mixture of cultural, societal, and institutional influences. While many teachers are dedicated to fostering an inclusive environment, others may unintentionally display negative attitudes due to limited training and understanding of the sensitivity of the matter. One prevalent issue is the lack of adequate teacher training in special education. A study by Kalyegira and Madudu (2018) found that some teachers in Ugandan schools lacked formal training in special needs

education, leading to apprehension when teaching intellectually disabled students. This may culminate in negative attitudes.

Teachers who exhibit supportive attitudes towards intellectually disabled students can transform the educational experience. A study by Mukasa et al. (2019) highlighted the case of a teacher in Jinja who actively embraced inclusive education practices. This teacher received specialized training and implemented strategies that enabled students who had an intellectual disabilities to excel academically and participate fully in classroom activities. The success story by Mukasa not only benefited intellectually disabled students but also served as an inspiration for other teachers to adopt similar attitudes and practices. The lesson learnt was that when teachers lack the knowledge and willingness to accommodate diverse learning needs, it could result in exclusion and isolation, and the student may ultimately withdraw from school, as was noted by akayiza (2020).

Despite the limited research on intellectual disabilities in Kenya, the existing studies show that the education process for intellectually disabled students faces many challenges (Nakaweesi & Macrine, 2018). Among several challenges is the teacher's attitude. Teachers' attitudes vary due to factors like inadequate training in special education, societal perceptions, and resource constraints (Kochung et al., 2016). Many teachers lack proper training in special education, leading to uncertainty in handling intellectually disabled students (Kochung et al., 2016). The other issue is overcrowded classrooms and a lack of teaching materials, which, according to Kochung et al. (2016), can indirectly impact teachers' attitudes and impatience. These may eventually hinder students' access to quality education (United Nations, 2006).

In Nairobi, Kenya, the education of intellectually disabled students is a critical issue that requires attention in terms of infrastructure and resources and in the attitudes displayed by teachers (Smith, 2020). Teachers' attitudes play a pivotal role in shaping the learning environment for intellectually disabled students. Positive attitudes can create a supportive and inclusive atmosphere, while negative attitudes can lead to exclusion and hinder the progress of these students (Jones et al., 2018).

In Nairobi County, the Ministry of Education (2019) documented several stories demonstrating the transformative power of teacher attitudes by describing how it can positively affect the education expectations of intellectually disabled students and have enormous ripple effects on the encouragement and self-confidence of such students. In Mombasa, the Ministry of Education (2021). The diversity of teachers' attitudes towards intellectually disabled students was reported to have been influenced by a myriad of factors, including cultural norms, pedagogical training, and personal experiences. One noteworthy challenge in Mombasa was the paucity of comprehensive training and professional development programs for teachers engaged with intellectually disabled students. The lack of specialized training frequently makes educators feel ill-prepared and unsure of how to effectively support this student demographic (Smith & Wanjiru, 2020). The lack of confidence often translates into negative attitudes, including underestimating students' potential.

In Meru, the education of intellectually disabled students presents a complex challenge that encompasses not only the availability of resources and infrastructure but also the critical element of teachers' attitudes. The attitudes displayed by educators can shape the

educational outcomes of intellectually disabled students (Meru Ministry of Education, 2022). Like other countries, the critical challenge is the limited availability of comprehensive training and professional development opportunities for teachers working with intellectually disabled students (Ochieng & Kamau, 2020). The lack of adequate teachers who have undergone specialized training can make educators feel ill-prepared and unsure about how to support intellectually disabled students effectively, hence a negative attitude toward teachers. A more profound synthesis of the study conducted by Ochieng and Kamau (2020) shows that the scholars primarily focused on teacher attitudes toward inclusive education in Meru County, which is undoubtedly a critical aspect. However, it did not thoroughly explore how these teacher attitudes moderate or interact with various factors that influence the management of teaching and learning for pupils with intellectual disabilities. The current study purposed to bridge this gap by delving deeper into the dynamics and interplay between teacher attitudes and factors. It investigated how teacher attitudes moderate the teaching and learning management for pupils with intellectual disabilities.

2.8 Theoretical Framework

This study was informed by four theories; Contingency theory, Pavlov's Classical Conditioning Theory Vygotsky's theory and the Bioecological theory of development. In this section, a discussion of each theory is presented together with a description on how each of them informed this study.

2.8.1 The Contingency Theory

Contingency theory was developed by Fred E. Fiedler in the mid-1960. It is one of the situational leadership theory. This theory asserts that different leadership philosophies are suitable for different situations (Adeoye, 2021). It underscores the importance of leaders adapting their approaches to foster creativity and efficiency in varying circumstances. Fiedler's research in 1958, examining group effectiveness, laid the foundation for the Contingency Theory of Leadership, establishing a connection between leadership and organizational success (Adeoye, 2021). Fiedler suggests that to achieve collective efficiency through leadership, it is crucial to assess a leader's underlying traits, evaluate the prevailing circumstances, and create a match that aligns with both.

The Contingency Theory of Leadership, as per Williams (2021), posits that effective leadership is contingent upon the circumstances. Essentially, it hinges on whether a leader's style is appropriate for the given situation, rejecting the notion of a binary classification of leadership as "good" or "bad." Instead, the emphasis is on aligning leadership qualities with the specific circumstance (Benmira & Agboola, 2021). This theory recognizes that an individual can exhibit strong leadership in one scenario and falter in another, highlighting the importance of matching leadership qualities to the context. Success in a project, according to this theory, is influenced by a combination of the leader's attributes and the challenges at hand. The concept of "good leadership" becomes contingent on how one navigates a particular circumstance (Shala et al., 2021). Ultimately, this leadership approach underscores the multitude of factors involved in workplace situations,

emphasizing that effective leadership necessitates an awareness and understanding of these variables.

In this study, the leadership contingency theory underpins teaching and learning management for pupils with intellectual disabilities in special schools opportunities for leaders. Here, the head teacher is expected to apply the management approach that is best suited to learners with intellectual disabilities. Therefore, this theory was chosen because it touches on the management aspects being investigated in this research. The theory holds the leaders in the education system in Meru County accountable for the learning and teaching management for students with intellectual disabilities. The theory will encapsulate the head teachers, Sub-County Directors, TSC Directors, and other leaders responsible for the delivery of quality education to children with intellectual disabilities. The theory was also used to expound the understanding of the school environment, curriculum, and school culture considering that the effective adoption of these constructs requires customization to fit learners with intellectual disabilities in special schools.

2.8.2 The Pavlov's Classical Conditioning Theory

Classical conditioning, a foundational theory in behavioral psychology, was prominently exemplified by Ivan Pavlov's ground-breaking experiments with dogs in 1897. The theory posits that behaviours are acquired through the association of a neutral stimulus with a positive one. Pavlov's dogs, in a classic illustration, learned to anticipate food (positive stimulus) when they heard a bell (neutral stimulus). The process involves three key stages: before conditioning, during conditioning, and after conditioning (Beard, 2023).

In the initial stage, a natural response is triggered by an environmental cue, and a neutral stimulus is introduced. The neutral stimulus becomes linked to an unconditioned stimulus, establishing the groundwork for the subsequent stages. During conditioning, the subject begins associating the neutral stimulus with the positive stimulus, creating a cue for the expected response. Repetition reinforces this connection, leading to the formation of a conditioned response. The final stage solidifies the association, resulting in a new behavior or conditioned response. If the link weakens or breaks, extinction occurs, as observed when Pavlov's dogs stopped associating the bell with food when the food was no longer presented (Basri et al., 2020).

The principles of classical conditioning extend beyond Pavlov's dogs and find application in the infamous Little Albert experiment. Conducted by John B. Watson and Rosalie Rayner in 1920, this experiment applied classical conditioning to human behavior. Through repeated pairings of a white rat with a frightening stimulus, Little Albert developed a fear response not only to the rat but also to various other stimuli, demonstrating the generalization aspect of classical conditioning.

Classical conditioning differs from operant conditioning, another prominent learning theory, in its focus on associating stimuli rather than consequences for behaviors. Operant conditioning involves positive or negative reinforcement to encourage or discourage behaviors. Classical conditioning principles include acquisition, extinction, spontaneous recovery, generalization, and discrimination (McLeod & Guy-Evans 2023). These principles contribute to a comprehensive understanding of how associations between stimuli and responses are formed and modified in classical conditioning.

Pavlov's classical conditioning theory, pioneered by Ivan Pavlov, has transcended its traditional application in the realm of animal behavior to find relevance in the field of education (Beard, (2023), particularly in managing learning and teaching for individuals with intellectual disabilities within special schools. In this context, the theory offers valuable insights and strategies for effective instruction and behavior management. The core principle of associating stimuli with responses holds significant implications for classroom management. Teachers can leverage classical conditioning by associating positive stimuli, such as praise or rewards, with desired behaviors exhibited by students with intellectual disabilities (Basri et al., 2020). This approach provides a framework for reinforcing positive conduct and creating a positive learning environment.

Repetition and consistency, highlighted by Pavlov, become paramount in the education of learners with intellectual disabilities. These individuals may require additional repetition to establish and strengthen associations (Basri et al., 2020). Teachers can employ consistent and repetitive teaching methods to reinforce learning and promote the acquisition of new skills, accommodating the unique needs of each student (Beard, 2023). Systematic desensitization, another application of classical conditioning, aids in alleviating anxiety or fear associated with specific learning tasks (Beard, 2023). Teachers can gradually expose students with intellectual disabilities to challenging tasks in a controlled manner, helping them build positive associations and overcome potential learning barriers.

Cueing and prompting emerge as practical tools in managing the learning environment. By associating environmental cues or prompts with specific behaviors, teachers facilitate smoother transitions between activities for learners with intellectual disabilities. Visual

cues or specific prompts become signals for the initiation of learning tasks, contributing to a more organized and predictable classroom experience.

Behavior modification programs, grounded in Pavlovian principles, offer a structured approach to shaping and managing behavior in the classroom. By consistently reinforcing desired behaviors and extinguishing undesirable ones, teachers can contribute to the overall development and conduct of learners with intellectual disabilities. Classical conditioning also plays a role in the generalization and transfer of teach (Beard, 2023). Teachers can help learners apply skills acquired in one context to different situations by carefully reinforcing the desired behavior across various scenarios.

In recognizing the individuality of learners, teachers in special schools can tailor classical conditioning approaches to the unique needs and preferences of each student with intellectual disabilities. However, it is crucial to emphasize that while classical conditioning principles are valuable, an integrated and holistic approach that considers other learning theories and individualized education plans is typically more effective. Building a supportive and inclusive learning environment remains a key component in ensuring the success of learners with intellectual disabilities.

2.8.3 The Vygotsky's Theory

The Vygotsky's theory was developed in 1943 by Lev Vygotsky. Vygotsky, a psychologist, described how cognitive development among children was reinforced by the surrounding culture and people (McLeod, 2014). Vygotsky believed that community social interaction played a key role in shaping cognition growth and giving meaning to objects surrounding

a child. Later, this notion became a foundational basis from which the social development theory and Piaget's proposition emerged.

Vygotsky's theory argues that human development occurs in stages, where one stage depends on the previous one. Vygotsky, therefore, believed that children learn from the immediate social environment. This is realized when children are playing and observing the adults. According to Vygotsky, society shapes individual communication, reasoning, and cultural and social development. This interaction extensively depends on knowledgeable elder human beings who engage children in challenging activities. Vygotsky further explains that human development is a social process which is impacted by beliefs, problem-solving skills, knowledge, values, and norms through dialogues with grown-up members of the society.

The theorist came up with three constructs. These were: culture as a tool, private communication and the Zone of Proximal Development (ZPD). The culture comprises the rules, norms, values, perceptions, sensations, surrounding circumstances, and people who help children adapt (McLeod, 2014). Private communication is about the inner speech, which controls the development of mental reasoning, understanding, relating and later outer speech, such as communication after understanding (Wakoli, 2019). Lastly, the zone of proximal development is the role of older people in helping, which is about scaffolding through guidance and communication using tools and materials to help children accomplish intellectual, cognitive and human development goals.

Vygotsky (1978) explain that in the ZPD zone, children require skilled people, physical materials, technology, written images, artefacts, pictures, books and photos to help them

remember and give meaning to what they hear (Wakoli, 2019). The theory also emphasizes the importance of student intellectual development through modelling, direct instruction, feedback, questioning, assurance, reinforcement, direction, collaboration, close attention and evaluation to achieve cultural, religious, and community belief adaptation (McLeod, 2014).

Vygotsky's theory is applicable in this study, considering that pupils with intellectual disabilities can be shaped by the primary special needs teachers and other non-teaching staff to develop cognitively, intellectually, culturally and spiritually during academic pursuit. Concerning the theory, 'knowledgeable teachers' help pass culture and community values to children. The same can be applied in special primary schools with the backup of a flexible curriculum, assistive technology, a variety of information resource materials and evaluation to ensure intellectually disabled learners gain much knowledge in the classroom.

Vygotsky's theory informs how children with intellectual disabilities can be developed to acquire knowledge and cognitive and intellectual development through education, teaching and training. It substantiates the need for teacher characteristics and school culture to improve teaching and learning in special primary schools. In this scenario, therefore, the acquisition of cultural beliefs and community values requires close attention by elder 'knowledgeable individuals'; this can be achieved by ensuring special primary school teachers who have positive attitudes towards ID learners, are competent, professionally developed, have special needs training skills, use individualized learning and have adopted a variety of teaching methodologies to support the acquisition of knowledge by intellectually disabled learners.

Despite this, Vygotsky's theory needs more specific managerial processes for addressing cognitive and intellectual development. Also, the theory lacks a precise evaluation mechanism to measure a child's progress over time. However, this does not limit the theory's application in this study since it underpins the influence of teachers' characteristics and school culture in the process of managing teaching and learning for pupils with intellectual disabilities in special primary schools. This theory covered only the teaching curriculum and the school environment. The bioecological theory of development was included to address these constructs of the study not underpinned.

2.8.4 The Bioecological Theory of Development

This theory is traced to Urie Bronfenbrenner, who in 1998 developed it to explain how children achieve cognitive development (Bronfenbrenner, 2005). The theory posits that human development is a continuous life-long process which relies on the environment to shape an individual multi-dimensionally. Apart from the individual biological development process, the environment is a significant motivator and influencer through different interacting systems. Therefore, Bronfenbrenner developed five major sub-systems which he qualified as influential in shaping children's development. These were microsystem, mesosystem, exosystem, macrosystem and chronosystem (Tudge et al., 2022; Okyere et al., 2019).

The microsystem comprises the child's proximal characteristics, primarily biological, innate or inherent from a biological parent. For the mesosystem, these characteristics influence a learner's behaviour and mannerisms due to close interaction at this environment level. Some of the actors in the environment in this context include the church, school and

families. The third environmental level is the ecosystem. This sub-system consists of factors which the child is not directly in control of. The fourth sub-system described by Bronfenbrenner is the macro-system. At this level, the environment shapes development elements by default. This comprises religion, tribe, culture, societal norms and belief systems. Lastly, the chronosystem argues that development is gradual, and the impact is sometimes noticeable.

For the effectiveness of long-term changes in a child, the theorist explained that inherent concepts explain the influence and change. Besides the environmental characteristics, Bronfenbrenner covered inherent elements such as experiences, perceptions, attitudes, anxiety, hope, anticipation and fear. The Bioecological theory of development further clarified that power, standards, directives, guidance, consistency and leadership qualified how the environment shaped human behavioural change and cognitive development (Bronfenbrenner, 2005). According to Tudge et al. (2022), the emotional, physical, mental and material support offered by the sub-systems in the environment motivated behaviour change (Tudge et al., 2022).

Therefore, this theory addresses the school environment, curriculum and teachers' attitudes toward managing teaching and learning for learners with intellectual disabilities in special schools in Meru County. The special primary schools can copy the ideas and adopt elements Bronfenbrenner's theory covers to provide a conducive environment that supports pupils with intellectual disabilities. This theory recognizes the need to strengthen factors which motivate effective teaching and learning. Special primary schools can implement special education curricula, developing an attractive school culture and conducive

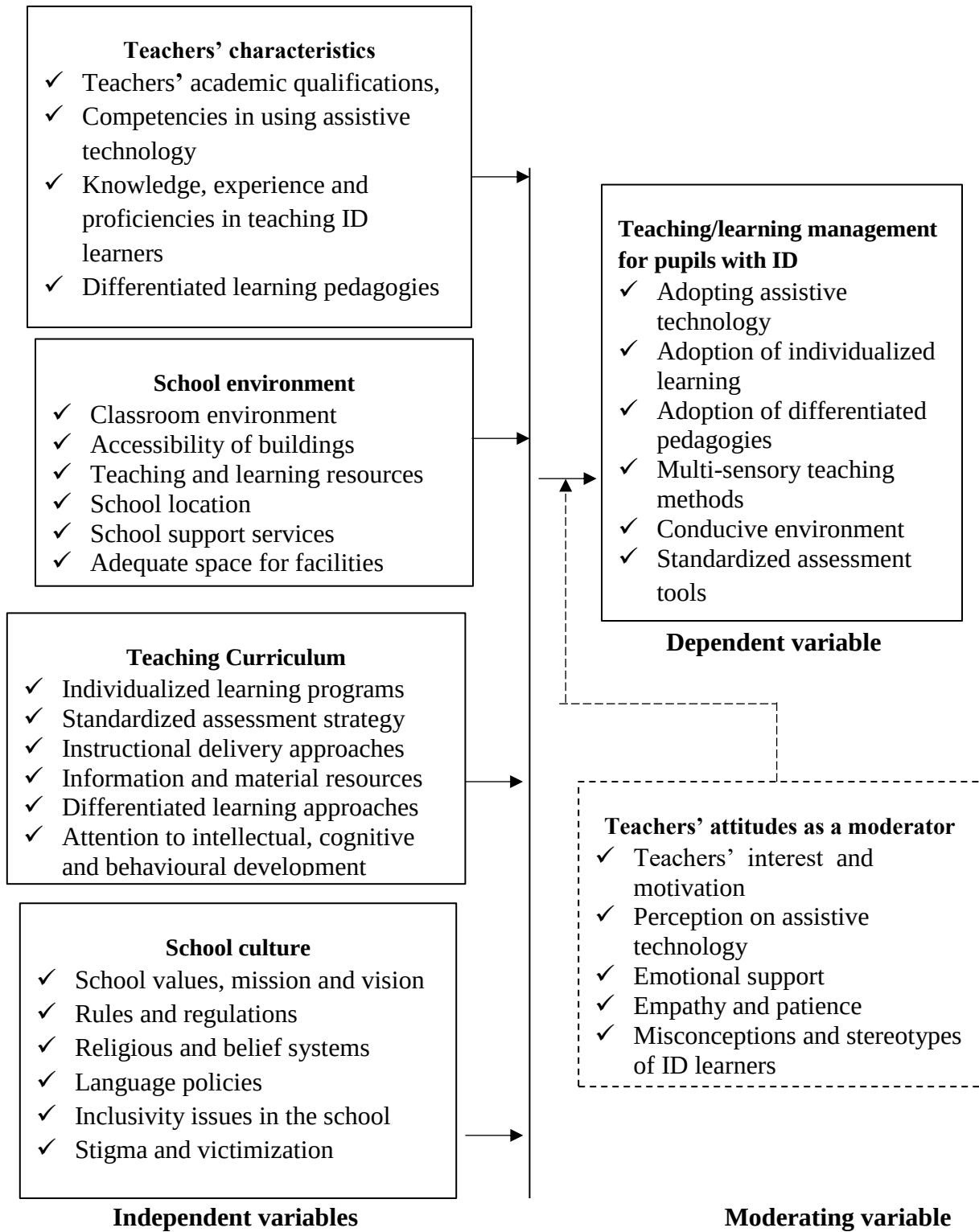
environment for sustaining teaching and learning. Some aspects that sustain effective teaching and learning are information resources, assistive technology, a skilled workforce, well-designed infrastructure, teaching methodologies and rules and regulations. These aspects have enormous implications for teaching and learning management for pupils with intellectual disabilities in special schools.

2.9 Conceptual Framework

The conceptual framework depicts the interrelationship of factors, teacher's attitudes, and the management of teaching and learning for pupils with intellectual disabilities. Based on the literature reviewed, the following conceptual framework was developed.

Figure 2. 1

Conceptual Framework



Source: Researcher, 2024

Description of Variables in the Conceptual Framework

Figure 2.1 indicates the relationship between factors, teacher's attitudes, and the management of teaching and learning for pupils with intellectual disabilities. The factors investigated in this study were teacher characteristics, school environment, curriculum, and school culture. These constructs constituted the independent variables that were hypothesized to influence the management of teaching and learning for pupils with intellectual disabilities in special schools in Meru County.

The aspects of teacher's characteristics measured in this variable were teachers' academic qualifications, competencies in using assistive technology, knowledge and experience in special education, and proficiencies in teaching learners with intellectual disabilities. Other aspects investigated regarding a teacher were the use of differentiated learning instructional delivery techniques. The school environment was characterized by the classroom, accessibility to services, facilities, resources, school support services, adequate teaching and learning resources, and other infrastructure.

The third factor is the teaching curriculum, which was determined by the availability of individualized learning programs, standardized assessment, and instructional delivery approaches. Adequate teaching and learning materials, differentiated learning, and attention to intellectual and cognitive development approaches were also ascertained. The school culture was examined by probing issues related to school values, mission, and vision statements. Other features examined included rules and regulations, belief systems, inclusivity, communication, language policies, and victimization aspect.

The dependent variable in this study is the management of teaching and learning for pupils with intellectual disabilities, which will be considered upon evidence of support from the adoption of assistive technology, individualized learning, differentiated learning, multi-sensory teaching strategies, conducive learning environment, and standardized achievement assessment modalities.

The teacher's attitude was hypothesized to moderate the factors and management of teaching and learning for pupils with intellectual disabilities. The study argued that teachers' attitudes could strengthen or weaken the influence of teacher characteristics, environment, curriculum, school culture, and the management of teaching and learning. Teachers' attitudes were characterized by teacher interests, perceptions, behavior, and feelings about handling ID learners, teaching, and interacting with pupils with intellectual disabilities. Other aspects related to attitude were the teacher's patience, moral support to ID learners, as well as empathy and compassion towards ID learners. Additionally, implications of teacher's stereotypes and misconceptions about pupils with intellectual disabilities were also assessed.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter is concerned with study methodology. It covers the study's location, research design, target population, sample size, sampling processes, data collection tools, pre-testing of the tools, data analysis and presentation as well as, ethical issues observed during the study.

3.2. Location of the Study

The research took place in Meru County, Kenya, in special schools for pupils with intellectual disability. These included Meru School for the Intellectually Disabled, Kunene Special School, Nkamathi Special School, and Irindiro Special School. Meru County is in Eastern Kenya. It has nine constituencies namely; Imenti South, Imenti Central, Imenti North, Igembe South, Igembe North, Igembe Central, Tigania East, Tigania West, and Buuri. It borders Isiolo County to the North and North East, Tharaka Nithi County to the South West, and Laikipia to the West. Meru County was selected because it had several special schools for pupils with intellectual disabilities; hence, it was an ideal study site.

3.3 Research Philosophy

Research philosophy encompasses the values, criteria, ideas, beliefs, and parameters guiding a study in obtaining, analyzing, and inferring data. Philosophical approaches in research involve the methods and processes believed to be most effective in addressing a research problem (Creswell, 2018). This study adopted a pragmatism paradigm, which was chosen for its flexibility and ability to use various dimensions, methodologies, and

modalities. Pragmatism facilitates the triangulation of data, allowing the researcher to expound on teaching and learning management in special schools, analyze data, draw conclusions, and explore the interplay of factors (Creswell, 2018; Saunders, 2009). The chosen philosophy integrates quantitative and qualitative findings, providing a comprehensive understanding of the research problem.

The pragmatism paradigm emphasizes the application of research findings to solve practical problems (Creswell, 2018). It was therefore appropriate considering the current study has clear practical objectives covering teachers' characteristics, school environment, curriculum, school culture, and teachers' attitudes. This suggests the research is focused on applying knowledge to real-world problems and outcomes in a natural context. As noted above, pragmatism allows for flexibility in choosing research methods and designs based on what works best to address the research problem. In this study, the researcher examined multiple factors affecting teaching and learning management for pupils with intellectual disabilities in special schools.

The choice of pragmatism enabled the incorporation of diverse methodologies and tools for collecting data; these are, questionnaires, interviews, focused group discussions, and observations, to gather comprehensive and practical insights. It also enabled the integration of different viewpoints. This is because it involved various stakeholders, including specially trained teachers, head teachers, MOE education sub-county directors, and TSC sub-county directors to gain a holistic understanding of the factors affecting teaching and learning management in special schools. It is expedient to note that pragmatism treats research and knowledge as things that can lead to action and change (Kivunja & Kayuni,

2017). Notably, the knowledge gained in this study has practical impacts (see implications of the study in chapter five), consistent with a pragmatic approach.

3.4 Research Approach

Research approaches dictate how data collection and analysis can lead to solutions Creswell (2014). This study employed a mixed-method research approach. The mixed-method research approach is suitable for this study because of its alignment with multiple methods employed in collecting data (questionnaires, interviews, observations, and focused group discussion). In the first instance, pragmatism which was identified as an appropriate philosophy for underpinning this study, supports the use of mixed methods. That is, using both quantitative and qualitative approaches to provide a more complete understanding of the research problem.

In the current study, the mixed-method research approach involved the collection of numerical data through questionnaires from teachers. These data provided statistical insights, allowing for the identification of patterns and trends in a systematic manner. The qualitative data collection methods used in this study; that is, interviews, focus group discussions, and observations were suitable for exploring the experiences, perceptions, and attitudes of head teachers, MOE education sub-county directors, and TSC sub-county directors. The qualitative data gathered from these stakeholders, therefore, offered rich, descriptive insights that complemented the quantitative findings, and further provided a deeper understanding of the interplay of teachers' characteristics, school environment, curriculum, school culture, teachers' attitude, and teaching and learning management for pupils with intellectual disabilities in special schools. This is consistent with the argument

by Kivunja and Kayuni (2017) who underscore the value of quantitative data in aiding decision-making, while qualitative data clarifies and justifies interpretations, contributing to a holistic understanding of teaching and learning management for pupils with intellectual disabilities in special schools.

Moreover, the use of a mixed-method research approach allowed for validation and triangulation of findings in the current study (Walliman, 2018). Both sets of findings (quantitative and qualitative) were critically reviewed to identify the converging points. This fostered better validation and triangulation; hence, improving the overall credibility and reliability of the study results. According to Creswell (2014), data triangulation strengthens the validity of the research by corroborating evidence from different sources and methods.

The mixed approach accommodates different views (Creswell, 2014). This enabled the researcher to scrutinize and support theoretical propositions based on findings from various data collection tools used in this study (questionnaires, interviews, observations, and focused group discussions). Kivunja and Kayuni (2017) argue that a mixed methods approach allows for integrating both theories and research variables, hence generating comprehensive and diverse information. The act of collecting diverse views using different tools in this study provided a richer perspective on how different factors affected the teaching and learning management for pupils with intellectual disabilities in special schools in Meru County. The combination through the convergence of quantitative and qualitative data was done in this study, which aligns well with the applied, real-world knowledge as propagated by pragmatism philosophy. The converging design of mixed methods enabled

for assessing issues on which both quantitative and qualitative data converged. None of the quantitative and qualitative data was dominant, but converging points took center stage.

3.5 Research Design

A research design outlines how respondents provide data, and how the collected data is analyzed to represent knowledge accurately (Bostley, 2019; Kothari & Garg, 2019). This was a cross-sectional study that employed a descriptive survey research design to investigate the factors that influence teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya. A cross-sectional survey research design is characterized by the collection of data from a sample of participants at a single point in time, providing a snapshot of the study variables (Babbie, 2014). In this study, the researcher gathered information from specially trained teachers, parents, head teachers, MOE education sub-county directors, and TSC sub-county directors within a defined timeframe. This allowed the researcher to obtain a snapshot of the factors affecting teaching and learning management without the need for longitudinal data collection.

The descriptive survey design facilitated a better understanding of the current scenario of teaching and learning management for pupils with intellectual disabilities in special schools. The researcher collected data from multiple stakeholders specially trained teachers, parents, head teachers, MOE education sub-county directors, and TSC sub-county directors at once, reducing the resources and time required for data collection as noted by Babbie (2014). This efficiency was particularly valuable in the current study with practical implications, such as those aimed at informing educational policies and practices.

The study targeted four special schools for pupils with intellectual disabilities in Meru County. By collecting data from a sample of participants within these schools at a single point in time, the researcher aimed to generalize the findings to the broader population. An evaluation of existing literature in Chapter Two reveals prior studies that had employed survey research design. Notable instances of such research include the works of Lee et al. (2015), Rakap et al. (2017), Hutzler et al. (2019), Bondie et al. (2019), Whitley et al. (2019), Oliver et al. (2020), and Kalema (2018). This has imparted a greater level of confidence in choosing a similar research design for the current study.

3.6 Target Population

The study targeted the four special schools hosting pupils with intellectual disabilities. As per the Ministry of Education, Meru County, the four special schools had a population of 479 pupils with intellectual disabilities and 387 parents. The study also involved four Ministry of Education (MOE) Sub-County Directors of Education, four Teachers Service Commission Sub-County Directors, and 45 specially trained teachers, and four head teachers. A summary of the target population is shown in Table 3.1

Table 3.1***Target Population***

Schools	Sub County	Pupil s	Head teacher	Teacher s	Parent s	MOE Sub County Director s	TSC Sub County Director s	Tota l
• Meru school for mentally disabled	Imenti North	128	1	15	125	1	1	143
• Kunene	Tigani a West	105	1	8	80	1	1	91
• Nkamat hi	Igemb e North Tigani	156	1	13	92	1	1	108
• Irindiro	a Centra l	90	1	9	90	1	1	102
Total		479	4	45	387	4	4	444

The pupils' population was provided in Table 3.1 to shed light on their distribution across the four schools; otherwise, they were not included in this survey considering that that they were intellectually disabled. The above population category groups: head teacher, specially trained teachers, parents, MOE Sub County Directors, and TSC Sub County Directors) represent key stakeholders that provided important perspectives and data to address the research objectives from different viewpoints. Teachers were the main respondents in this study, hence their expertise and experience were critical. The specially trained teachers have specific skills and expertise in working with pupils with intellectual disabilities. With direct classroom experience teaching intellectually disabled pupils, they have first-hand

knowledge of the teaching methods, curricula, and school culture factors that impact learning. Their insights were crucial for assessing these aspects in this study.

As primary caregivers, parents provided crucial insight into the learning needs and challenges encountered by their children with intellectual disabilities. Their perspectives were regarded as important facilitating the understanding of factors that affect teaching and learning management for pupils with intellectual disabilities. Their insights further provided an overall educational experience for the pupils.

Ministry of Education (MOE) Sub-County Directors of Education are regarded as key administrators overseeing special education programs at the local level and in the implementation of educational policies. In this study, these officers provided information on resources, policies, and support relevant to teaching intellectually disabled learners. Their input was valuable and assisted in assessing the school environmental and curriculum aspects. Their views also helped this study to evaluate the adequacy of resources allocated to special schools, and in identifying areas that may need improvement to enhance teaching and learning management.

From the context of this study, Teachers Service Commission Sub-County Directors are involved in teacher recruitment specific to special education, deployment, and professional development. Their views therefore shed light on deployment strategies, support mechanisms, and professional development initiatives. They also provided information on how teachers' characteristics and attitudes influence teaching and learning management for learners with intellectual disabilities.

3.7. Sampling Procedures and Sample Size

A sample is the number of individuals or items chosen for a study from a target population. Individuals (or elements) reflect a wider group (target population) from whom those chosen. In many cases, it is impossible for a study to involve the whole population, but considers a sample and then generalize the results. In this study, the researcher settled on a sample to represent the larger group (target population). It is worth noting that the larger the sample, the more likely the mean and standard deviation are typical of the population.

In this study, the population of teachers, head teachers, MOE Sub County Directors, and TSC Sub County Directors was small; and therefore, all participants were included. However, a simple random sampling techniques was utilized to pick 32 parents. This was because, parents were involved in Focused Group Discussion (FGD) which is not sensitive to probability sampling (Alvi, 2016). According to Hagaman and Wutich (2017); and Namey (2017), focus groups often have 6-10 participants. In this study, four FGD were formed; one from each participating school. Eight parents were considered sufficient from each school, resulting to 32 participants. In selecting parents' participants for this study, the 387 total parents were stratified by grouping them by the 4 special schools. This was helpful in ensuring parents from each school had equal chance to be included in the sample. The next step was to determine the proportion of the 387 parents from each of the 4 schools. The researcher then proportionally computed the number of parents to be selected from each school for the total sample of 32. The study then applied simple random sampling method within each school's allotted sample size, to select the specific parents from that school. The overall sample size was then summarized in Table 3.2

Table 3.2***Sample Size in Relation to the Target Population***

Category of Subjects	Method of collecting data	Target Population	Sample Size
• Head teachers	Interview	4	4
• Teachers	Questionnaire	45	45
• Parents	Focused group discussion	387	32
• MOE Sub County Directors	Interview	4	4
• TSC Sub County Directors	Interview	4	4
Total		444	89

3.8. Research Instruments

Data was collected using various instruments considered appropriate for various categories of the subjects. These instruments included questionnaire for teachers, an interview schedule for heads of the schools, sub-county directors (Ministry of Education and TSC), a focus group discussion for parents and an observation schedule which helped the researcher to observe several issues regarding pupils with intellectual disability. All the items in the instrument were based on the study's objectives.

3.8.1 Questionnaire for Teachers

The study regarded questionnaire as a suitable and practical method for gathering data from teachers in special schools for learners with intellectual disabilities. Considering that special needs education teachers are specifically trained and spends a lot time with intellectually disabled learners in special schools, they were subjected to supplying data

through a questionnaire. The questionnaires for this category of respondent was based on all variables of the study namely: teachers' characteristics, school environment, curriculum, school culture, teachers' attitude, and teaching and learning management for pupils with intellectual disabilities in special schools. This allowed for a comprehensive exploration of the study objectives.

The use of questionnaires in this study allowed for efficient collection of large sum of data within very short period of time. This was because of standardized questions, which ensured consistency in the information collected, and were easy to administer, especially when dealing with a geographically dispersed (Alvi, 2016). The use of questionnaires on teachers allowed for an esteemed level of confidentiality that encouraged them to share their experiences and opinions more freely.

The study noted that teachers usually have demanding schedules, and therefore administering questionnaires provided flexibility in terms of when they could respond. This flexibility greatly enhanced the participation rate. In addition, one of the study objectives is to assess the influence of teachers' attitudes on moderating factors affecting teaching and learning management. The use of a questionnaire helped to quantify teachers' attitudes using Likert scale. Questionnaire responses were in numerical form and closed ended, and in Likert rating scale (see appendix III, enabling researchers to identify patterns and trends in teachers' perceptions through quantitative analysis.

3.8.2 Focus Group Discussion for Parents

Focus Group Discussions was considered most appropriate in collecting data from parents. The researcher organized the parents into 4 groups as described in the previous section.

Group dynamics may reveal areas of agreement or divergence between parents regarding factors affecting teaching and learning of their intellectually disabled children. FGDs were preferred in this case because they encourage interaction and discussion among participants. It allowed parents to share and build upon each other's experiences, providing a more focused understanding of their perspectives on various phenomena under investigation. It therefore promoted a dynamic exchange of ideas, feelings, and insights.

Focus groups discussion was further preferred because it allows efficient data collection from a larger number of parents than one-on-one interviews within a limited timeframe (Hagaman & Wutich, 2017; Namey, 2017). The study also held that parents feel more comfortable sharing their experiences and opinions within a group of peers who face similar challenges with their intellectually disabled children since, a one-on-one interview session may sound intimidating to some people. Notably, parents may have concerns or experiences related to their children's education that are sensitive or challenging to discuss individually.

FGDs generate rich qualitative data by capturing not only what participants say but also how they express themselves (Namey, 2017). The researcher gained insights into the emotions, attitudes, and social dynamics that influence parents' perspectives on teaching and learning management for pupils with intellectual disabilities.

The adoption of FGDs in this study helped to identify areas of consensus among parents as well as potential contradictions in their views. Understanding shared concerns and differing opinions in this context helped to understand the factors affecting teaching and learning management for pupils with intellectual disabilities. Furthermore, the interactive nature of

FGDs enabled immediate feedback and clarification. In this case, the researcher probed further, sought clarification, and had an opportunity to explore and solicit more information leading to a thorough understanding of parents' perspectives.

The focused group discussion tool consisted of sections containing questions organized according to the variables of the study (see appendix IV). General information about the respondent was gathered in the first section. This included demographic information like participants' gender, education qualification and experiences. The other sections contained lead questions on teachers' characteristics, school environment, curriculum, school culture, teachers' attitude, and teaching and learning management for pupils with intellectual disabilities in special schools. The literature reviewed in chapter two helped to come up with specific lead questions included in the FGD tool.

3.8.3 Interview Schedule for Head teachers, MOE Sub County Directors and TSC Sub County Directors

The four MOE Sub County Directors, four TSC Sub County Directors and the four head teachers were regarded as key informants in this study. All these respondents were interviewed accordingly. The interview guide consisted of sections organized according to the variables of the study (see appendix V). General information about the respondent was gathered in the first section. This included demographic information like participants' gender, education qualification and experiences. The other sections contained questions on teachers' characteristics, school environment, curriculum, school culture, teachers' attitude, and teaching and learning management for pupils with intellectual disabilities in special

schools. The literature reviewed in chapter two helped to come up with specific questions included in the tool.

The interview guide helped the researcher to have an in-depth understanding the interplay of factors that influence teaching and learning management for pupils with intellectual disabilities, focusing on policies, programs, curriculum; teacher recruitment, deployment, training, and support. As noted by Hagaman and Wutich (2017), interviews allow an in-depth exploration of each participant's individual experiences and perspectives related to the research objectives. In this study, the one-on-one format facilitates privacy in sharing insights about issues or policies that may be sensitive.

Interview was convenient to schedule with Head teachers, MOE directors and TSC directors than organizing multiple focus group sessions. The researcher held that this category of respondents were open, and could provide honest responses in a confidential interview than a group setting. The tool also allowed the researcher to develop a rapport with participants which further helped in gaining their trust.

3.8.4 Observation Schedule

The non-participants observation was applied which provided real-time collection of data, contributing to a more comprehensive understanding of learning experiences of learners with intellectual disabilities. According to Orodho (2014), observation is less dependent on participant willingness to provide information than questionnaires or interviews. The act of combining observation data with interviews/focus groups helps triangulate findings and provide a complete picture (Hagaman & Wutich, 2017).

The observation schedule focused on holistic assessment of teaching and learning management particularly on classroom dynamics, learners' behavioural assessment, learning resources, physical infrastructure, curriculum implementation, existing support systems, teacher-learner interactions/engagement, classroom environment, and teaching aids. Through this tool, the researcher was able to observe dynamics within the classroom, including teacher-student interactions, instructional strategies, and the overall learning atmosphere.

On behavioural assessment, the researcher concentrated on observing the non-verbal cues to assess their engagement, understanding, and challenges. Observation allows for the behavioural assessment of learners with intellectual disabilities (Center for social & emotional education, 2018). Another area of observation was on the availability and utilization of learning resources, including adaptive materials, assistive technologies, and any other resources designed to support the learning of learners with intellectual disabilities. For extracurricular activities, the researcher observed social interaction, motor performance, perceptual abilities, communication and language abilities, adaptive behaviour, teachers' supervision and self-esteem, among others. The researcher also observed how teachers managed to control the learners' movements inside and outside the classroom.

Special schools are expected to have specific physical infrastructure designed to support learners with intellectual disabilities. Therefore, observations provided insights into the accessibility and appropriateness of the physical environment, including classrooms and washroom and others. One of the objectives aimed at assessing the influence of curriculum

on teaching and learning management. In that connection, observations involved verifying how the curriculum was implemented; whether it was adapted to the needs of learners with intellectual disabilities. Other issues that were observed support systems, including the role of specially trained teachers and any additional staff or services dedicated to supporting learners with intellectual disabilities. The literature reviewed in chapter two helped to come up with specific aspects which were included in the observation tool. The observation tool is provided in appendix VII.

3.9 Pilot Testing of the Research Instruments

The pilot testing of research instruments was essential before gathering data from respondents in special schools for learners with intellectual disabilities. It was a valuable step in the research process, and contributed immensely to enhancing the overall quality and credibility of the study by refining instruments and addressing potential challenges before full-scale data collection. This process ensured that the instruments, including questionnaires, observation schedules, and interview guides, were clear, unambiguous and well understood. It helped the researcher to identify any potential misinterpretations, or biases in the instruments' content or wording. This enable the researcher to refine and improve questions for maximum reliability and validity.

Additionally, pilot testing fostered feasibility evaluation of the data collection process; for example, the time required to complete the survey, logistical challenges, and the practicality of observation procedures. By testing the logistics, researchers was able to streamline the data collection process, ensuring efficiency and minimizing disruptions during the actual implementation phase.

The research tools were pre-tested in Nuu special school which is in Mwingi East Sub-County, Kitui County. This site of pre-testing was appropriate the school had similar characteristics to those sampled in Meru County. This fosters not only generalizable results, but also reliable, valid, and relevant (Bryman, 2012). The pre-testing data was gathered from one head teacher, 9 teachers, 7 parents, one Sub-county Director of Education, and one TSC Sub-county director. The number of participants in the pre-testing exercise was guided by the recommendations of Orodho (2014), on 1-10% of the target population which he argued that was reliable in identifying inconsistencies in the research instruments. The method of selecting participants was the same as described in the thesis. The information gathered was used to re-address the design of the questions, remove redundancy and enhance clarity as described above.

3.10 Validity of Research Instruments

This study ascertained the content, construct, and face validity of research instruments. Content validity of questionnaires, observation schedules, and interview guides, and FGDs was enhanced by involving subject matter experts, such as educators and specialists in special education. These experts assessed whether the items adequately represented the key factors affecting teaching and learning management for learners with intellectual disabilities. The researcher carefully designed the questions in each tool to comprehensively cover relevant concepts directly related to the research objectives and factors being studied. The actual piloting the instruments with a small group as described above before the actual data collection further helped to refine the content and identify any potential gaps.

Construct validity involves ensuring that the research instruments measure the theoretical constructs or concepts they intend to assess (Akulue & Okonkwo, 2021). In this study, it was essential to align the questions and observations with the identified factors affecting teaching and learning management based on theory and previous research on the topic. The conceptual framework was consulted to inform on identified indicator of each construct of the study.

Face validity refers to the perceived relevance and clarity of the research instruments from the perspective of the respondents. To enhance face validity in this study, the researcher ensured use of clear and accessible language in the questionnaires, observation schedules, and interview guide and FGDs. Piloting the instruments with a small sample of respondents as described above, helped to assess whether the items were easily understood and relevant to the participants. Feedback from pilot testing actually guided on adjustments to enhance face validity, ensuring that the instruments appear credible and appropriate to the target respondents.

3.11 Reliability of Research Instruments

The ability of research instruments to produce the consistent results is referred to as reliability (Orodho, 2014). When tools are reliable, it means that the researcher can depend on them to carry out the intended analysis. The reliability in this study was checked and ensured in different ways. In the first instance, tools were standardized and parameters of measure were clearly defined to minimize variations in the interpretation by different respondents. The researcher further ensured that clear instructions were provided to participants to ensure they understood the questions or prompts to avoid ambiguity and

reduce inconsistent responses. In the second instance, the researcher further ensured that before administering the main survey or interviews, a pilot test was conducted as described in the above session. The pre-testing of instruments helped to identify ambiguities, biases, or other issues in the research instruments.

At the same time, the research assistants were adequately trained to administer the instruments consistently and follow the same procedures. To ensure internal consistency of research instruments, a Cronbach's alpha coefficients were computed with the help of SPSS for scales with multiple items/questions to ensure they measured the same underlying construct consistently. Cronbach's alpha coefficients are used to assess the internal consistency or reliability of a set of items, such as questions in a survey or test. It provides an estimate of the reliability of a psychometric scale or test by determining how closely related the set of items are as a group.

Specifically, Cronbach's alpha measures the extent to which the items in a scale or test are measuring the same underlying construct or concept. It indicates the interrelatedness of the items, giving an estimate of the proportion of variance in the scale scores that is attributable to the true score (the score that would be obtained if the measure were perfectly reliable). In this case, a threshold of 0.7 was regarded adequate to indicate dependability as guided by Wilson (2010) and Taber (2018). The researcher further engaged two data analysts, who were asked to identify the themes and coding schemes individually, after which, their responses were compared to check for inter-rater reliability and consistency.

3.12. Data Collection Procedures

The researcher obtained a letter from the Directorate of Postgraduate Studies at Kenya Methodist University, facilitating the process of applying for a research permit from the National Commission for Science, Technology, and Innovation (NACOSTI). The researcher made phone calls to the concerned school heads and secured appointment. Data collection were then collected as detailed in the following sub-sections. The subsequent section details the procedures for administering each research tool. The procedures were significant in ensuring that the collection of reliable and relevant data to meet the objectives of the study.

3.12.1 Administering of Focus Group Discussion for Parents

The initial step was identifying (using the procedure documented under sampling techniques section) and inviting parents of pupils with intellectual disabilities from the target special schools. The venue [hotel], time and fare facilitation was duly agreed in advance. During the meeting, the researcher presided the session for knowing each other and then briefly introduced the purpose and scope of the focus group discussion. All FGD's participants were encouraged to express their opinions and experiences freely. Assuming the moderator's role, the researcher used pre-designed open-ended questions to guide the discussion. Permission to record the discussion was obtained from members before the recording commenced. The researcher had engaged two research assistants who assisted with recording and noting down summary of deliberations and consensus.

3.12.2 Administering Questionnaire to Teachers

The researcher arrived at the school on the day agreed with the head teacher. After a courtesy call to the head teacher, the research distributed the questionnaires to the teachers in the identified special schools. After salutations and familiarization, the participants were provided with clear instructions on how to complete the questionnaire. The teachers were assured of the confidentiality of their responses to encourage honest feedback. The participants were allowed like one hour to fill the questionnaires after which they were collected. The teachers who had busy schedule or not readily available to complete the questionnaires promptly, a different time or day was agreed for follow-up. All the collected questionnaires were numbered chronologically for ease of accountability and to aid effective entry of responses in statistical analysis software.

3.12.3 Procedures for Interviewing Head teachers, MOE Sub County Directors, and TSC Sub County Directors

The researcher contacted the identified head teachers, MOE Sub County Directors, and TSC Sub County Directors in advance to schedule interviews. On the material day, each participant was briefed about the purpose of the interview and its relevance to the study. They were also asked to consent the recording of the conversations before commencing the interview. The researcher has a pre-designed interview schedule with typical questions related to each variable of the study. A smooth transition from one variable to the other was ensured to ensure comfortable engagement and interviewee.

3.12.4 Procedures for Administering Observation Schedule

The first step was where the researcher developed a structured observation schedule, specifying the time, location, and activities to be observed in the school. A good coordination was then established with teachers to schedule classroom observation periods. The researcher ensured that she was non-intrusive with a view to maintain the natural classroom environment. Using a structured observation checklist, researchers would sit in on classes and record notes on relevant teaching and learning factors. The observation which was purely non-participatory were duly recorded in a systematic manner, using predefined aspects (see appendix VII). Observation sessions lasted 60 minutes at each school.

3.13 Data Analysis Techniques

Both quantitative and qualitative data collected during field work were analyzed using different techniques to inform conclusions of this study. The techniques for analyzing the collected data are presented below.

3.13.1 Quantitative data analysis techniques and procedures

The researcher organized the questionnaires according to the four schools and as per the serial numbers. The returned questionnaires were examined for completeness and those with incomplete responses were set aside. Data was then cleaned up, coded, and fed into the Statistical Package for Social Sciences (SPSS) database version 26 for analysis. The descriptive statistics such as percentages, means, and standard deviation were computed first to help in summarizing large sum of data. The study's hypothesis entailed assessing relationships; hence, Spearman correlation and regression analysis were adopted in determining how teachers' characteristics, school environment, curriculum, school culture,

teachers' attitude, related with teaching and learning management for pupils with intellectual disabilities in special schools. In addition, multiple linear regression assisted in determining the purpose of the study. The following function shows the relationship between variables in a multiple regression model which was adopted in this study.

$$Y = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + e, \text{ Where:}$$

Y = teaching and learning management for pupils with intellectual disabilities

β_0 = Constant

$\beta_1, \beta_2, \beta_3, \beta_4$ = regression coefficient weights for x_1, x_2, x_3, x_4 as shown below:

X_1 = Teachers' characteristics

X_2 = School environment

X_3 = Curriculum

X_4 = School culture

ε = is the estimated error of the model.

Before conducting inferential statistical analysis, a diagnostic test was first carried out to test the assumptions of regression and correlation analysis. The quantitative results were presented using tables and figures where appropriate. The few open-ended questions in the questionnaire were analyzed thematically; the same is covered in the following section.

3.13.2 Qualitative Analysis of Data

Data collected via interview and FGD tool were transcribed appropriately. After that, the narratives and statements (from open-ended questions in the questionnaires, interviews, and FGDs) addressing a given question were cross-examined for open coding to identify similarities and differences in statements across different respondents. The identification

of themes and patterns in the responses was hence conducted. The resulting codes were categorized by grouping them into broader categories related to teachers' characteristics, school environment, curriculum, cultural factors, and teachers' attitudes. In some instances, direct quotations were noted which involved extracting meaningful quotations to support the identified themes.

For data collected from parents through focus group discussion tool, a content analysis technique was done to identify the recurring themes and opinions. This was followed by the process of recognizing patterns with respect to the study variables; teachers' characteristics, school environment, curriculum, school culture, teachers' attitude, and teaching and learning management for pupils with intellectual disabilities in special schools.

Qualitative data was collected through observations. The researcher first reviewed and organized observation notes collected through the pre-designed schedule. Second, thematic coding was applied to categorize observed behaviors and events. This step was followed by the process of identifying patterns concerning teachers' characteristics, school environment, curriculum, school culture, teachers' attitudes, and teaching and learning management for pupils with intellectual disabilities in special schools. The researcher carefully considered the context of the study to enhance the understanding of the observed aspects. The observational findings were then integrated with insights from open-ended questions, interviews, and focus group discussions to enrich understanding. Finally, both quantitative and qualitative findings were cross-examined to identify converging aspects

and the same was discussed accordingly by comparing with past studies, drawing interpretations and implications of the results in the context of the research variables.

3.14 Ethical Considerations

As a part of the research ethical requirement, this study obtained approval from relevant institutions and authorities, including an introduction letter from the Directorate of Postgraduate Studies, clearance from the ethical committee, and a research permit from the National Commission for Science, Technology, and Innovation (NACOSTI)– see appendix XII. The purpose, nature, and objectives of the study were clearly explained to all participants, including Headteachers, MOE Sub County Directors, TSC Sub County Directors, parents, and teachers. They were also informed that participating in the study was entirely voluntary and that participants had the right to withdraw at any point without facing any consequences.

The researcher established measures and mechanisms to ensure secure data storage and handling procedures to protect participants' information from unauthorized access. Other mechanisms put in place were about enabling participants to seek clarification during the data collection process. Another measure embarked on in this study was ensuring that the methodology adopted was transparent and well documented, describing clearly the research methods and procedures to ensure clarity. The researcher also safeguarded the identities of participants by using codes when reporting qualitative findings to maintain confidentiality. To conceal the identity of parents who participated in the focused group discussion, the researcher reported what was agreed as a consensus view as opposed to what a person said.

Regarding beneficence and non-maleficence, the study was focused on teaching and learning management for pupils with intellectual disabilities in special schools; and therefore, prioritized the well-being and safety of participants throughout the research process. This was formalized through an informed consent form (see Appendix II). The study had no known potential harm or distress to participants arising from their involvement in the study, and the same was clarified in the informed consent form.

Considering the sensitivity of intellectual disabilities, the researcher was sensitive to using respectful language and to the cultural norms and practices of the participants. In this study, professional competence and integrity were maintained in the accurate reporting of the research findings, without manipulation. At the same time, all sources consulted were fully acknowledged using APA, 7th edition guidelines.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the findings and interpretations of the study. The results are also discussed regarding empirical literature in chapter two. The purpose of the study was to investigate the factors that influence teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya. The chapter is organized as per the study variables/objectives. This chapter starts by presenting results on reliability, response rate, and background information of respondents. This is followed by the results of diagnostic tests carried out on the data. Thereafter, the results based on the main variables of the study gathered using different tools were presented and discussed accordingly. Multiple linear regression analysis results are then presented as well as moderation results.

4.2 Results on Reliability

A reliability test was conducted to establish the questionnaire's dependability. In particular, Cronbach's Alpha coefficients were computed and the results are shown in Table 4.1.

Table 4.1

Reliability results on main variables of the study

Constructs	No. of Items	Cronbach's Alpha
Teachers' characteristics	6	0.728
School environment	11	0.839
Curriculum	4	0.711
Cultural factors	4	0.777
Teachers' attitude	4	0.817
Teaching and learning management	13	0.873

Table 4.1 shows that Cronbach's alpha value for each of the variables was higher than 0.7. In particular, teachers' characteristics had 0.728, school environment had 0.839, curriculum had 0.711, cultural factors had 0.777, teachers' attitude had 0.817, and teaching & learning management had 0.873. Cronbach coefficients of 0.7 and above are considered satisfactory and indicate instrument dependability (Taber, 2018). As such, an instrument for measuring the study variables was reliable.

4.3 Response Rate

The researcher administered 45 questionnaires to teachers, four interview guides to Sub-County Directors, and four focused group discussions for parents. Out of 45 questionnaires, 40 fully completed were, 3 were not returned, and 2 had incomplete responses. This represented an 88% response rate. The study had targeted 8 parents for each of the four FGD. Out of 32 randomly sampled parents, 25 turned up for FGD, representing a 78.1% response rate. All four head teachers, four TSC Sub-County Directors, and the four Sub-County Directors (100% response rate) were available for interviews. This translated to an 88.7% overall response rate for this study. According to Saunders et al. (2009), a return rate of more than 50% is sufficient for analysis in survey research.

4.4 Demographic Information

This section presents background information for teachers, which is important in understanding the respondent's suitability and ability to provide information on the study topic. Table 4.2 provides a summary of teachers' background information including gender, education level, and experience.

Table 4.2***Demographic Information of Teachers***

	Level	Frequency	Percent (%)
Gender	Male	12	30
	Female	28	70
	Total	40	100
Education level	certificate	12	30
	Diploma	20	50
	Bachelor's degree	8	20
	Total	40	100
Experience	Less than 5 years	16	40
	6- 10 years	16	40
	11- 15years	8	20
	Total	40	100

The findings in Table 4.2 indicate that female teachers 28 (70/%) were compared to male teachers 12(30%). The difference was quite high implying that more women are involved in teaching and learning of children with intellectual disabilities compared to men.

The results indicated that 20 (50%) of the respondents had diplomas, 12 (30%) had certificates and 8(20%) had undergraduate degrees. All the respondents had at least a certificate implying that certificate is the minimum education requirement to become special schools' teacher. The findings further imply that the respondents had adequate knowledge of factors affecting teaching and learning management for pupils with intellectual disabilities in special schools. The findings agree with the assertions by Alahmadi and El Keshky (2019) and Kurniawati et al. (2017) that knowledge is a prerequisite feature in enhancing learner management and engagement. The results show that teachers' qualifications may determine teaching and learning management in

education for pupils with intellectual disabilities in special schools. The respondents also noted that it is important to apply appropriate strategies in education management.

On teaching experience, 16 (40%) of the respondents reported below 5 years and 6- 10 years of experience respectively. Further, 8(20%) indicated 11- 15years of teaching experience. Most of the teachers had adequate teaching experience implying that they were knowledgeable about factors affecting teaching and learning management for pupils with intellectual disabilities in special schools. The findings concur with those of Goldman et al. (2017) who argued that experience influences teaching and learning.

4.5 Diagnostic Tests

The study data was subjected to several diagnostic tests before inferential analysis. This was done with the help of SPSS. The diagnostic tests included normality, linearity, multicollinearity, autocorrelation, and heteroscedasticity. The purpose of running these tests was to ensure the data did not violate basic assumptions for conducting inferential analysis to (Holcomb, 2017).

4.5.1 Normality

In conducting the normality test, the Shapiro-Wilk test was used. This test is considered more appropriate with a sample size of <50 . In this study, the sample size of teachers was 45, therefore, the test was appropriate. Table 4.3 shows the normality results.

Table 4.3***Shapiro-Wilk Test Results***

	Statistic	df	Sig.
Teaching and learning management	.219	40	.680
Teachers' characteristics	.158	40	.014
School environment	.090	40	.200*
Curriculum	.124	40	.124
Cultural factors	.162	40	.182
Teachers' attitude	.148	40	.239

a Lilliefors Significance Correction

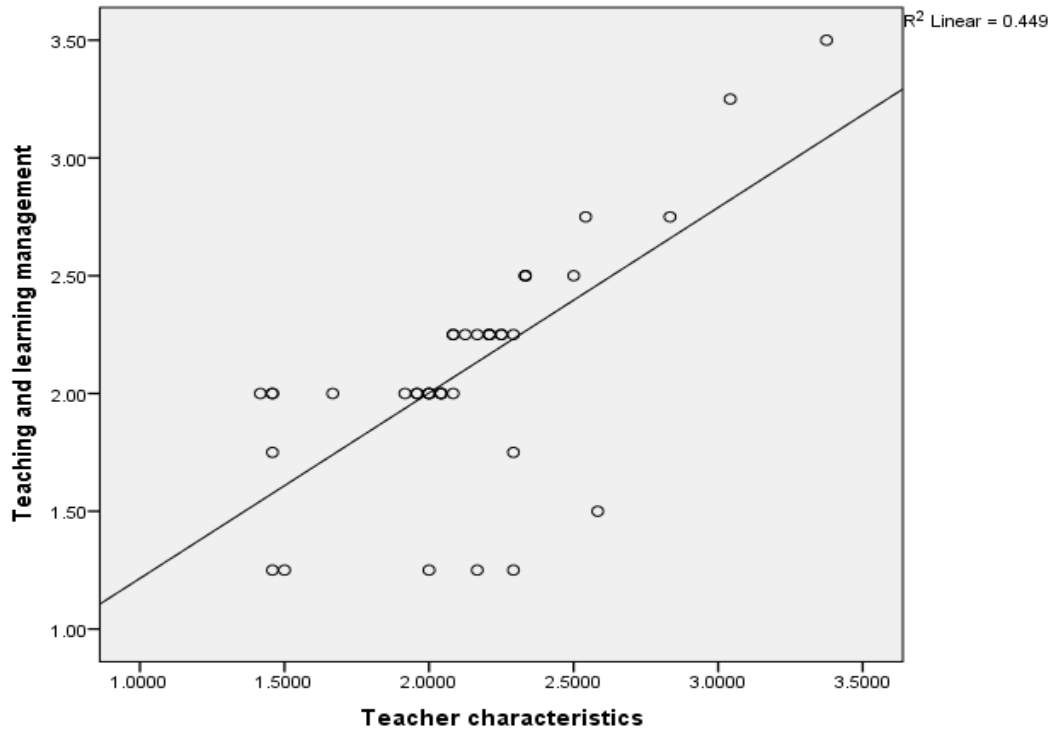
As shown in Table 4.3, all the variables had significant (sig) values greater than .05. It can therefore be concluded that the data was normally distributed. This is based on the rule of thumb which states that if the Sig. value of is greater than 0.05, the data is approximately normally distributed. If it is below 0.05, the data significantly deviates from a normal distribution (Ghasemi & Zahediasl, 2012).

4.5.2 Linearity

Linearity was tested using scatterplots. The linearity test measures the strength or degree of linear association between correlated variables represented by a straight line (Jain et al., 2017). Figure 4.1 illustrates the linearity between teacher characteristics and teaching & learning management.

Figure 4.1

Linearity Test; Teacher characteristics and teaching & learning management

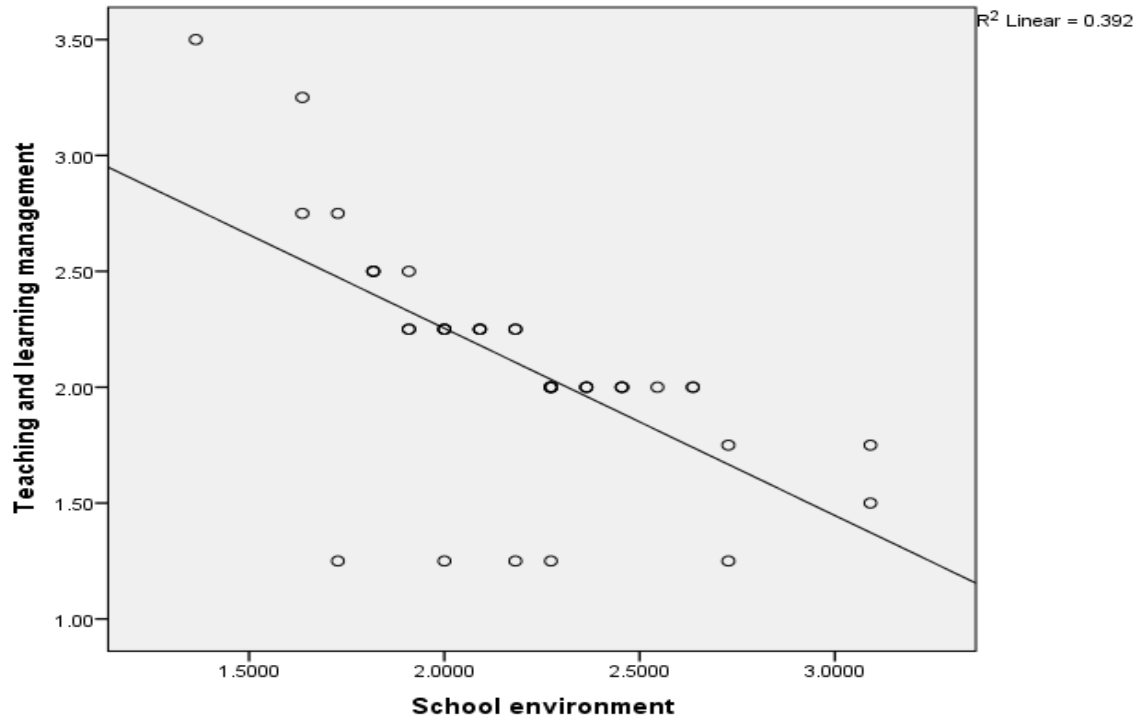


The scatter plots in Figure 4.1 reveal the existence of linear dependence between teacher characteristics and teaching & learning management. This is demonstrated by a positively sloping line of fit.

Figure 4.2 illustrates the linearity between the school environment and teaching & learning management.

Figure 4.2

Linearity Test; School environment and teaching & learning management

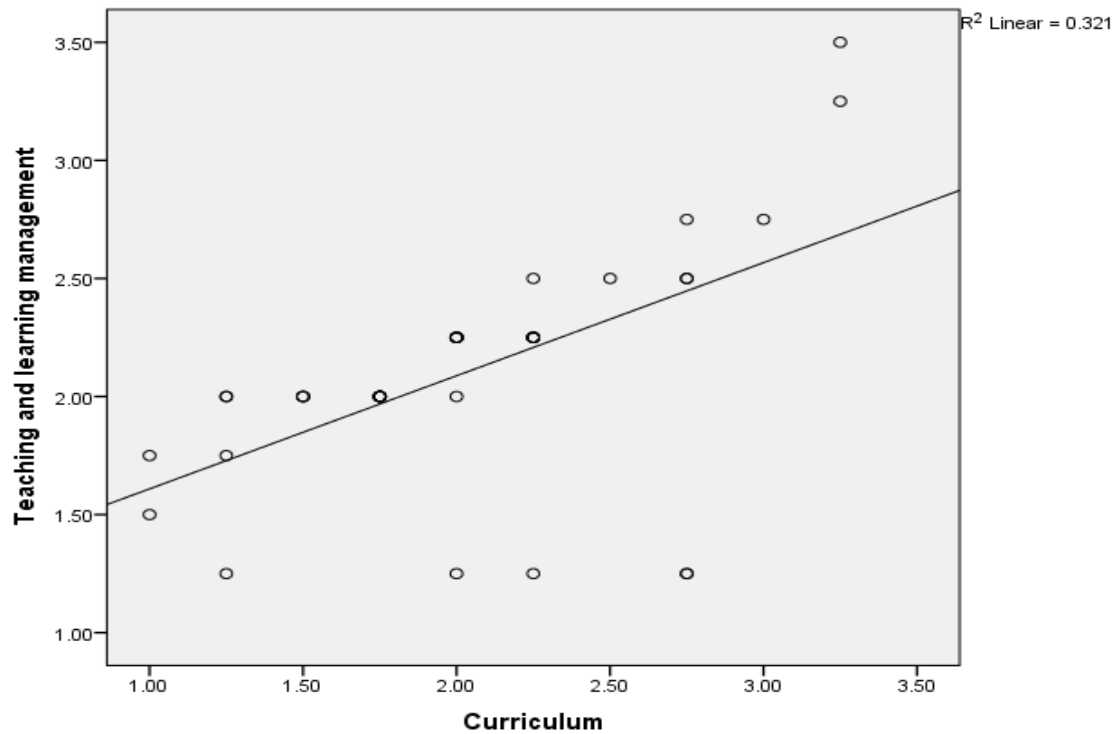


The scatter plots in Figure 4.2 reveal the existence of linear dependence between the school environment and teaching & learning management. This is demonstrated by a downward sloping line of fit.

Figure 4.3 illustrates the linearity between curriculum and teaching & learning management.

Figure 4.3

Linearity Test; Curriculum and teaching & learning management

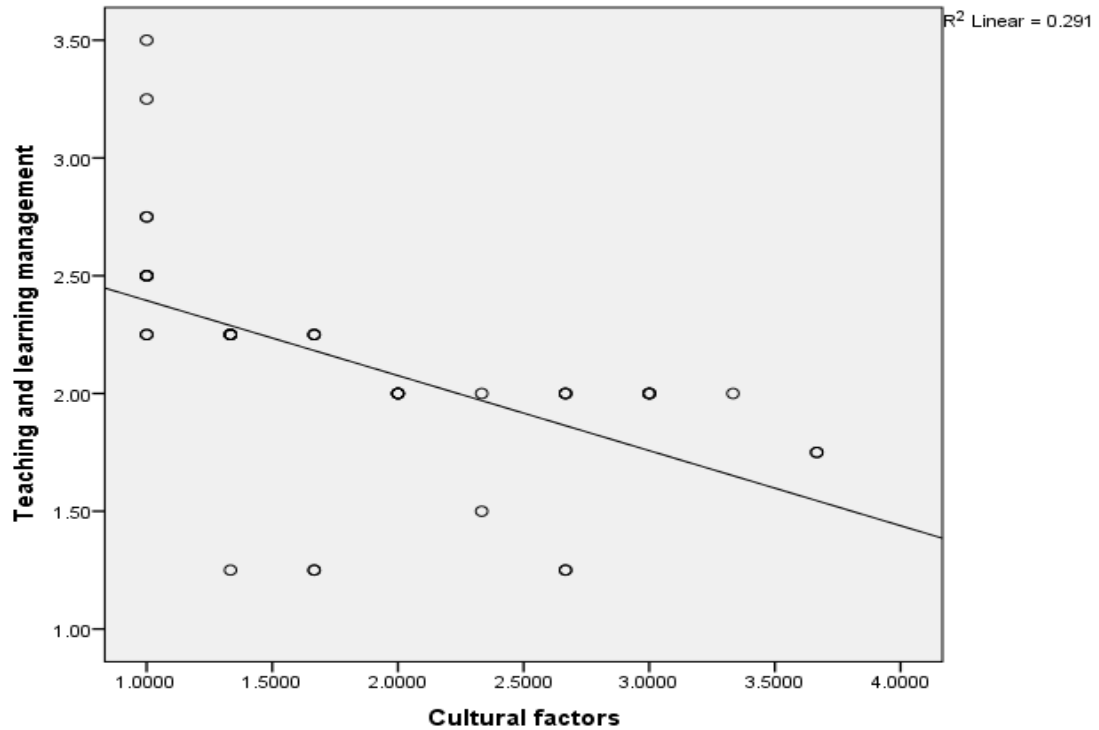


The scatter plots in Figure 4.3 reveal the existence of linear dependence between curriculum and teaching & learning management. This is demonstrated by an upward sloping line of fit.

Figure 4.4 illustrates the linearity between cultural factors and teaching & learning management.

Figure 4.4

Linearity Test; Cultural factors and teaching & learning management



The scatter plots in Figure 4.4 indicates existence of linear dependence between cultural factors and teaching & learning management. This is demonstrated by downward sloping line of fit. (Ghasemi & Zahediasl, 2012)

4.5.3 Multicollinearity

In testing multicollinearity, the testing of Variance Inflation Factor (VIF) values were used. Results are reported in Table 4.4.

Table 4.4***Multicollinearity test Results***

	Tolerance	VIF
Teacher characteristics	0.43	2.32
School environment	0.16	6.28
Curriculum	0.23	4.29
Cultural factors	0.24	4.15

The findings in Table 4.4 indicate that all variables had VIF values less than 10. Multicollinearity occurs when two or more predictor variables in a regression model are highly correlated with each other, meaning they are providing redundant information about the response variable. This can cause problems in estimating the individual regression coefficients and their statistical significance (Field, 2018).

The VIF quantifies the degree of multicollinearity by measuring how much the variance of an estimated regression coefficient is inflated compared to when the predictor variables are not linearly related (Field, 2018). This denoted that there was no multicollinearity among the independent variables. Moreover, tolerance values were above 0.1 indicating that multicollinearity was not a problem in this study.

4.5.4 Autocorrelation

Autocorrelation was measured using Durbin-Watson test. Autocorrelation refers to the correlation of a time series variable with its own past and future values. In regression analysis, it is assumed that the residuals (errors) are independent and uncorrelated with each other. However, if the residuals exhibit autocorrelation, it violates this assumption, leading to inefficient estimation of regression coefficients and unreliable inference (Field, 2018). Durbin-Watson results in Table 4.5.

Table 4.5

Durbin-Watson Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.731 ^a	.534	.481	.35268	1.714

a Predictors: (Constant), X4, X1, X2, X3

b Dependent Variable: Y

According to Table 4.5, Durbin-Watson value is 1.714, which falls within the acceptable range of 1.5 to 2 (Field, 2018). It can therefore be concluded that the data is free from autocorrelation, meaning the data were valid for use in the statistical inferences and were reliable in forecasting accuracy of predictions.

4.5.5 Heteroscedasticity

Heteroscedasticity was tested using Levene's test. Heteroscedasticity testing is used to check if the variance of the residuals (errors) in a regression model is constant or not. Homoscedasticity is a desirable property that assumes the residuals have a constant variance across all values of the independent variables. Heteroscedasticity refers to the violation of this assumption, where the residuals have different variances across different values of the independent variables. Heteroscedasticity may indicate that the functional form of the regression model is incorrect or that important variables have been omitted from the model (Holcomb, 2017). Heteroscedasticity results are shown in Table 4.6.

Table 4.6***Test of Homogeneity of Variances***

	Levene Statistic	df1	df2	Sig.
Teaching and learning management	0.08	1	38	0.779
Teacher characteristics	0.063	1	38	0.803
School environment	0.062	1	38	0.805
Curriculum	0.024	1	38	0.878
Cultural factors	0.438	1	38	0.512
Teacher's attitude	0.687	1	38	0.412

As indicated in Table 4.6, all variables have significance (sig) values greater than 0.05, indicating that the null hypothesis of constant variance of error terms was accepted. Therefore, the variance of the residuals was homoscedastic. In other words, there was no heteroskedasticity problem. This did not only validate statistical inferences, but also confirmed the efficiency of parameter estimates. According to Holcomb 2(017), violating this assumption can invalidate the statistical tests and confidence intervals.

4.6 Teaching and Learning Management for Pupils with Intellectual Disabilities

The study's dependent variable was teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya.

4.6.1 Descriptive results on teaching and learning management from teachers' questionnaires

The respondents were asked to rate items that measure the aspects of teaching and learning management. The key aspects were about school infrastructure and resources, educational approaches and technology, inclusive learning environment, assessment and evaluation, social challenges and stigma, and family dynamics. The scale used is as follows: Strongly agree (1), agree (2), moderately agree (3), disagree (4), and strongly disagree (5). Results

are presented in form of frequencies (f), percentages (%), means and standard deviations as shown in Table 4.7.

Table 4.7***Descriptive results on teaching and learning management***

Statements on teaching and learning management (N=40)	SD f(%)	D f(%)	MA f(%)	A f(%)	SA f(%)	Mean	Std dev
• Our school has the required infrastructure	5(13%)	14(35%)	7(18%)	8(20%)	6(15%)	2.9	1.42
• Our school has adopted assistive technology	7(18%)	13(33%)	9(23%)	7(18%)	4(10%)	2.7	1.03
• Our school has adopted individualized learning	8(15%)	15(38%)	8(20%)	6(15%)	3(8%)	2.5	1.11
• Teachers use differentiated pedagogies	8(15%)	16(40%)	8(20%)	6(15%)	2(5%)	2.4	1.14
• Teachers use multi-sensory teaching methods	7(18%)	13(33%)	9(23%)	7(18%)	4(10%)	2.7	1.18
• The learning environment is conducive for learners with intellectual disabilities	3(8%)	6(15%)	9(23%)	15(38%)	7(18%)	3.4	1.08
• Our school has adopted standardized assessment tools	2(5%)	5(13%)	7(18%)	16(40%)	10(25%)	3.6	1.19
• Teaching and learning materials are adequate	5(10%)	10(25%)	11(28%)	8(20%)	6(15%)	3.0	1.03
• Most learners with intellectual disabilities belongs to single parents	2(5%)	7(17.5%)	2(5%)	12(30%)	17(42.5%)	3.8	1.17
• Many people associate disabilities with curses and witchcraft	4(10%)	3(8%)	4(10%)	10(25%)	19(48%)	3.9	1.22
• Most parents prefer to educate non-disabled children	1(3%)	10(25%)	2(5%)	11(28%)	16(40%)	3.7	1.10
• Stigma force parent to hide children with intellectual disability	2(5%)	8(20%)	3(8%)	13(33%)	14(35%)	3.7	1.14

The results show a diverse perception of teachers on the school's infrastructure, with 15(35%) of respondents expressing agreement. However, the high percentage 19(48%) of disagreement, coupled with a moderate mean of 2.9 and a notable standard deviation of 1.42, suggests a diverse view. The school may need to address concerns related to infrastructure to enhance the overall learning environment. This could involve seeking feedback from stakeholders to identify specific areas of improvement and prioritizing infrastructure development initiatives.

The findings reveal a low level of agreement 11(28%) regarding the adoption of assistive technology, with a substantial 21(51%) expressing disagreement. The mean of 2.7 and a low standard deviation of 1.03 suggest a more consistent but negative perception. With this finding, the school needs to focus on integrating and promoting the use of assistive technology to better support pupils with intellectual disabilities. Strategies could include training teachers, providing resources, and creating awareness about the benefits of assistive technology in enhancing learning outcomes.

While a majority of teachers 14(35%) agrees with the adoption of individualized learning, the high percentage 23(53%) of disagreement raises concerns. This implies that addressing any inconsistencies and providing training or resources for effective implementation could improve the overall learning experience for pupils with intellectual disabilities.

The results indicate a disagreement 24(55%) that teachers use differentiated pedagogies which is of great concern. Only 8(20%) agreed to the assertion. The mean of 2.4 is below average and a standard deviation of 1.14 suggest minimal variability in responses.

Probably, creating a shared understanding of effective teaching methods could contribute to a more cohesive and supportive learning environment.

Another area of concern was on the use of multi-sensory teaching methods. In this one, half of respondents, 20(50%) expressed disagreement that teachers use multi-sensory teaching methods, with 11(28%) expressing agreement. The mean of 2.7 was slightly above half suggesting some variability in responses. This indicates gaps, Enhancing the use of multi-sensory approaches could contribute to a more inclusive and effective teaching environment. Therefore, the school should assess the current implementation of multi-sensory teaching methods, address any inconsistencies, and then provide necessary resources or training. On conduciveness of learning environment for learners with intellectual disabilities, the majority 22(56%) agreed that the learning environment is conducive, with a mean of 3.4 suggesting a relatively high level of agreement. The standard deviation of 1.08 indicates minimal variability in responses.

The study further wanted to know whether the school had adopted standardized assessment tools. The finding for this statement indicated that a substantial number of respondents 26(65%) agreed that the school had adopted standardized assessment tools, with a mean of 3.6 indicating a relatively high level of agreement. Only 7(18%) expressed disagreement. The standard deviation of 1.19 indicates some level of variability in responses. Ensuring transparency and effective communication about assessment practices may foster a more positive perception. Notably, intellectual disabilities are of different level and hence standardized assessment tools may not be fully helpful to a learner. Differentiated learning would also demand for a differentiated assessment approaches and methods.

The respondents were also asked to indicate the extent to which they agreed with a statement, 'teaching and learning materials are adequate.' The results show 15(35%) disagreed and a similar number agreed with the statement, while 11(28%) moderately agreed, with a mean of 3.0 which show moderate agreement. The standard deviation of 1.23 suggests some variability in the responses. Shortage of teaching and learning materials may affect effective curriculum implantation. Addressing this concern would contribute to a more effective teaching and learning environment in special schools.

The other aspects which were investigated in this variable were about the background issues affecting a learner. The study was concerned that these background issues impacted how head teachers and board of management handled teaching and learning in the school. In that regards, four statement were presented to respondents requiring them to indicate the extent to which they agreed with each. The statements were: 'Most learners with intellectual disabilities belong to single parents, many people associate disabilities with curses and witchcraft, most parents prefer to educate non-disabled children, and stigma forces parents to hide children with intellectual disability.' Surprisingly, the responses gotten indicated high agreement level with a mean of 3.8, 3.9, 3.7, and 3.7 respectively, and a standard deviation around one, indicating minimal variation.

Therefore, recognizing the prevalence of single-parent households among learners, the school could tailor support services to address the unique needs of these learners. It shows essence of collaborating with parents and providing resources to support their involvement in the education process may be beneficial. The school should also strengthen its role in community education, fostering understanding, and dispelling myths about disabilities.

Collaborative efforts with community leaders may help challenge and change these harmful stereotypes. The results were consistent with Ndyabawe (2016) who termed negative stereotypes as serious drawback in the local community.

The school can in addition engage with parents to identify concerns or misconceptions and promote the benefits of inclusive education. Addressing the impact of stigma is crucial for fostering a more inclusive society. This point out an opportunity for school to collaborate with community leaders and advocacy groups to combat stigma, providing a supportive environment for parents and promoting acceptance.

The foregoing results imply that teaching and learning management for pupils with intellectual disabilities is influenced by factors related to cultural, environmental, curriculum and teacher characteristics, which agree with Lynch et al. (2016) and Ohba and Malenya (2022) that teaching and learning are determined by the adopted curriculum, conducive school environment, standardized assessment test methodology, multi-dimensional instructional methodologies, technology, pedagogical strategies and qualified human resources.

4.6.2 Qualitative thematic results on teaching and learning management

The head teacher was asked to explain the strategic issues inhibiting effective teaching and learning management for pupils with intellectual disabilities in special schools. Their responses were analysed and grouped into distinct themes that included, limited resources, teacher training and professional development; inclusive curriculum design, assessment and evaluation challenges, implementation of individualized education planning,

behavioural management, transition management, community and parental support; technology integration, and policy and advocacy.

From the responses gathered, the study noted that special schools often face resource constraints, including funding, specialized personnel, and appropriate teaching materials. The Sub-county Director of Education said, *“Lack of essential resources can hinder the implementation of individualized education plans and limit access to necessary support services.”* At the same time, inadequate training for teachers and staff in specialized instructional strategies and interventions for intellectual disabilities pose a significant challenge. Ongoing professional development is crucial to keep educators updated on the latest research and best practices in the field.

An inclusive curriculum that meets the diverse needs of students with intellectual disabilities is truly indispensable. The curriculum is further expected to provide guidance on assessment and evaluation. This is because, traditional assessment methods may not accurately reflect the progress of students with intellectual disabilities. The notes that designing appropriate assessments that consider individual strengths and progress can be a tall order, and finding alternatives to standardized testing is critical. This is largely because, each student is unique, and their educational journey should be approached with flexibility and a commitment to meeting their individual needs. While creating Individualized Education Planning (IEP) is essential, the effective implementation of these plans can be challenging. It requires consistent communication, collaboration among teachers and support staff, and a commitment to adapting teaching strategies based on individual needs.

As noted in the foregoing results, most intellectual disabled learners, hail from deprived background, and majority suffers poor perceptual and social background. Managing their behaviour in the school is therefore very challenging as noted by the head teacher. Addressing challenging behaviors in students with intellectual disabilities requires specialized training and a consistent approach. However, *the lack of a comprehensive behavioral management system can hinder the creation of a positive and supportive learning environment*” – Sub-County Director of Education.

Planning for the transition of students with intellectual disabilities to post-school life, whether it be further education, employment, or community engagement, is a critical strategic issue. According to head teacher, lack of structured transition, usually limit the successful integration of learners into adult life.

The effective use of technology, including assistive technology, is crucial for supporting the learning needs of students with intellectual disabilities. However, the lack of access to and training in appropriate technology tools for teachers and learners can hinder effective implementation. The respondents also noted absence of supportive policies and advocacy efforts at the institutional and governmental levels as a significant barrier. A lack of recognition and prioritization for the unique needs of students with intellectual disabilities may result in inadequate policy frameworks and resource allocation.

During FGD with parents, and interview sessions with TSC and Education Directors, respondents were asked to point out the kind of advice they would give to administrators regarding teaching and learning management for pupils with intellectual disabilities in special schools. The interview and focused group discussion noted that teaching and

managing learning for pupils with intellectual disabilities in special schools requires a thoughtful and inclusive approach. The suggestions that featured in the responses and discussion were analysed and grouped into themes that included: need to implement individualized education plans, inclusive curriculum, support for professional development, collaboration and communication among stakeholders, establishment of specialized support services, adaptive technology, making environment accessible, and instituting monitoring and evaluation mechanisms.

The TSC and Education Directors urged the schools to foster a collaborative environment where teachers, support staff, therapists, and parents work together to support the overall development of intellectually disabled learners. These government officers further urged head teacher to ensure that specialized support services, such as speech therapy, occupational therapy, and counselling, are readily available and integrated into the students' educational plans as needed. The TSC sub-county director further urged head teachers to liaise with BoM and teachers for supportive integration of adaptive technology and assistive devices into the learning environment to enhance the educational experience for learners with intellectual disabilities. Another advice was on environment accessibility, where, head teachers were urged to ensure that the physical environment of the school is accessible and conducive to the needs of learners with intellectual disabilities. This includes accessible classrooms, appropriate seating arrangements, and sensory-friendly spaces. The last advice was about monitoring and evaluation. TSC sub-county Director emphasized a need for the Ministry of Education establishing a system for monitoring and evaluating the progress of learners with intellectual disabilities. Regular assessments and

evaluations should be conducted to track individual growth and identify areas that may need additional support.

The respondents acknowledged efforts made to improve special schools. However, a lot still needs to be improved to make the institutions effective. Some of the areas of concern included infrastructure, teaching and learning materials, professional development of teaching staff, inclusive education collaboration and communication among stakeholders, specialized support services, adaptive technology, accessible environment, and monitoring and evaluation mechanisms. Schalock et al. (2021) noted that teaching and learning management for learners with intellectual disabilities is characterized by implementing inclusive teaching strategies and using appropriate models to teach.

The observations made in the field (see appendix VIII) revealed a diverse landscape in the teaching and learning management for pupils with intellectual disabilities in special schools. The observation made indicate concerns regarding inadequate resources and environmental constraints, such as small classrooms and ventilation issues, which were evident in many schools for intellectually disabled learners. The study observed that teaching and learning management was inhibited by other challenges including large class sizes, and inadequate equipment hence, hindering effective participation and individualized attention. Teacher-pupil interactions were impacted by these challenges, and parental involvement was moderate. The researcher further noticed absence of established structures for engaging parents in special schools. It was also clear that effectiveness of teaching and learning management was hindered by the limited capacity to provide individualized attention to learners with intellectual disabilities.

The observations made in the study collectively indicate a dire need for improving educational environment, underscoring the need for targeted interventions and improvements across multiple facets of the teaching and learning process for pupils with intellectual disabilities in the special schools. These observations underscore critical areas for improvement in the teaching and learning management for pupils with intellectual disabilities in special schools. These include the imperative for consistent and specialized teacher training to enhance skills and understanding, need for strategies for managing large class sizes, urgent improvements in infrastructure and safety measures, increased availability and effective use of teaching resources, and initiatives to promote parental involvement in addressing teaching and learning needs for learners with intellectual disabilities.

4.6.3 Convergence of Quantitative and Qualitative Findings on Teaching and Learning Management for Pupils with Intellectual Disabilities

A deeper scrutiny of both quantitative and qualitative results indicated convergence of findings on several aspects that included infrastructure concerns, promotion of assistive technology, implementing individualized learning, fostering differentiated pedagogies, enhancing multi-sensory teaching methods, maintaining a conducive learning environment, transparent use of standardized assessment tools, ensuring adequacy of teaching materials, and addressing background issues affecting learners. These results largely agree with the recommendations by Australian Government Clearance House for Education and Training (2023) especially on multi-sensory teaching methods.

Regarding infrastructure, the study noted that 48% of teachers' respondents disagreed regarding the school's infrastructure. In the qualitative result, limited resources, including funding and appropriate teaching materials, featured as a challenge. Addressing infrastructure concerns is crucial for enhancing the overall learning environment. It would be necessary to collaborate with stakeholders for specific improvement areas; for example, prioritizing infrastructure development in special schools.

The quantitative result shows that 51% level of disagreement regarding the adoption of assistive technology in special schools. However, lack of access to and training in appropriate technology tools for teachers and learners was identified during interview and FGD. This points out technology gaps and training deficiencies; hence, the need for strategies such as teacher training, resource provision, and awareness creation about the benefits of assistive technology. The Ministry of Education should provide access to and training in appropriate technology tools.

According to the quantitative result, 53% teachers disagreed with the adoption of individualized learning in the special school in Meru County. This finding corroborates well with qualitative results where effective implementation of individualized education planning was identified as a challenge. Teachers also disagreed (55%) that teachers use differentiated pedagogies emphasizing a need for shared teaching methods. This was echoed by qualitative result which emphasized on the need for creating a shared understanding of effective teaching methods was suggested.

In this study, 50% disagreed that teachers use multi-sensory teaching methods. The qualitative data identified the use of multi-sensory approaches as a critical gap. Enhancing

the use of multi-sensory teaching methods is recommended by the Australian Government Clearance House for Education and Training (2023) for a more inclusive and effective teaching environment.

Another area of results convergence is on standardized assessment tools. Nearly a third of teachers, 65% agreed that their school had adopted standardized assessment tools. The qualitative result emphasized the need for transparency and effective communication about assessment practices. Ensuring transparency and effective communication about assessment practices, while recognizing the need for differentiated approaches, is crucial for a positive perception.

Diverse impression was noted from quantitative findings with 35% disagreement, 35% agreement, and 28% moderate agreement, indicating inadequacy gaps. The qualitative data acknowledged the shortage of teaching and learning materials in special schools. Addressing the shortage of teaching and learning materials is essential for effective curriculum implementation.

Both quantitative and qualitative data emphasize the importance of an inclusive curriculum. In that connection, school should focus on designing a flexible curriculum that accommodates the diverse needs of students with intellectual disabilities and provides guidance on alternative assessment methods. The quantitative and qualitative results also indicate that aspects of monitoring and evaluation are supported by convergence in both data sets, highlighting the need for establishing a systematic approach. Regular assessments and evaluations should be conducted to track individual growth and identify areas requiring additional support.

Convergence on the importance of community collaboration indicates the need for strong community engagement. The school should collaborate with community leaders, advocacy groups, and parents to address challenges, combat stigma, and promote the benefits of inclusive education.

Data on teaching and learning management for pupils with intellectual disabilities was analysed using descriptive and thematic analysis. From the descriptive point of view, teaching and learning management for pupils with intellectual disabilities is influenced by factors related to cultural, environmental, curriculum and teacher characteristics. Thematic analysis had similar results where participants noted the need for school administration to continuously improve teaching and learning management. Some of the areas of concern included infrastructure, teaching and learning materials, teaching staff and education system. Schalock et al. (2021) noted that teaching and learning management for learners with intellectual disabilities is characterized by implementing inclusive teaching strategies and using appropriate models to teach.

4.7 Influence of Teachers' Characteristics on Teaching and Learning Management

The study sought to determine the influence of teachers' characteristics on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya.

4.7.1 Descriptive results on teachers' characteristics from teachers' questionnaires

The respondents were asked whether they have been trained in special needs education. All the respondents 40 (100%) noted that indeed they have gone through training in special

needs education and this implies that they were knowledgeable and skilled on how to teach special needs pupils. Table 4.8 summarizes results on areas of training.

Table 4.8

Area of training

Area of training	F(%)
Learning Disabilities and Intellectual disability	28(70%)
Emotional and Behaviour Disorder	24(60%)
Physical Disabilities	28(70%)
Communication Disorder	28(70%)
Inclusive education	20(50%)

Based on the findings in Table 4.8, 28(70%) of the respondents were trained on learning disabilities and intellectual disability, physical disabilities, communication disorder, and inclusive education. Further, 24(60%) were trained on emotional and behaviour disorder. The results indicate most of the teachers had been trained on various areas implying that they were equipped with necessary skills to handle special needs pupils. The findings support Van der Merwe et al. (2020) assertion that training enhances teaching management. Table 4.9 indicates results on period of training.

Table 4.9

Period of training

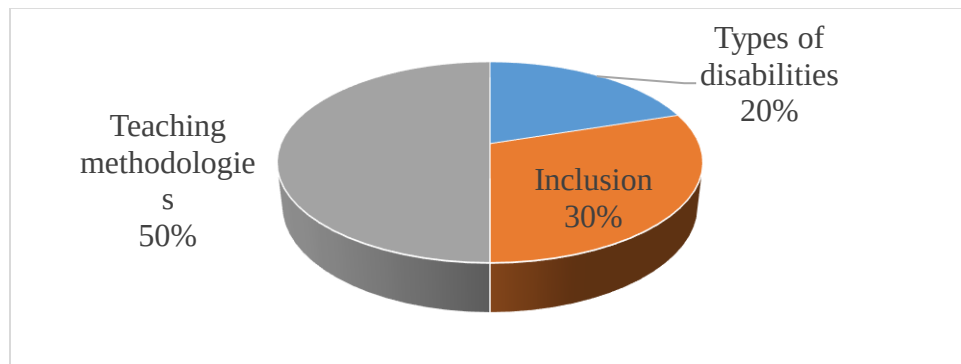
	Frequency	Percent (%)
6 – 11 months	24	60
Over 1 year	16	40
Total	40	100

According to Table 4.9, majority 24(60%) of the respondents reported that the training was 6-11 months, while 16(40%) indicated over 1 year. The results reveal that all the teachers

were trained for at least six months implying that they had enough time to learn and acquire necessary skills on special needs education. The findings support Goldman et al. (2017) argument that experience influence teaching and learning. Figure 4.5 reveals outcome on focus of training.

Figure 4.5

Focus of Training



The findings in Figure 4.5 shows that the findings focused on teaching methodologies (50%), followed by inclusion (30%) and lastly types of disabilities (20%). Based on the results, teachers were majorly trained on teaching methodologies, which is critical in teaching and learning management. The findings agree with those of Mohammed and Hlalele (2023) who emphasized the importance of training and development. Table 4.10 highlights teaching methodologies used.

Table 4.10

Teaching methodologies used

	Frequency	Percent (%)
Cooperative learning	8	20
Guided practice	24	60
Special grouping	8	20
Total	40	100

Table 4.10 shows that majority 24(60%) of the respondents use guided practice, while 8(20%) use cooperative learning and special grouping respectively. This suggests that the educators or instructors rely heavily on guided practice as a method for teaching. Guided practice is often associated with a scaffolder approach to learning, providing learners with support as they develop new skills or concepts. Cooperative Learning and Special Grouping were employed with equal frequency, each representing 20% of the total instances ($n = 8$). Cooperative learning involves students working together in groups to achieve a common learning goal, fostering collaboration and peer interaction. It can be deduced that cooperative learning was employed to enhance social interaction and collaborative skills, while special grouping may have been implemented to address individualized learning needs or to manage classroom dynamics effectively.

The results indicate that teachers use different teaching methodologies implying that they are able to address different needs of the pupils. This could imply a balanced use of these methods or that they are selectively employed based on specific learning objectives or learners' needs. The individualized learning and teaching methodologies has been described by AlRawi and AlKahtani (2022), and Soek et al. (2018) as appropriate when handling learners with intellectual disabilities. According to Ndemi and Murungami (2015), instructions in real-life settings with natural materials are very helpful to pupils with intellectual disabilities. The need to apply different and appropriate strategies in education management were also echoed by Kurniawati et al. (2017).

The respondents were asked to rate items that measure the aspects of teachers' characteristics. The main aspects included; teachers' education and teaching experience,

competencies and skills, teaching methodologies, interpersonal skills, empathy and patience. The scale used is as follows: Strongly agree (1), agree (2), moderately agree (3), disagree (4), and strongly disagree (5). Results are presented in form of frequencies (f), percentages (%), means and standard deviations as shown in Table 4.11.

Table 4.11*Descriptive results on teachers' characteristics*

Statements on some aspects about teachers (N = 40)	SD	D	MA	A	SA	M	Std Dev
	f(%)	f(%)	f(%)	f(%)	f(%)		
• Individualized education plan help learners with ID	1(2.5%)	6(15%)	3(7.5%)	6(15%)	24(60%)	3.1	1.1
• Materials used in teaching and learning process suit learners with Intellectual Disabilities	2(5%)	7(17.5%)	7(17.5%)	3(7.5%)	21(52.5%)	2.8	1.4
• Teachers know how to use materials for teaching and learning learners with Intellectual Disabilities	2(5%)	6(15%)	4(10%)	14(35%)	14(35%)	2.5	1.4
• Teachers are caring and respects the pupils with ID	2(5%)	3(7.5%)	13(32.5%)	4(10%)	18(45%)	2.6	1.2
• Teachers have a sense of ownership and responsibility	4(10%)	4(10%)	7(17.5%)	4(10%)	21(52.5%)	2.7	1.4
• Teachers collectively brainstorm on resolutions to provide effective learning	2(5%)	3(7.5%)	13(32.5%)	4(10%)	18(45%)	2.6	1.4

The results shows that majority of the teachers strongly agreed (SA) that individualized education plans help learners with physical disabilities, constituting 60% (n = 24). This suggests a high level of consensus among teachers regarding the efficacy of tailored educational plans for this particular group. The mean score (M) of 3.1 indicates a generally positive perception, with a relatively low standard deviation (SD) of 1.2, suggesting a moderate level of agreement among respondents which indicate a positive foundation for personalized teaching strategies. The results imply a need for encouragement of continued support for IEP development and implementation. Professional development opportunities can further enhance teachers' skills in tailoring education plans to address diverse physical needs.

Regarding materials used to accommodate learners with intellectual disabilities, a substantial percentage (52.5%, n = 21) strongly agreed that materials were appropriately adapted. However, there is a noteworthy discrepancy in the distribution of responses, indicating varied opinions among teachers. The mean score of 2.8 and standard deviation of 1.4 indicate a moderate level of agreement but with a broader range of perspectives compared to the first statement. The results imply the necessity for professional development and teachers' training sessions focusing on effective material adaptation strategies. Van der Merwe et al. (2020) also argued that apart from in-born traits, teacher characteristics can also be attained through professional development and cumulative experience on the job. Promoting a collaborative culture where teachers can share successful approaches may also help to address differing perspectives.

A considerable proportion (45%, $n = 18$) strongly agreed that teachers are caring and respectful toward pupils with intellectual disabilities. The mean score of 2.6 and standard deviation of 1.4 indicate a moderate level of consensus, with generally positive attitudes among respondents. However, some variability in opinions is evident. While there is generally positive agreement that teachers are caring and respectful toward pupils with intellectual disabilities, the moderate level of consensus suggests the importance of continuous efforts in fostering a supportive and inclusive classroom environment.

The majority (52.5%, $n = 21$) strongly agreed that teachers have a sense of ownership and responsibility in educating students with disabilities. The mean score of 2.7 and standard deviation of 1.4 suggest a moderate level of agreement, with some variability in respondents' perceptions. The majority of teachers expressing a sense of ownership and responsibility in educating students with disabilities is a positive sign. These results are consistent with those reported by Colclasure et al. (2019) who also described the significant role of individual care and teacher patience in affecting learners' understanding and acquisition of knowledge. Implications include reinforcing and recognizing these attitudes through acknowledgment and encouragement.

In terms of collective brainstorming among teachers for effective learning solutions, the responses are more diverse. While a significant percentage agreed or strongly agreed (45%, $n = 18$), there is notable variability in responses. The mean score of 2.6 and standard deviation of 1.4 indicate a moderate level of agreement but with a wider range of perspectives compared to previous statements.

The above findings reflect a generally positive outlook among teachers regarding various aspects of educating learners with disabilities. They imply that teachers' characteristics are critical in determining teaching and learning management for pupils with intellectual disabilities. However, there is variability in opinions, particularly evident in the adaptation of materials and collective brainstorming practices. The findings concur with Crispel and Kasperski (2021) on the need to focus on teacher characteristics to help them address teaching and learning management for learners with intellectual disabilities in special primary schools. Similarly, Al Hazmi and Ahmad (2018) suggested the need to upgrade teachers' skills and instructional knowhow to effectively implement universal design for learning practices.

4.7.2 Testing of Hypothesis One: Teachers' characteristics, teaching and learning management for pupils with intellectual disabilities

To test the null hypothesis (H_{01}): Teachers' characteristics have no significant relationship with teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya; the correlation analysis was conducted and results are shown in Table 4.12.

Table 4.12
Correlation between teachers' characteristics

		Teaching and learning management
Teachers' characteristics	Pearson Correlation	.670**
	Sig. (2-tailed)	.000
	N	40

** Correlation is significant at the 0.01 level (2-tailed).

The findings indicate that teachers' characteristics had a positive and significant relationship with teaching and learning management for pupils with intellectual disabilities ($r = .670$, $p = .000 < .05$). The results denote that change in teachers' characteristics is

accompanied by change in teaching and learning management for pupils with intellectual disabilities in the same direction. Based on the results, the null hypothesis was rejected implying that teachers' characteristics have a significant relationship with teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya. The findings agree with Garrad et al. (2019), and Vaz et al. (2015), who elaborated that teacher attitudes determined the success of inclusive education. Similarly, Algahtani (2017) observed that teacher's characteristics address teaching and learning management for pupils with intellectual disabilities by ensuring adequate information acquisition. However, the findings are contrary to Hutzler et al. (2019), Garrad et al. (2019) who found a very weak correlation between teacher attitudes and experience and professional development aspects of teachers.

4.7.3 Thematic results on teachers' characteristics from TSC, Education Directors and Head Teachers' interview guide

The respondent was asked to state the qualification they consider when posting teachers to special schools in Meru County. The interview responses from education directors indicated that teachers' academic qualification was a key consideration before posting teachers to special schools. The findings implied that academic qualification of teachers is critical in enhancing teaching and learning management for pupils with intellectual disabilities. The TSC Director 02 remarked, "*A teacher posted in special school must have evidence of special needs education qualification*". Additionally, the respondent noted that experience is also important in teachers' recruitment and posting in special schools. The findings are consistent with Kurniawati et al. (2017) conclusion that power of professional

and competence development among teachers is important in improving instructional delivery, teacher attitudes towards learners with disabilities and teaching strategies.

The head teacher was asked to explain how teachers' competencies and skills affect teaching and learning management for pupils with intellectual disabilities in special schools. Their responses narrowed down on several relevant themes that included individual differences among learners, implementation of differentiated instruction, curriculum adaptation, effective communication, behavior management, collaboration with support staff, assessment and evaluation, advocacy and support. Notably, teachers' competencies and skills are relevant and play a crucial role in the effective teaching and learning management for pupils with intellectual disabilities in special schools (Colclasure et al., 2019; Mohammed & Hlalele, 2023).

The competencies and skills empower with deep understanding of the individual differences among learners with intellectual disabilities. This includes ability to recognize the varying levels of cognitive abilities, learning styles, and communication skills within the classroom. With that understanding, the teachers are able to implement differentiated instructions, tailoring their teaching methods to accommodate the diverse learning needs of learners with intellectual disabilities. This might involve using varied instructional strategies, materials, and assessments to meet individual learning styles as pointed out by Jiu (2023).

It is undisputable that an effective teacher is one who is able to adapt and modify the curriculum to suit the abilities and needs of students with intellectual disabilities. This may involve simplifying content, using visual aids, incorporating hands-on activities, and

breaking down complex concepts into manageable steps. This further imply a need for strong communication skills. Basically, teachers must be able to use clear and concise language, employ visual supports, and employ alternative communication methods to facilitate understanding and expression. The learners with intellectual disabilities may exhibit challenging behaviors; hence, the need for the teachers' ability to manage behaviour (Algahtani, 2017; Jiu, 2023). According to Colclasure et al. (2019), a teacher should exhibit ability to create a positive and structured learning environment, implement consistent routines, and employ positive reinforcement strategies is crucial.

It is generally essential for special education teachers to work closely with support staff, including special education aides, speech therapists, occupational therapists, and other professionals (Olowo & Fashiku, 2020). Teachers' collaborative skills are therefore essential for effective teamwork in addressing the multifaceted needs of students with intellectual disabilities. The competence and skills of teachers essential in the assessment of learners (Van der Merwe et al., 2020; Wentzel, 2016; Kwok, 2021). Teachers working in schools with intellectual learning disabled learners need to be competent in using a variety of assessment tools. This includes formative and summative assessments that can help gauge progress, identify areas of strength and weakness, and guide instructional planning. The other significance of competency and skills of teachers is about advocacy role. This is because, teachers play a vital role in advocating for the needs of learners with intellectual disabilities, both within the school setting and in the broader community. This includes collaborating with parents, advocating for appropriate resources, and ensuring that students have access to necessary accommodations.

4.7.4 Thematic results on teachers' characteristics from parents' focus group discussions

The focus group discussion participants were asked to indicate the type of teacher they would prefer to teach their children. All the participants indicated that they prefer their children to be taught by specially trained teachers. According to the discussion, the specially trained teachers have the right skills and knowledge on how to handle pupils with intellectual disabilities. Therefore, pupils are better off taught by trained teachers. According to Al Hazmi and Ahmad (2018), there is need to upgrade teachers' skills and instructional knowhow to effectively implement universal design for learning practices.

4.7.5 Qualitative results based on observations data regarding teachers' characteristics

Data collected during observations (see appendix VIII) reveal varied levels of teachers' training, with some having specialized training and majority lacking workshops specifically related to teaching pupils with intellectual disabilities. The findings show a predominance of standardized teaching methods rather than individualized approaches. The study underscores the need for consistent and specialized training for teachers working with intellectually disabled pupils, aiming to enhance their teaching skills and understanding of the unique needs of these students. The issue about specialized training also featured in the study by Okyere et al. (2019) who termed it as a remedy to improve school performance along with in-service training programs. An implication of these findings is the importance of implementing ongoing professional development programs for teachers, addressing the identified gaps in training and ensuring a more effective and informed teaching approach for pupils with intellectual disabilities.

4.7.6 Convergence of Quantitative and Qualitative Findings on Teachers' Characteristics

Data on influence of teachers' characteristics on teaching and learning management for pupils with intellectual disabilities was analysed using descriptive, thematic and correlation analysis. From the descriptive point of view, teachers' characteristics are critical in determining teaching and learning management for pupils with intellectual disabilities. Thematic analysis had similar results where participants supported the role of teachers' characteristics in enhancing teaching and learning management. Likewise, correlation results revealed that teachers' characteristics had a positive and significant relationship with teaching and learning management for pupils with intellectual disability. The findings agree with Algahtani (2017) observation that teacher's characteristics address teaching and learning management for pupils with intellectual disabilities by ensuring adequate information acquisition.

Both quantitative and qualitative findings align with previous research (Crispel & Kasperski, 2021; Toporova et al., 2021; Agran et al., 2021), emphasizing the importance of teacher characteristics, skills, and training in effectively managing teaching and learning for pupils with intellectual disabilities. They also support a positive and significant relationship between teachers' characteristics and teaching/learning management for pupils with intellectual disabilities, aligning with Crispel and Kasperski (2021) and Al Hazmi and Ahmad (2018). In addition, both quantitative and qualitative findings suggest a need for professional development opportunities for teachers to enhance their skills and instructional know-how, aligning with the idea of upgrading teachers' skills for effective implementation of inclusive practices.

In nutshell, the convergence between quantitative and qualitative findings highlights key themes such as the importance of individualized education plans, material adaptation, teacher behaviors, ownership and responsibility, collaboration, qualifications for teachers, and the preference for specially trained teachers. These areas of convergence provide a comprehensive understanding of the factors affecting teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya.

4.8 Influence of School Environment on Teaching and Learning Management

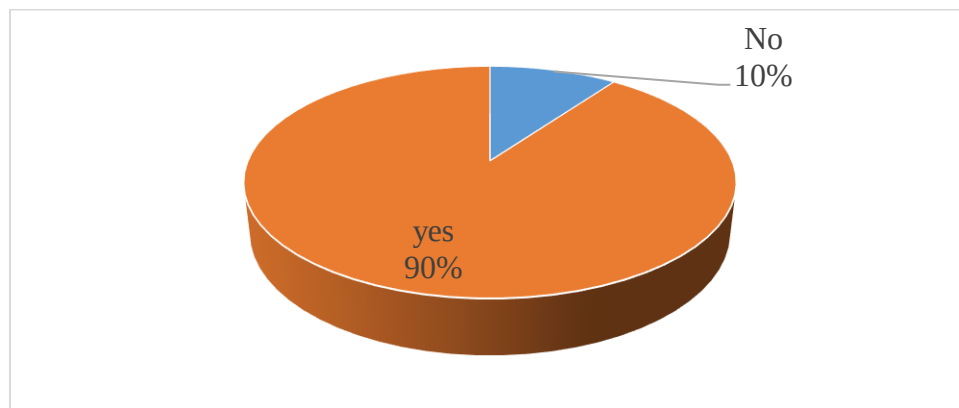
The study sought to assess the influence of school environment on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya.

4.8.1 Descriptive results on school environment from teachers' questionnaires

The respondents were asked whether school environment influences the teaching and learning management on education for pupils with intellectual disabilities in special schools. Results are presented in Figure 4.6.

Figure 4.6

School environment influences the teaching and learning management



Results indicate that majority (90%) of teachers agreed that school environment influences the teaching and learning management on education for pupils with intellectual disabilities in special schools, with only 10% refuting the assertion. The results imply that majority of teachers consider environmental factors significant in affecting the teaching and learning management. The findings support Tapia-Fonllem et al. (2020) argument that a school environment is distinctive features which make a school unique in its functions, leadership, workers, infrastructure, physical resources and policies. Table 4.13 captures findings on extent of influence of environmental factors on teaching and learning management.

Table 4.13

Extent of influence of school environment

	Frequency	Percent (%)
Very Great Extent	20	50
Great extent	12	30
Average	8	20
Total	40	100

According to the findings in Table 4.13, 50% of teachers reported that environmental factors influence the teaching and learning management to a very great extent, 30% to a great extent, and 20% to an average extent. The results imply that majority of teachers consider environmental factors essential in affecting the teaching and learning management. The findings concur with Udoba (2017) assertion that school environment goes a long way in affecting learner's attitudes, intellectual development, interdependence and acquisition of employability skills for learners with intellectual disabilities.

The respondents were further asked to rate items that measure the aspects of environmental challenges that can influence the teaching and learning management on education for pupils with intellectual disabilities. The main aspects were; classroom environment, accessibility of buildings, teaching and learning resources, school location, school support services and adequate space for facilities. The scale used is as follows: Strongly agree (1), agree (2), moderately agree (3), disagree (4), and strongly disagree (5). Results are presented in form of frequencies (f), percentages (%), means and standard deviations as shown in Table 4.14.

Table 4.14***Descriptive results on environmental challenges***

Statements on environmental challenges (N=40)	SD f(%)	D f(%)	MA f(%)	A f(%)	SA f(%)	M	Std dev
Long home to school distance.	2(5%)	4(10%)	4(10%)	7(17.5%)	23(57.5%)	2.9	1.24
Poorly maintained roads and terrain for wheelchair users.	3(7.5%)	3(7.5%)	6(15%)	8(20%)	20(50%)	3.59	1.29
Congested classrooms.	3(7.5%)	2(5%)	16(40%)	2(5%)	17(42.5%)	2.6	1.29
Narrow pathways for wheelchair users in the school.	3(7.5%)	1(2.5%)	10(25%)	8(20%)	18(45%)	2.7	1.23
Lack of individualized attention of learners with ID.	1(2.5%)	3(7.5%)	7(17.5%)	9(22.5%)	20(50%)	2.8	1.11
Lack of adapted curriculum to cater for the needs of all learners.	7(17.5%)	7(17.5%)	7(17.5%)	5(12.5%)	14(35%)	2.2	1.54
Lack of adapted toilet facilities.	4(10%)	2(5%)	9(22.5%)	13(32.5%)	12(30%)	2.7	1.25
Inaccessible classrooms due to narrow doorways.	5(12.5%)	2(5%)	11(27.5%)	15(37.5%)	7(17.5%)	3.58	1.22
Unpaved pathways around the school compound.	2(5%)	1(2.5%)	8(20%)	13(32.5%)	16(40%)	3.68	1.09
Inappropriate learning equipment.	2(5%)	0	11(27.5%)	14(35%)	13(32.5%)	3.2	1.03
Lack of a school nurse to attend to learners with chronic illness.	4(10%)	1(2.5%)	9(22.5%)	12(30%)	14(35%)	3.1	1.04

The majority of respondents 23(57.5%) reported a considerable concern regarding the long distance between their homes and schools, indicating a significant challenge in terms of transportation. The mean score of 2.9 suggests a moderate level of agreement within the sample, with a relatively low standard deviation of 1.24, indicating a certain degree of consensus among respondents. In a related findings, half of the teachers 20(50%) identified poorly maintained roads and terrain as a significant challenge for wheelchair users. The mean score of 3.59 reflects a relatively high level of agreement, and the standard deviation of 1.29 indicates some variability in responses, suggesting differing degrees of concern among respondents. This indicates a need for improved transportation options or closer school placement. Generally, the long home-to-school distance, and poorly maintained infrastructure for wheelchair users. These shared concerns indicate areas where interventions are needed to enhance overall educational experiences for learners with intellectual disabilities.

A substantial proportion of participants (40%) expressed concern about congested classrooms. The mean score of 2.6 indicates a moderate level of agreement, with a standard deviation of 1.29 suggesting variability in individual responses. The findings indicate that reducing classroom congestion should be a priority. Moreover, Almost half of the respondents 18(45%) highlighted narrow pathways as a challenge for wheelchair users. The results further shows that doors to some classrooms were narrower. Actually, a relatively smaller proportion 7(17.5%) reported challenges related to inaccessible classrooms due to narrow doorways. The standard deviation of 1.22 suggests some variability in perceptions among participants. However, a substantial percentage

29(72.5%) highlighted challenges related to unpaved pathways around the school compound.

Half of the participants 20 (50%) expressed concern about the lack of individualized attention for learners with intellectual disabilities. The mean score of 2.8 suggests a moderate level of agreement, and the low standard deviation of 1.11 indicates a shared perception of this challenge. The lack of individualized attention for learners with intellectual disabilities is a common concern. It also featured prominently in past studies such Gilson et al. (2017), Allen (2023), Bondie et al. (2019), Whitley et al. (2019), and Algrni (2020). This highlights the importance of developing and implementing support structures to address the unique needs of learners with diverse intellectual learning abilities as recommended by The Australian Government Clearance House for Education and Training (2023).

The results further show that about one-third of respondents 27(67.5%) reported concerns regarding inappropriate learning equipment. while 26(65%) identified the lack of a school nurse as a challenge. The low standard deviation of 1.04 indicates a shared perception of these two challenges.

A notable percentage 14(35%) reported challenges related to the lack of an adapted curriculum while 12(30%) identified a lack of adapted toilet facilities. The mean values suggest moderate level of agreement, but the high standard deviation of 1.54 and 1.25 respectfully indicates considerable variability in perceptions among participants.

The above results imply that school environmental challenges are a hindrance to teaching and learning management for pupils with intellectual disabilities. The variability in responses, as indicated by standard deviations, suggests that certain challenges may be more subjective or context-dependent. According to Carrion (2019), providing an interactive environment for pupils with intellectual disabilities allows for better learning. Van Reenen and Karusseit (2017) added that noise was a major hindrance to effective classroom learning, affecting learners' attention and academic achievement. Isawumi and Oyundoyin (2016) established that classroom environment hindered learner's social development.

4.8.2 Testing of Hypothesis: School environment on teaching and learning management for pupils with intellectual disabilities

To test the null hypothesis (H_{02}): School environment has no significant relationship with teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya; the correlation analysis was conducted and results are shown in Table 4.15.

Table 4.15

Correlation Analysis results on school environment

		Teaching and learning management
School environment	Pearson Correlation	-.626**
	Sig. (2-tailed)	.000
	N	40

** Correlation is significant at the 0.01 level (2-tailed).

The findings indicate that school environment challenges had a negative and significant relationship with teaching and learning management for pupils with intellectual disabilities

($r = -.626$, $p = .000 < .05$). The results denote that change in school environment challenges is accompanied by change in teaching and learning management for pupils with intellectual disabilities in the opposite direction. Based on the results, the null hypothesis was rejected implying that school environment challenges have a significant relationship with teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya. The findings agree with Van Reenen and Karusseit (2017) that noise is a major hindrance to effective classroom learning, affecting learners' attention and academic achievement. Simialry, Isawumi and Oyundoyin (2016) found that classroom environment hindered learner's social development. According to Carrion (2019), providing an interactive environment for pupils with intellectual disabilities allows for better learning.

4.8.3 Thematic results on school environment from TSC, Education Directors and Head Teachers' interview guide

The respondents were asked to state what can be done to mitigate school environment-related challenges facing the management of pupils with intellectual disabilities. Responses from TSC sub-county Director, and sub-county Director of Education and head teachers indicated the thematic areas of mitigation: teacher training and professional development, curriculum adaptation and individualized learning plans, promote inclusive socialization and peer support, access to assistive technologies and resources, establish sensory-friendly spaces, regular monitoring and evaluation, policy advocacy and implementation.

The respondents involved in interview noted the importance of having appropriate infrastructure and facilities to support the needs of pupils with intellectual disabilities. This includes wheelchair ramps, accessible restrooms, and sensory-friendly spaces. The roads,

pathways and classrooms should be designed to accommodate pupils with intellectual disabilities. In addition, the sub-county Director of Education 01 remarked, “*Special schools should have equipped health facilities and healthcare workers to attend to pupils when necessary*”. Appropriate infrastructure and facilities were also identified in past studies and have been embraced in policies and frameworks formulation meant to spearhead special, inclusive education (Bjorn et al., 2016). The aspects of having good infrastructure and facilities in special schools also featured in studies such as Ohba and Malenya (2022), Bamwesigye and Hlavackova (2018) and Musenyente et al. (2022).

The Ministry of Education and TSC should collaborate in providing specialized training for teachers focusing on inclusive education practices, strategies for teaching students with intellectual disabilities, and effective classroom management techniques. The two bodies should strengthen continuous professional development programs to enhance teachers' skills in adapting curriculum materials and empower them to utilize diverse teaching methods to cater for the individual needs of learners with intellectual disabilities.

Concerning curriculum adaptation and individualized learning plans, respondents underscored need for a curriculum that is flexible and which can be adapted to meet the diverse needs of pupils with intellectual disabilities. The head teachers were to ensure that Individualized Education Plans (IEPs) was emphasized in the school according to learner's unique strengths, challenges, and learning styles. Individualized education plans is well underpinned by the Classical conditioning theory by van Pavlov in 1897. Another mitigation measure for environmental challenges facing the management of pupils with intellectual disabilities in special schools is fostering an inclusive and supportive social

environment within the school. This helps create a sense of belonging, reduces stigma, and promotes positive social interactions among all students.

The school that provides access to assistive technologies and resources can be helpful to learners with intellectual disabilities in their learning. This may include adaptive devices, communication aids, and assistive software among others. The head teachers should ensure teachers are trained in the use of these technologies to maximize their effectiveness. In addition, the school can designate areas within the compound as sensory-friendly spaces. These spaces should be quiet, well-lit, and equipped with sensory tools to support students who may be sensitive to sensory stimuli. Creating these spaces allows students to take breaks and regulate their sensory experiences as needed. Monitoring and evaluating was also termed as an essential mitigation measure which involves systematic process for evaluating the effectiveness of environmental accommodations and support mechanisms. Indeed, regular assessments should include feedback from teachers, parents, and students to identify areas for improvement and adjustment (Robinson, 2017); for example, physical barriers hindering the mobility and participation of students. Finally, the collaboration of special school with educational authorities and policymakers to ensure that regulations and guidelines prioritize the needs of learners with intellectual disabilities in special schools was pointed out. The head teachers were in that regard urged to develop implement policies that promote inclusive education and support for pupils with intellectual disabilities. The fore going findings agree with Grosser (2016) assertion that conducive environment for teaching and learning is appreciated. This is because removing restrictive barriers in the

school environment promotes respect for human rights and education for all (Van Reenen & Karusseit, 2017).

4.8.4 Thematic results on School Environment from parents' focus group discussions

The focus group participants were asked to state the type of school they prefer to take their child. Majority of the parents noted that they preferred special schools since their child's special needs are well catered for. However, some parents noted that they would consider regular school so that their child can interact with pupils without intellectual disabilities. The parents argued that interacting with pupils without intellectual disabilities would improve their child's intellectual development. Tapia-Fonllem et al. (2020) described a school environment as distinctive features which make a school unique in its functions, leadership, workers, infrastructure, physical resources and policies.

Parents were further asked to describe the kind of school environment they expect for effective management of pupils with intellectual disabilities in special schools. Their responses revealed commonality to responses provided by head teachers Sub-County Director of Education and TSC sub-county Director. Key expectations included individualized education plans, qualified and trained staff, small class sizes, inclusive curriculum, adaptive teaching methods, behavioural support services, communication and collaboration; safe and inclusive environment; transition planning, and emphasis on social skills development.

Parents of pupils with intellectual disabilities typically expect a supportive and inclusive school environment that caters to the unique needs of their children. They also expect the school to prioritize individualized support, hire qualified staff such as special education

teachers, speech therapists, occupational therapists, and other specialists contribute to a comprehensive support system; promote inclusive practices, and a collaborative approach to education and development (Hemsley et al., 2018). They noted collaboration between teachers, specialists, and parents was essential in ensuring that everyone is working together to support the child's development.

The inclusive curriculum should focus on both academic and functional life skills to promote independence (Artiles & Kozleski, 2016). Parents expect teachers to be flexible in their approach and be able to modify instructional methods to suit the individual needs of each learner. The issue of smaller class sizes was termed essential in allowing for more individualized attention and support. This is crucial for pupils with intellectual disabilities who may benefit from a more personalized learning approach to address their unique needs. For behavioural support services, the parents felt that a positive behaviour support system could help create a structured and nurturing learning environment.

The focused group discussion noted that parents want assurance that the school is accessible and that safety measures are in place to accommodate the unique requirements of pupils with intellectual disabilities. They expect effective transition plans for their children to post-school education. Transition planning should include vocational training and life skills development (Wanjiku, 2019; Laki, 2020; Kamau, 2015; Gitahi, 2018; M'mbijiwe et al., 2018; Gathumbi et al., 2015). They expect the school to provide opportunities for their child to develop social skills and foster positive interactions with peers.

4.8.5 Qualitative results based on observations data regarding school environment

Issues related to physical infrastructure, classroom size, safety measures, and well-being were observed as indicated in appendix VIII. Some special schools faced challenges, such as inadequate facilities, small classrooms, and difficulties in providing a disability-friendly environment. The study noted that the school environment significantly impacts teaching and learning for pupils with intellectual disabilities. These results indicate limited funding and support for special education. Limited funding is a prominent deterrent to effective support for learners with intellectual disabilities (Garbutt, 2018; Udoba, 2017; Nel & Grosser, 2016; Van Reenen & Karusseit, 2017; Rohwerder, 2018). The study noted a need to increase funding for special schools to enable them to improve infrastructure, reduce classroom size, and enhance safety measures in special schools. Addressing these challenges could lead to a more conducive and inclusive learning atmosphere, positively impacting the overall well-being and educational experience of intellectually disabled pupils.

4.8.6 Convergence of Quantitative and Qualitative Findings on School Environment

Data on influence of school environment on teaching and learning management for pupils with intellectual disabilities was analysed using descriptive, thematic and correlation analysis. From the descriptive point of view, school environmental challenges are a hindrance to teaching and learning management for pupils with intellectual disabilities. Thematic analysis had similar results where participants noted the importance of having appropriate infrastructure and facilities to support the needs of pupils with intellectual disabilities. Likewise, correlation results revealed that school environment challenges had

a negative and significant relationship with teaching and learning management for pupils with intellectual disability. The findings agree with Van Reenen and Karusseit (2017) that noise is a major hindrance to effective classroom learning, affecting learners' attention and academic achievement.

According to quantitative findings, 40% of teachers expressed concern about congested classrooms, while qualitative findings from parents emphasized the importance of small class sizes for effective management of pupils with intellectual disabilities. Quantitative findings highlighted challenges such as poorly maintained roads, narrow pathways, and inaccessible classrooms. These converge with thematic results from both interviews and focus group discussions which emphasized the need for appropriate infrastructure, including wheelchair ramps, accessible restrooms, and sensory-friendly spaces. Similar findings finding on infrastructure have been reported by (Özkan and Kale, 2023; AlRawi & AlKahtani, 2022; Bjorn et al., 2016).

The quantitative results indicated that 50% of parents expressed concern about the lack of individualized attention for learners with intellectual disabilities, showing a moderate level of agreement. These are consistent with findings from both teacher and parent responses which highlighted the importance of individualized education plans (IEPs) and personalized learning approaches. On the one hand, the correlation analysis indicated a negative and significant relationship between school environment challenges and teaching and learning management. On the other hand, both interviews and focus group discussions emphasized the importance of a supportive and inclusive school environment that caters to the unique needs of pupils with intellectual disabilities.

The above areas of convergence between quantitative and qualitative findings reinforce the significance of certain challenges and the need for targeted interventions to improve the teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya. The combination of both quantitative and qualitative data provides a comprehensive understanding of the issues and potential solutions.

4.9 Influence of Curriculum on Teaching and Learning Management

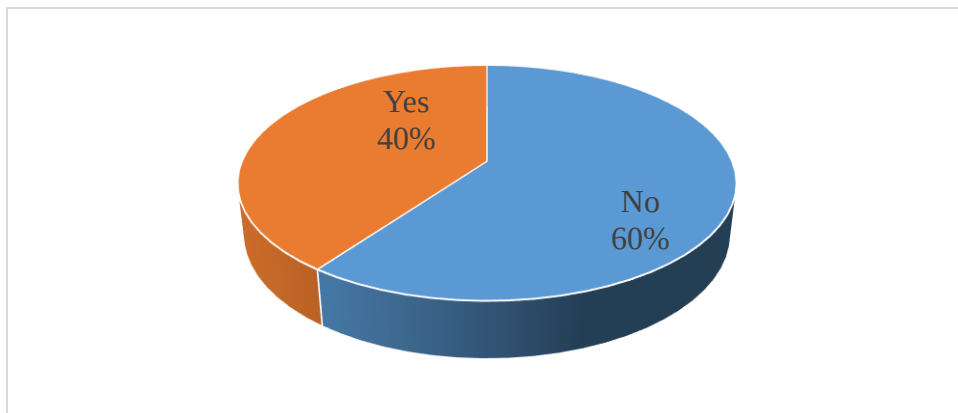
The study determined the influence of curriculum on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya.

4.9.1 Descriptive results on curriculum from teachers' questionnaires

The respondents were asked whether education system in Kenya planned as a programme for all pupils; should be used for pupils with intellectual disabilities. Results are presented in Figure 4.7.

Figure 4.7

Education System



Majority (60%) of teachers felt that the current education systems in Kenya should not be used for pupils with intellectual disabilities, while 40% noted that systems was appropriate for pupils with intellectual disabilities. The results imply that most teachers do not consider

the current education system appropriate in teaching and learning of pupils with intellectual disabilities. According to Ohba and Malenya (2022), curriculum directly impacts how, what, which and who of teaching and learning management in special primary schools. Table 4.16 shows results on effect of classroom size on teaching and learning management.

Table 4.16

Effect of classroom size on teaching and learning management

	Frequency	Percent (%)
No	12	30
yes	28	70
Total	40	100

Results in Table 4.16 indicate that majority (70%) of teachers reported that classroom size affects teaching and learning management in special needs schools. This implies that classroom size is essential in affecting teaching and learning management. According to McLachlan et al. (2018), curriculum assessment and implementation practices were necessary to deliver quality education.

The respondents were further asked to rate items that measure the aspects of curriculum. The key aspects were; pedagogical approach, assessment and evaluation, and instructional strategies and curriculum resources. The scale used was: Strongly agree (SA), agree (A), moderately agree (MA), disagree (D), and strongly disagree (SD). Results are presented in form of frequencies (f), percentages (%), means and standard deviations as shown in Table 4.17.

Table 4.17***Descriptive results on curriculum***

Statements on curriculum (N=40)	SD f(%)	D f(%)	MA f(%)	A f(%)	SA f(%)	Mean	Std dev
• The curriculum we use is pupils oriented	7(18%)	11(28%)	12(30%)	8(20%)	2(5%)	2.6	1.06
• Assessment of curriculum delivery is well spelt out	2(5%)	5(13%)	13(33%)	15(38%)	5(13%)	3.4	1.01
• The curriculum promotes individualized learning programs	4(10%)	5(12.5%)	11(27.5%)	13(32.5%)	7(17.5%)	2.6	1.21
• The curriculum has standardized assessment mechanisms	4(10%)	6(15%)	14(35%)	10(25%)	6(15%)	3.2	1.16
• The curriculum specify the instructional delivery approaches	2(5%)	5(13%)	16(40%)	13(33%)	4(10%)	3.3	1.14
• The curriculum specify material resources	8(20%)	11(28%)	13(33%)	7(18%)	1(3%)	2.5	1.21
• The curriculum promotes differentiated learning approaches	9(23%)	16(40%)	6(15%)	7(18%)	2(5%)	2.4	1.08
• The curriculum emphasizes on attention to intellectual, cognitive and behavioural development	1(3%)	6(15%)	11(28%)	13(33%)	9(23%)	3.5	1.06
• The curriculum promotes growing independence of a learner	6(15%)	9(23%)	13(33%)	10(25%)	2(5%)	2.8	1.03

According to the results in Table 4.17, pupil-oriented nature of the curriculum elicited mixed opinions, with only 10(25%) expressing agreement, 12(30%) indicating moderate agreement, and 46% disagreeing ($M = 2.6$, $SD = 1.06$). The standard deviation of 1.06 suggests that opinions on the pupil-oriented nature of the curriculum are somewhat spread out among the participants. This divergence suggests a perception gap regarding the alignment of the curriculum with the needs and characteristics of pupils with intellectual disabilities. The results show a relatively low level of agreement with the assertion on curriculum being pupil-oriented. This suggests a potential need for adjustments to better align the curriculum with pupils' intellectual needs.

Participants generally concurred that the assessment of curriculum delivery is well-defined, as evidenced by a substantial 20(50%) agreeing; 13(33%) expressing moderate agreement, and only 7(18%) disagreeing ($M = 3.4$, $SD = 1.01$). The responses show a moderate level of variability around the mean of 3.3, indicating that while there is general agreement on the well-defined assessment of curriculum delivery, there are some variations in participants' opinions. The findings indicate while a substantial portion agrees, a notable percentage disagrees and others moderately agreed, indicating potential concerns or variations in understanding standardized assessment aspects among teachers.

In terms of promoting individualized learning programs, 20(50%) teachers generally agreed, 11(27.5%) moderately agreed and 9(22%) disagreed, resulting in a mean of 2.6 with a standard deviation of 1.21. The standard deviation indicates slight variability in participants' opinions. The responses are spread out around the mean of 2.6. There is

moderate agreement that the curriculum promotes individualized learning programs, but a substantial portion is neutral or disagrees.

The curriculum's standardized assessment mechanisms garnered moderate support, with 16(40%) in agreement, 14(35%) moderately agreeing, and 10(25%) disagreeing ($M = 3.2$, $SD = 1.16$). The standard deviation of 1.16 suggests a moderate level of variability around the mean of 3.2. Participants' opinions on the presence of standardized assessment mechanisms in the curriculum show some dispersion. The findings show that there is a divergent agreement that the curriculum has standardized assessment mechanisms. This divergent view highlights potential concerns about the consistency and fairness of the assessment process.

A majority of participants 17(43%) agreed that the curriculum specifies instructional delivery approaches, with 16(40%) expressing moderate agreement and only 7(18%) were in disagreement ($M = 3.3$, $SD = 1.14$). The standard deviation of 1.14, indicate some level of variability around the mean of 3.3; hence, the divergent view indicates a perception gap regarding the clarity of guidelines for teachers on instructional delivery approaches in the curriculum. The instructional delivery approaches are usually determined by the adopted curriculum, conducive school environment, standardized assessment test methodology, multi-dimensional instructional methodologies, technology, and pedagogical strategies and qualified human resources (Lynch et al., 2016); hence, the special schools ought to have a conversation on these matters with a view to align perceptions about them.

In terms of specifying material resources, opinions were largely divided, with 8(21%) in agreement, 33% moderately agreeing, and 48% in disagreement ($M = 2.5$, $SD = 1.21$). The slightly high standard deviation of 1.21 suggests a slight amount of variability in participants' opinions on whether the curriculum specifies material resources. This shows that teachers' responses are dispersed around the mean of 2.5. The finding means that a significant portion of teachers felt that the curriculum does not specify material resources. This indicates potential concerns or gaps in the specification of material resources within the curriculum. The high level of disagreement indicates a need for clearer communication and guidance regarding the required resources.

The curriculum's promotion of differentiated learning approaches also received strong level of disagreement, as indicated by 25(63%) teachers, 6(18%) moderately agreeing, and only 9(23%) were in agreement ($M = 2.4$, $SD = 1.08$). This meant that the curriculum was perceived as having significant gaps in promoting differentiated learning approaches among learners with intellectual disabilities. Achievement of differentiated learning programs has been described Dapa (2020), Dapa (2017) and Manggalastawa (2023) as a contributory factor to effective education for students with cognitive disabilities.

Emphasis on intellectual, cognitive, and behavioral development within the curriculum was widely acknowledged, with 22(56%) in agreement, 11(28%) moderately agreeing, and only 7(18%) were in disagreement ($M = 3.5$, $SD = 1.06$). The standard deviation of 1.06 indicates a negligible variability around the mean of 3.5. This shows a high level of agreement that the curriculum emphasizes attention to various aspects of development, indicating a positive perception of the curriculum's focus on holistic development.

However, the dissenting view of 7(18%) and 11(28%) who moderately agreed raises concerns about the comprehensiveness of the curriculum in addressing the holistic needs of pupils with intellectual disabilities.

Regarding the promotion of the growing independence of learners, 15(38%) indicated disagreement, 13(33%) were moderately in agreement, and 12(30%) disagreed, resulting in a mean of 2.8 and a standard deviation of 1.03. The standard deviation of 1.03 suggests a negligible amount of variability around the mean of 2.8. The findings show that there is moderate agreement that the curriculum promotes the growing independence of a learner. This suggest an opportunity to improve curriculum to foster the independence of learners with intellectual disabilities.

The findings reveal varying perceptions among teachers regarding the aspects investigated in the study. While there is consensus on certain aspects, such as the clarity in assessment and instructional delivery, and individualized learning programs; there are divergent opinions on the pupil-oriented nature of the curriculum, specification of material resources, and curriculum promoting differentiated learning approaches and independence of a learners. These insights suggest potential areas for improvement in aligning the curriculum with the needs and preferences of intellectually disabled learners.

The above results imply that curriculum is critical in the teaching and learning management for pupils with intellectual disabilities. The findings mirror those of Alice (2018) who emphasized the need to implement individualized education for learners with special needs in both special and inclusive settings. Knight et al. (2019) observed that individualized

learning, assisted instruction, and legal frameworks guiding curriculum and instructional practices are essential.

4.9.2 Testing of Hypothesis: Curriculum on teaching and learning management for pupils with intellectual disabilities

To test the null hypothesis (H_{03}): Curriculum has no significant relationship with teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya; the correlation analysis was conducted and results are shown in Table 4.18.

Table 4.18

Correlation analysis results in curriculum

		Teaching and learning management
Curriculum	Pearson Correlation	.567**
	Sig. (2-tailed)	.000
	N	40

** Correlation is significant at the 0.01 level (2-tailed).

The findings indicate that curriculum had a positive and significant relationship with teaching and learning management for pupils with intellectual disabilities ($r = .567$, $p = .000 < .05$). The results denote that change in curriculum is accompanied by change in teaching and learning management for pupils with intellectual disabilities in the same direction. Based on the results, the null hypothesis was rejected implying that curriculum has a significant relationship with teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya. The findings are consistent with McLachlan et al. (2018) conclusion that curriculum assessment and implementation practices are necessary to deliver quality education. Moreover, Ohba and Malenya (2022)

noted that curriculum directly impacts how, what, which and who of teaching and learning management in special primary schools.

4.9.3 Thematic results on curriculum from TSC, Education Directors and Head Teachers' interview guide

The TSC, Education Directors and head teachers' respondents were asked to suggest measures that should be taken to make the Kenyan curriculum inclusive. The respondents recommended the need to review the Kenyan education systems so as to include teaching and learning of pupils with intellectual disabilities. It is important to align the system to the needs of learners with intellectual disabilities. In particular, the focus should be on providing adequate and relevant teaching and learning materials and facilities to special schools. According to Alice (2018), there is need to implement individualized education for learners with special needs in both special and inclusive settings.

The TSC, Education Director and Head Teachers respondents were asked advice curriculum designers regarding fully inclusive curriculum for pupils with intellectual disabilities. Responses were securitized and analyzed resulting into several common themes which were: need to understand diversity of learners' needs, collaborating with experts for their insights and invaluable experiences in developing an inclusive curriculum, differentiation strategies to cater for various learning styles and abilities, universal design for learning which emphasizes multiple means of representation, engagement, and expression, accessible resources; incorporate individualized education plans, inclusive assessment practices, and regular review and adaptation. These themes were hence regrouped into four distinct categories; understanding and appreciating diversity,

collaboration with experts, inclusive curriculum design, and individualized education plans.

When asked to provide suggestions to the Kenya Institute of Curriculum Development (KICD) regarding the curriculum used to teach learners with intellectual disabilities in special schools, they emphasized need to incorporate Universal Design for Learning (UDL) to create a flexible and adaptable curriculum that caters to diverse learning needs. The Education Director 04 stressed, *“KICD should come up with curriculum that supports individualized learning plans for each intellectually disabled learners, ensuring a personalized and targeted approach to their education.”* The head teacher added, *“The curriculum should embrace the diverse instructional strategies to accommodate different learning styles and preferences among students with intellectual disabilities.”*

Other suggestions included need for KICD to collaborate with special education experts to provide ongoing guidance and support for curriculum development. The TSC Director underscored the need to integrate life skills and functional education components into the curriculum, saying that life skills were essential in preparing learners with intellectual disabilities for practical aspects of daily living. The KICD was also urged by the Sub-County Director of Education to institute a systematic and regular review of the curriculum to incorporate feedback from educators, parents, and experts, ensuring it remains responsive to evolving needs. Other periodic measures included regular assessment and progress monitoring, and consideration for alternative assessment methods that align with the abilities of students in special schools (Robinson, 2017).

The sub-County Director urged for curriculum that foster holistic development of a learner. The director said, *“Such a curriculum should not only focus on academic aspects but also social, emotional, and physical aspects of learners with intellectual disabilities.”* The head teacher further underlined the need to partner with and collaborate with parents, caregivers, and community organizations to create a holistic support system for learners with intellectual disabilities. The Sub-county Director of Education on his part urged head teachers to be flexible when timetabling to accommodate the individual pace and needs of learners with intellectual disabilities.

4.9.4 Thematic results on curriculum from parents’ focus group discussions

The focus group participants were asked whether learners with intellectual disabilities benefit from the Kenyan curriculum. The participants expressed disappointment with the Kenyan curriculum, particularly, its lack of touch with the needs of pupils with intellectual disabilities. According to the participants, the Kenyan system requires thorough review to make it all inclusive. The findings concur with McLachlan et al. (2018) claim that curriculum assessment and implementation practices were necessary to deliver quality education.

The researcher also asked parents to discuss the availability of facilities to support curriculum delivery for learners with intellectual disabilities. The focused discussed and noted that the availability of facilities for learners with intellectual disabilities varied with location and the extent of support. It was noted that disparities between urban and rural areas existed, with urban centers having better access to specialized facilities and resources for learners with intellectual disabilities. Parents noted that government policies and initiatives play a significant role in determining the availability of facilities. Group

discussion participants expressed frustrations that that government had failed to prioritize inclusive education as evidenced by little allocation of resources to special schools hence difficulties in developing necessary infrastructure and support facilities for learners with intellectual disabilities. They discussion however noted that private organizations and non-governmental entities have played a role in supplementing government efforts by establishing specialized schools or supporting inclusive practices in existing educational institutions. The discussion further noted that inclusive facilities go beyond classrooms and may include accessible playgrounds, restrooms, and common areas. The noted that infrastructure that considers the needs of learners with disabilities contributes to a more inclusive educational experience.

4.9.5 Qualitative results based on observations data regarding curriculum

Observations made in the field (see appendix VIII) indicate a lack of specific curriculum design for special schools, and the use of a standardized curriculum. The study observed that teachers had made considerable efforts to adapt teaching and learning materials to individual needs, although there noticeable rooms for improvements. The lack of curriculum alignment to individual learning needs highlights the need for a tailored curriculum and teaching plans for intellectually disabled students. Relying on a standardized curriculum fails to address their unique needs. The study notes that curriculum design and adaptation are crucial factors in teaching and learning management for intellectually disabled learners in special schools. The observed situation indicates a need for a curriculum tailored and adaptive curriculum with the flexibility for modifications to effectively address the needs of intellectually disabled learners and providing resources for effective adaptation. In additions the government should provide adequate resources to

support curriculum implementation and adaptation, to enhance the quality and relevance of education for intellectually disabled learners.

4.9.6 Convergence of Quantitative and Qualitative Findings on Curriculum

Data on influence of curriculum on teaching and learning management for pupils with intellectual disabilities was analysed using descriptive, correlation and thematic analysis. From the descriptive point of view, curriculum is critical in affecting teaching and learning management for pupils with intellectual disabilities. Thematic analysis had similar results where participants pointed out the need to align the system to the needs of learners with intellectual disabilities. Likewise, correlation results revealed that curriculum had a positive and significant relationship with teaching and learning management for pupils with intellectual disability.

Outright convergence were observed in the alignment of curriculum with learners' needs. Notably, the quantitative: The quantitative results reveal a perception gap regarding the pupil-oriented nature of the curriculum, with a relatively low level of agreement (25%) on its alignment with the needs and characteristics of pupils with intellectual disabilities. The qualitative findings support the need for a review of the curriculum to make it inclusive and align it with the diverse needs of learners with intellectual disabilities. Respondents emphasize the importance of providing adequate and relevant teaching and learning materials.

Both quantitative and qualitative findings converged on assessment of curriculum delivery. The study noted there was general agreement (50%) on the well-defined assessment of curriculum delivery, with a moderate level of variability in opinions. The recommendations

from qualitative data include the incorporation of inclusive assessment practices, regular review, and adaptation of the curriculum to ensure responsiveness to evolving needs. Collaboration with experts was also suggested for insights into developing inclusive assessments.

The quantitative findings indicated that 50% of teachers said that the curriculum promotes individualized learning programs, although a substantial portion was neutral while others disagreed. A converge was therefore noted considering that the qualitative results emphasize the need for individualized education plans, universal design for learning, and differentiation strategies to cater to diverse learning styles and abilities. The study noted a consistent call for personalized and targeted approaches to education, and for inclusive curriculum design.

Another aspect of convergence was on holistic development emphasis. While there was a high level of agreement (56%) that the curriculum emphasizes attention to various aspects of development, there were dissenting views (18% disagreement and 28% moderate agreement). The qualitative findings stress the importance of a curriculum that fosters the holistic development of learners, including academic, social, emotional, and physical aspects. Another converging point was about growing independence of learners. The results show moderate agreement (38%) that the curriculum promotes the growing independence of learners. The qualitative findings recommend need to include flexibility in timetabling to accommodate the individual pace and needs of learners with intellectual disabilities, emphasizing the importance of a curriculum that supports the holistic development of learners.

In a nutshell, the convergence of quantitative and qualitative results underscores the importance of aligning the curriculum with the needs of learners with intellectual disabilities, incorporating inclusive assessment practices, promoting individualized learning programs, designing an inclusive curriculum, emphasizing holistic development, and fostering the growing independence of learners. These areas of convergence provide valuable insights for curriculum improvement for learners with intellectual disabilities in special schools in Meru County, Kenya. The findings are consistent with McLachlan et al. (2018), AlRawi and AlKahtani (2022), Soek et al. (2018), conclusion that curriculum assessment and implementation practices are necessary to deliver quality education. Kabutha (2019) also agreed and particularly identified the lack of adaptive curriculum as a serious drawback to teaching and learning for learners with intellectual disabilities.

4.10 Influence of School Culture on Teaching and Learning Management

The study examined the influence of cultural factors on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya.

4.10.1 Descriptive results on school culture from teachers' questionnaires

The respondents were asked to rate the extent to which cultural groups influence the teaching and learning management of pupils with intellectual disabilities in special schools. The scale used is as follows: Strongly agree (1), agree (2), moderately agree (3), disagree (4), and strongly disagree (5). Results are presented in form of frequencies (f), percentages (%), means and standard deviations as shown in Table 4.19.

Table 4.19***Descriptive results on the influence of cultural groups***

	SD	D	MA	A	SA	M	Std dev
Statements on cultural factors (N=40)	f(%)	f(%)	f(%)	f(%)	f(%)		
Parents	1(3%)	3(8%)	9(23%)	8(20%)	19(48%)	4.0	1.13
Teachers	1(3%)	2(5%)	7(18%)	9(23%)	21(53%)	4.1	1.01
Non-disabled	2(5%)	4(10%)	6(15%)	5(13%)	23(58%)	4	1.07

The results indicate a strong consensus among teachers' respondents regarding the perceived influence of parents, teachers, and non-disabled individuals on teaching and learning management. Parents were notably perceived to have a significant influence (Mean = 4.0, Std dev = 1.13), followed closely by teachers (M = 4.1, Std dev = 1.01). Non-disabled individuals were also perceived to play a substantial role (M = 4.0, Std dev = 1.07). The low standard deviation in each group suggests that opinions about the influence of parents, teachers, and non-disabled individuals is relatively consistent among respondents. These findings underscore the importance of considering and collaborating with these cultural groups in the education of pupils with intellectual disabilities in special schools in County, Kenya.

Table 4.20***Descriptive results on school culture***

Statements on school culture (N=40)	SD f(%)	D f(%)	MA f(%)	A f(%)	SA f(%)	Mean	Std dev
• School mission and vision embrace intellectual disability	4(10%)	9(23%)	11(28%)	10(25%)	6(15%)	3.1	1.31
• School values support intellectual disability	3(8%)	8(20%)	12(30%)	13(33%)	4(10%)	3.2	1.11
• School rules and regulations supports the intellectually disabled learners	2(5%)	7(18%)	9(23%)	16(40%)	6(15%)	3.4	1.01
• Religious and belief systems in the school are candid on intellectual disability	5(13%)	13(33%)	11(28%)	9(23%)	2(5%)	2.7	1.13
• Language policies takes care of intellectual disability	9(23%)	16(40%)	6(15%)	7(18%)	2(5%)	2.4	1.08
• Inclusivity issues are taken very serious at our school	8(20%)	11(28%)	13(33%)	7(18%)	1(3%)	2.5	1.22
• Stigma and victimization of disabled learners are prohibited at our school	1(3%)	4(10%)	6(15%)	18(45%)	11(28%)	3.8	1.06

A significant percentage 16(40%) agreed and 13(33%) disagreed, 11(28%) moderately agreed that the school's mission and vision embrace intellectual disability. The mean is 3.1, indicating a moderate level of agreement, and the standard deviation (1.31) suggests some variability in responses. A substantial percentage 17(43%) agree that school values support intellectual disability. 11(28%) shows disagreement. The moderate agreement of 12(30%) suggests a notable portion with a neutral stance. The mean of 3.2 indicates a relatively high level of agreement, and the standard deviation (1.11) indicates some variability.

Most teachers 22(55%) agreed that school rules and regulations support intellectually disabled learners and 8(24%) shows a minority of dissenting views. The moderate agreement 9(23%) suggests there is room for improvement. The mean is 3.4, indicating a high level of agreement, and the low standard deviation (1.01) suggests consistent responses. A minority 11(28%) agreed that religious and belief systems in the school are candid on intellectual disability. Most teachers 18(46%) expressed disagreement with the assertion. The moderate agreement 11(28%) suggests mixed perception. The mean is 2.7, indicating a moderate level of agreement, and the standard deviation (1.13) suggests some variability. Similarly, a significant majority number of teachers 25(73%) disagreed that language policies take care of intellectual disability. Only 6(15%) were moderate while those who agreed were 9(23%). The mean is 2.4, indicate a low level of agreement while the standard deviation (1.08) suggests minimal variability.

Furthermore, a minority number of teachers 8(21%), while the majority 19(48%) disagreed that inclusivity issues are taken very seriously at the school. The moderate agreement 13(33%) suggests a substantial portion with a moderately positive stance. The mean of 2.5 indicates a moderate level of agreement, and the standard deviation

(1.22) suggests some variability in the responses. A large majority 29(73%) agreed that stigma and victimization of disabled learners are prohibited at the school. Only 5(13%) disagreed and 6(15%) were moderate. The mean of 3.8 indicates a high level of agreement, and the low standard deviation (1.06) suggests consistent responses.

The above results reveal a varied landscape of perceptions among teachers regarding the influence of school culture on the learning and teaching management of intellectually disabled learners in special schools. While there is strong consensus on certain aspects, such as the prohibition of stigma and victimization (73% agreement) and the support provided by school rules and regulations (55% agreement), other areas exhibit more diverse opinions. Notably, teachers hold mixed views on the extent to which religious and belief systems and language policies address intellectual disability, with moderate levels of agreement and significant variability in responses. These findings underscore the complexity of shaping an inclusive school culture that uniformly embraces intellectual disability, emphasizing the importance of addressing diverse perspectives and refining specific aspects of the school environment to better support intellectually disabled learners. Individuals with Disabilities Education Act (2004), also prioritized measures to reduce stigma and misconceptions about disabilities, and embrace systems that foster sense of belonging and inclusion. The results imply that school cultural aspects are critical in determining teaching and learning management for pupils with intellectual disabilities. The findings concur with Zulu and Zimba (2017) observation that cultural beliefs and practices may impact the learning experiences of students with intellectual disabilities. Additionally, Mutepa and Mutepa (2017) conclude that societal attitudes and stigmas around disabilities still present significant barriers to fully including students with intellectual disabilities in schools.

4.10.2 Testing of Hypothesis: Cultural factors on teaching and learning management for pupils with intellectual disabilities

To test the null hypothesis (H_{04}): Cultural factors have no significant relationship with teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya; the correlation analysis was conducted and results are shown in Table 4.21.

Table 4.21

Correlation analysis results on school culture

		Teaching and learning management
Cultural factors	Pearson Correlation	-.539**
	Sig. (2-tailed)	.000
	N	40

** Correlation is significant at the 0.01 level (2-tailed).

The findings indicate that cultural factors had a negative and significant relationship with teaching and learning management for pupils with intellectual disabilities ($r = -.539$, $p = .000 < .05$). The results denote that change in cultural factors is accompanied by change in teaching and learning management for pupils with intellectual disabilities in opposite direction. Based on the results, the null hypothesis was rejected implying that cultural factors have a significant relationship with teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya. Hemsley et al. (2018) observed school culture encourages a collaborative approach involving educators, speech therapists, and other specialists to address communication challenges. According to Johnson et al. (2021), ignoring the importance of this culture may lead to exclusion, social isolation, and harm to these students' self-esteem.

4.10.3 Thematic results on school culture from TSC, Education Directors and Head Teachers' interview guide

During the interview session, the TSC, Education Directors and Head Teachers were asked to describe ways in which school culture influence teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya. From their responses, it was clear that a school culture that embraces an inclusive mission and vision creates a positive foundation. Head teacher 03 added, *“When these statements explicitly include support for intellectual disabilities, it fosters a sense of belonging and purpose for both teachers and students”*.

The other way that featured across the respondents was regarding values and beliefs systems found in the school. Notably, the values and beliefs prominent in a school, usually set the tone for how intellectual disabilities is perceived and addressed. If the values prioritize empathy, understanding, and inclusivity; then, teachers are more likely to adopt approaches that cater to the diverse needs of students with intellectual disabilities. Moreover, a school culture that respects and incorporates diverse religious and cultural perspectives fosters an environment where teachers are better equipped to address the unique needs of pupils with intellectual disabilities within these frameworks.

Respondents further noted that clear and supportive rules and regulations within the school culture can provide a structured environment for pupils with intellectual disabilities. This includes policies that accommodate different learning styles, provide necessary resources, and establish guidelines for individualized education plans.

The aspect of language also featured in the responses gathered from the TSC, Education Directors and Head Teachers. The Sub-county Director of education note that language

is a crucial aspect of teaching and learning. The TSC sub-county Director 02 said, “*A school culture that recognizes the importance of communication tailored to the needs of pupils with intellectual disabilities contributes to an environment where effective teaching strategies are implemented.*”

Another way to through which a school culture influence teaching and learning management for pupils with intellectual disabilities in special schools is through inclusive practices. Inclusive practices can be demonstrated through collaborative teaching methods, peer support systems, and shared responsibilities. According to the Sub-county Director of Education, embracing inclusive practices enhances the learning experience for pupils with intellectual disabilities. This involves creating an environment where everyone feels valued and included. Others aspects of inclusion noted by Brown and Smith (2019) include shared values, respect, collaboration, high expectations, positive relationships, open communication, safety, student engagement, and a commitment to ongoing professional development for educators. They argued that these aspects are helpful in creating a nurturing and thriving learning environment where students can develop academically, socially, and emotionally (Brown & Smith, 2019). The head teacher noted that a school culture that actively addresses and prohibits stigma and victimization creates a safe and supportive space for pupils with intellectual disabilities. This helps in fostering positive relationships, self-esteem, and a conducive atmosphere for learning.

The other aspect of influence is teachers’ attitude. Obviously, the attitudes of teachers, which is largely shaped by the prevailing school culture, significantly impact the learning experience of pupils with intellectual disabilities. However, TSC Sub-county Director noted that continuous professional development that emphasizes

understanding and adapting teaching methods to diverse needs contributes to a more inclusive educational environment.

The above findings underscore an inclusive school culture in supporting effective teaching and learning management for pupils with intellectual disabilities in special schools. An inclusive school culture sets the tone for policies, practices, and attitudes that ultimately shape the educational experience and outcomes for these students.

4.10.4 Thematic results on school culture from parents' focus group discussions

Parent's respondents who took part in focused group discussion were asked describe appropriate measures that should be taken on school culture to improve the teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya. The discussion noted a need for inclusive mission and vision statements. The meeting observed that the need to review and revise the school's mission and vision statements to explicitly embrace and include the needs of pupils with intellectual disabilities. They said that the mission and vision statements should reflect a commitment to providing quality education for all students, fostering a sense of belonging.

The other way agreed upon was regular training and professional development opportunities for teachers and staff to equip them with the knowledge and skills necessary to address the unique needs of pupils with intellectual disabilities. This training should cover inclusive teaching methods, differentiated instruction, and strategies for effective communication (Van der Merwe et al., 2020). Parents further noted a need to foster a school culture that values diversity and inclusion. They noted a need to implement awareness campaigns, workshops, and activities that promote

understanding, empathy, and positive attitudes towards pupils with intellectual disabilities among teachers, staff, and students.

Evaluate existing school policies, especially those related to special education and inclusion, and make necessary adjustments. Ensure that policies support the individualized needs of pupils with intellectual disabilities, including provisions for support services, assistive technologies, and accommodations.

Another important way is to engage parents and the local community in the process of improving school culture. This can be achieved by conducting workshops to educate parents about intellectual disabilities, inclusive practices, and how they can support their children's learning at home. The study by Mwabili et al. (2020) pointed the demerits for failing to involve parents in the teaching and learning management of learners with disabilities. In addition, parents said that curriculum should be modified and provide materials and resources that cater to diverse learning styles and abilities. They noted a need for head teachers to ensure that teaching materials are accessible and adaptable to meet the needs of pupils with intellectual disabilities.

Another method is by carrying out campaigns within the school community to combat stigma and misconceptions surrounding intellectual disabilities. Moreover, students support services should be established and enhanced; for example, counseling and special education services, to provide individualized assistance for pupils with intellectual disabilities. Similar aspects of support services had been pointed out by Barret et al. (2019) underscoring their significance in nurturing sense of belonging. This may include speech therapy, occupational therapy, and other support services tailored to the students' needs.

Special schools should endeavor to implement a system for continuous monitoring and evaluation of the school culture and its impact on teaching and learning for pupils with intellectual disabilities. The head teacher should institute measures to regularly assess the effectiveness of inclusive practices and make adjustments as needed.

4.10.5 Qualitative results based on observations data regarding school culture

Observations made in the field (see appendix VIII) indicate a moderate sensitivity to cultural factors in teaching approaches was observed. While the study suggests that cultural factors play a role, there were no evidence noted to show commitment of staff were culturally sensitive when interacting with intellectually disabled learners. Moderate cultural sensitivity suggests room for growth in educator awareness and competency in providing culturally responsive instructions. This information implies that training on diversity, equity and inclusion could strengthen this aspect.

4.10.6 Convergence of Quantitative and Qualitative Findings on School Culture

A scrutiny was done on both quantitative and qualitative results and realized outright convergence in several areas that included: parental influence, teacher's role, inclusive practices, mission and vision alignment, importance of values and belief systems, role of rules and regulations, language as a crucial aspect, and impact of school culture on teaching and learning management. In this study both quantitative and qualitative results emphasize the significant influence of parents on teaching and learning management for pupils with intellectual disabilities. In the quantitative findings, parents were perceived to have a substantial impact (Mean = 4.0), and the qualitative data supports this by highlighting the positive effects of inclusive mission and vision statements that explicitly embrace the needs of pupils with intellectual disabilities.

On the teacher's role, quantitative results show that teachers are perceived to have a significant influence (Mean = 4.1), and qualitative findings elaborate on this by emphasizing the importance of teacher attitudes which are usually shaped by the prevailing school culture. The qualitative data also mentions the impact of continuous professional development on teachers' attitudes, highlighting the need for ongoing training. Both sets of findings stress the importance of inclusive practices in school culture. The quantitative data indicates a strong agreement (73%) that stigma and victimization of disabled learners are prohibited at the school, while the qualitative data expands on this by discussing inclusive practices such as collaborative teaching methods, peer support systems, and shared responsibilities.

The alignment of the school's mission and vision with the needs of pupils with intellectual disabilities is emphasized in both sets of findings. The quantitative data indicates a moderate level of agreement (40%) that the school's mission and vision embrace intellectual disability, and the qualitative data underscores the positive impact of inclusive mission and vision statements. Furthermore, both findings stress the significance of values and belief systems in the school culture. Quantitative results indicate a relatively high level of agreement (43%) that school values support intellectual disability, while qualitative data expands on this by highlighting the role of values in setting the tone for how intellectual disabilities is perceived and addressed.

In this study, both quantitative and qualitative results emphasize the importance of clear and supportive rules and regulations within the school culture. Quantitative data shows a high level of agreement (55%) that school rules and regulations support intellectually disabled learners, and qualitative findings elaborate on this by noting that such policies provide a structured environment for pupils with intellectual disabilities. Moreover,

both sets of findings recognize the importance of language in teaching and learning management. Quantitative results indicate disagreement (73%) that language policies take care of intellectual disability, while qualitative data highlights the crucial role of communication tailored to the needs of pupils with intellectual disabilities. Communication gaps had also been pointed out by Ruppar et al. (2016) and Sulasmi and Akrim (2020). In addition, both the quantitative correlation analysis and qualitative results strongly support the idea that cultural factors having a significant relationship with teaching and learning management for pupils with intellectual disability. The negative and significant correlation (-.539) in the quantitative data aligns with qualitative findings emphasizing the inclusive school culture's impact on policies, practices, and attitudes.

The study notes that the convergence of both quantitative and qualitative findings reinforces the importance of parental influence, teacher's role, inclusive practices, mission and vision alignment, values and belief systems, rules and regulations, language as a crucial aspect, and the overall impact of school culture on teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya.

4.11 Influence of Teachers' Attitude on Teaching and Learning Management

The study assessed the influence of teachers' attitude in moderating the factors that influence teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya.

4.11.1 Descriptive results teachers' attitude from teachers' questionnaires

The respondents were asked to rate items that measure the aspects of teachers' attitude. The aspects focused on interaction and engagement with pupils, parents, and immediate

environment; support for intellectual disabilities learners, and teachers' perception of assistive technology. The scale used is as follows: Strongly agree (1), agree (2), moderately agree (3), disagree (4), and strongly disagree (5). Results are presented in form of frequencies (f), percentages (%), means and standard deviations as shown in Table 4.22.

Table 4.22***Descriptive results on teachers' attitude***

Statements on teachers' attitude (N=40)	SD f(%)	D f(%)	MA f(%)	A f(%)	SA f(%)	M	Std dev
Teachers have noticeable interests for pupils with intellectual disabilities	2(5%)	8(20%)	16(40%)	9(23%)	5(13%)	3.1	1.01
Teachers are motivated to handle pupils with intellectual disabilities	2(5%)	8(20%)	16(40%)	9(23%)	5(13%)	3.1	1.11
Teachers perception on assistive technology is good	4(10%)	5(13%)	11(28%)	13(33%)	7(18%)	3.3	1.07
Teachers demonstrate patience and empathy for ID learners	3(8%)	4(10%)	11(28%)	15(38%)	7(18%)	3.4	1.06
Teachers provide emotional support to ID learners	2(5%)	4(10%)	11(28%)	16(40%)	7(18%)	3.5	1.21
Teachers fight misconceptions and stereotypes of ID learners	3(8%)	8(20%)	16(40%)	6(15%)	7(18%)	3.1	1.33
Teachers have good interaction with pupils	2(5%)	6(15%)	10(25%)	14(35%)	8(20%)	3.5	0.94
Teachers have good interaction with parents	6(15%)	9(23%)	14(35%)	8(20%)	3(8%)	2.8	1.21
Teachers have good interaction with management	2(5%)	2(5%)	10(25%)	14(35%)	12(30%)	3.8	0.88
Teachers have good interaction with each other.	1(3%)	1(3%)	10(25%)	15(38%)	13(33%)	3.9	0.97

The findings reveal various aspects of teachers' attitudes towards pupils with intellectual disabilities and their perceptions of teaching and learning management. The majority of teachers demonstrate noticeable interests 14(36%) and motivation 14(36%) towards pupils with intellectual disabilities; Mean = 3.1 while SD = 1.01 and 1.11

respectively. suggests a relatively low level of variability, signifying a consistent trend among teachers. The findings imply that, on average, teachers in special schools in Meru County possess a moderate level of interest and motivation towards pupils with intellectual disabilities.

Teachers generally hold positive perceptions of assistive technology, with a half of teachers number 20(50%) expressing a good perception, while 11(28%) have a moderate perception. A smaller percentage holds less positive views 9(23%) views towards assistive technology. The mean score = 3.3 suggesting a moderate to a high level of agreement among teachers. The standard deviation (SD = 1.07) indicates little variability. The finding implies teachers' willingness to incorporate innovative teaching methods. However, the variability suggests a need for targeted training to address concerns and build confidence among those with less positive views.

The results further show that teachers demonstrate patience and empathy for intellectual disabilities (ID) learners, with 22(56%) agreeing with the statement. However, a small percentage of teachers 7(18%) disagreed. The mean score was 3.4 and a standard deviation of 1.06. The higher mean suggests a relatively high level of agreement, and minimal variability of responses. Teachers actively combat misconceptions and stereotypes, with 40% doing so to a high extent, while 15% exhibit lower engagement in this aspect. The mean score for combating misconceptions and stereotypes is 3.1, indicating a moderate level of agreement among teachers. The standard deviation (SD = 1.33) suggests presence of variability, indicating a need for tailored professional development to strengthen strategies for combating stereotypes.

Another observation made was that teachers consistently foster good interaction with pupils 22(55%) and management 26(65%), and each other 28(71%). Interactions with parents was moderate as indicated by a high moderate level of agreement 14(35%) as compared to others. The standard deviations for these interactions range from 0.88 to 1.21, indicating relatively low to moderate variability. The findings highlight positive interactions within the school community, although interactions with parents may need improvement. Implications of these findings include the need for targeted strategies to enhance communication and collaboration with parents, fostering a stronger support system for students with intellectual disabilities. According to Turnbull and Turnbull (2020), the interactions and experiences of students with teachers, administrators, and staff was largely shaped by the school culture, and this ultimately affect educational experience of intellectual disabilities.

Furthermore, the high levels of patience, empathy, and emotional support provided by teachers signify a supportive learning environment for pupils with intellectual disabilities. The active efforts to combat misconceptions and stereotypes are commendable, contributing to an inclusive educational setting. However, attention is needed to improve interactions with parents, where a lower percentage indicates a need for enhanced communication and collaboration. This aspect is crucial for creating a holistic support system for pupils with intellectual disabilities.

The results show that teachers' attitude is essential in moderating the factors that influence teaching and learning management for pupils with intellectual disabilities. The findings concur with Jones et al. (2018) assertion that positive attitudes can create a supportive and inclusive atmosphere, while negative attitudes can lead to exclusion and hinder the progress of these students. Similarly, Goldman et al. (2017)

demonstrated that passionate attitude toward special education can be a powerful motivator, inspiring students and peers and contributing to a positive and supportive school environment.

4.11.2 Qualitative thematic results on teachers attitudes

During FGD with parents, and interview sessions with head teachers, TSC and Education Directors, respondents were asked explain how teachers' attitudes affect teaching and learning management for pupils with intellectual disabilities in special schools in Meru County. The responses were scrutinized and analysed with a view to identifying common themes. The resulting themes categories were expectations and beliefs, classroom climate, teaching strategies, communication and professional development. The results indicate that when teachers have positive attitudes and high expectations for their learners with intellectual disabilities, it enhances the students' self-esteem and motivation. Positive expectations usually contribute to a more supportive learning environment where learners feel valued and encouraged (Van der Merwe et al., 2020; Wentzel, 2016; Kwok, 2021). Conversely, positive attitudes or high expectations may lead to a self-fulfilling perception, where students internalize these low expectations and they are likely to devalue themselves and ultimately fail to perform as per expectations.

It was also clear that the teachers who cultivate an inclusive and accepting classroom climate foster a sense of belonging for learners with intellectual disabilities. This inclusive environment promote positive social interactions, collaboration, and overall engagement in learning, while negative attitudes may contribute to stigmatization and exclusion. If teachers treat learners with intellectual disabilities differently or isolate

them from their peers, it can have detrimental effects on their social and emotional well-being.

Parents noted that teachers who adopt flexible teaching strategies to accommodate diverse learning needs are able to create a more effective learning experience for students with intellectual disabilities. This may involve using different instructional methods, providing additional support, and adapting materials. In the opposite, a rigid approach to teaching that does not take into account individual differences can hinder the learning progress of learners with intellectual disabilities. Teachers need to be open to adjusting their methods based on the unique needs of each learner. On the one hand, positive communication between teachers, learners, and parents is crucial. Teachers who communicate effectively with learners, provide clear instructions, and offer constructive feedback contribute to a more supportive learning environment. On the other hand, poor communication or negative interactions can lead to frustration, anxiety, and disengagement. Learners, may struggle to understand instructions or feel discouraged, impacting their overall learning experience.

The results underscored the value of continuous learning noting that the teachers who actively seek professional development opportunities related to special education and intellectual disabilities are better equipped to improve their perception towards intellectually disabled learners, and hence better suited to address the learners' diverse needs. Continuous learning can enhance their skills in creating inclusive and effective learning environments. The focussed group discussion further noted that if teachers lack training in special education or have limited awareness of effective strategies for teaching learners with intellectual disabilities, it can negatively impact the quality of education provided.

The above qualitative results shows that teachers' attitudes impact the teaching and learning management for pupils with intellectual disabilities in special schools. Impact is felt on inclusive practices, flexible teaching strategies, effective communication, and ongoing professional development are essential components in creating an environment that supports the diverse needs of students with intellectual disabilities.

Improving teachers' attitudes is crucial for enhancing teaching and learning management for pupils with intellectual disabilities in special schools. In that connection, parents, head teachers, TSC and Education Directors respondents were asked to describe how teachers' attitude can be improved to enhance teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya. Several suggestions were received ranging from inclusive education workshops, role modelling, showcase success stories, peer collaboration, parent and community involvement, recognition and appreciation; and continuous support.

Teachers' attitudes can be improved by conducting workshops and seminars that emphasize the importance of an inclusive education environment. The sub-County Director of Education also urged head teachers to *"implement measures that make teaching staff to understand the benefits of inclusion and provide practical tips for adapting teaching methods to meet the unique needs of students with intellectual disabilities"*. Along the same vein, sub-County TSC Director emphasized the aspect of positive role modelling urging head teachers to share success stories of teachers who have effectively facilitate the learning of students with intellectual disabilities. Such a show of success stories should highlight positive outcomes and the impact of supportive teaching practices to inspire and motivate other educators. The head teachers can also

consider encouraging sharing of experiences, resources, and successful teaching strategies, and collaboration among teachers within the special education department and across the school.

On empathy training, the school should offer capacity building sessions that promote empathy and understanding towards learners with intellectual disabilities. Such empathy training sessions help teachers see the world from the perspective of their learners, fostering a compassionate and supportive approach. Head teachers were advised by the officials from the Ministry of Education to provide regular constructive feedback on teaching practices. This feedback can highlight areas of strength and areas for improvement, guiding teachers in refining their approaches to better meet the needs of students with intellectual disabilities. They should further encourage teachers to reflect on their teaching methods and interactions with learners. The Sub-County Director of Education noted that reflective practice can lead to insights and adjustments that contribute to a more positive and effective teaching approach.

As an improvement measure, the parents insisted on a need for school management to focus on establishing strong communication and collaboration between teachers and parents of learners with intellectual disabilities. The study noted that parents can provide valuable insights into their child's strengths, challenges, and effective teaching strategies that have worked at home; while, community support can contribute to a more inclusive and understanding environment, positively affecting teachers' attitudes.

Another way of improving teachers' attitudes is through recognition and appreciation, where, deliberate acknowledge efforts the efforts of teachers who demonstrate positive attitudes and effective teaching strategies to boost morale and motivate others to adopt similar practices. Moreover, ongoing support systems are equally critical. These

include mentorship programs, workshops, and access to experts in special education. This ongoing support can reinforce positive attitudes and provide assistance when challenges arise.

4.11.3 Qualitative results based on observations data regarding teachers' attitudes

Observations made in the field (see appendix VIII) indicate a moderate teacher-pupil interactions was impacted by large class sizes. The study implies that teachers' attitudes are influenced by contextual factors, such as class size. Subsequently, teacher attitudes and interactions being limited by large classes, meaning, that even supportive educators are restricted in their ability to individualize instructions and interaction by structural factors like class size. Adding classroom aides could help improve teacher-student interactions.

4.11.4 Convergence of Quantitative and Qualitative Findings on Teachers Attitudes

The examination of both quantitative and qualitative results sheds light on various aspects regarding teachers' attitudes in the teaching and learning management of pupils with intellectual disabilities in special schools. One noteworthy convergence across these findings is the significance of positive attitudes and expectations. Quantitatively, a majority of teachers demonstrate notable interest and motivation towards intellectually disabled pupils, aligning with qualitative data emphasizing that positive attitudes and high expectations enhance students' self-esteem and motivation. This convergence suggests the importance of reinforcing positive attitudes among teachers, fostering a more supportive learning environment.

Another area of convergence relates to the perceptions of assistive technology. Quantitatively, teachers generally hold positive views, while qualitatively, flexible

teaching strategies, including the use of assistive technology, contribute to effective learning experiences. The implication is continuous promotion of positive perceptions of assistive technology and provide targeted training to address concerns and build confidence among teachers.

Patience, empathy, and emotional support emerged as common themes. Quantitatively, teachers demonstrate patience and empathy, while qualitatively, cultivating an inclusive and accepting classroom climate fosters a sense of belonging for learners with intellectual disabilities. The implication is to acknowledge and encourage the provision of these qualities, emphasizing the importance of fostering inclusive classroom climates.

The active effort to combat misconceptions and stereotypes also aligns across both quantitative and qualitative data. While teachers demonstrate a moderate level of agreement in combating stereotypes, negative attitudes are shown to contribute to stigmatization and exclusion. This implies a need to strengthen strategies for countering stereotypes through tailored professional development and awareness programs.

Interactions with parents present another convergence, with both sets of data indicating a need for improvement. The findings emphasize the importance of strong communication and collaboration between teachers and parents, recognizing that parents can provide valuable insights into their child's strengths, challenges, and effective teaching strategies. Targeted strategies to enhance communication and collaboration are, therefore, necessary to foster a stronger support system for students with intellectual disabilities. Al Hazmi and Ahmad (2018) also underlined communication in enhancing motivation to participate actively in the learning process.

Continuous professional development stands out as a crucial converging point. Both quantitative and qualitative results underscore the value of ongoing learning for teachers to improve their perceptions and address the diverse needs of intellectually disabled learners. Emphasizing workshops, seminars, and mentorship programs can contribute to a positive and effective teaching approach. The foregoing converging points highlight the holistic nature of fostering positive attitudes, effective communication, continuous professional development, and inclusive practices in the teaching and learning management of learners with intellectual disabilities in special schools.

4.12 Overall assessment of factors affecting teaching and learning management

Multiple regression analysis was conducted to investigate the factors that influence teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya. The model summary, analysis of variance and regression coefficients results are presented in Table 4.23, 4.24, and 4.25 respectively.

Table 4.23

Model Summary: Factors affecting teaching and learning management

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.731a	0.534	0.481		0.35268

a Predictors: (Constant), Cultural factors, Teacher characteristics, Curriculum, School environment

Table 4.23 indicates an R square of 0.534, which revealed that the independent variables (teacher characteristics, school environment, curriculum, cultural factors) explained 53.4% of variations in teaching and learning management. The remaining 46.6% could be attributed to other factors not included in this study model. The results imply that teacher characteristics, school environment, curriculum and cultural factors

are good predictors of teaching and learning management. Table 4.24 shows the analysis of variance results.

Table 4.24

ANOVA; Factors affecting teaching and learning management

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.997	4	1.249	10.043	.000
	Residual	4.353	35	0.124		
	Total	9.35	39			

a Dependent Variable: Teaching and learning management

b Predictors: (Constant), Cultural factors, Teacher characteristics, Curriculum, School environment

The results indicate an F statistic of 10.043 and a p-value of 0.000 less than .05. This implies that the study model was significant (excellent fit) in predicting teaching and learning management. This confirms that teacher characteristics, school environment, curriculum and cultural factors are satisfactory influencers of teaching and learning management. Table 4.24 presents the coefficients results.

Table 4.24

Coefficients; Factors affecting teaching and learning management

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.632	0.968		2.72	0.01
	Teacher characteristics	0.658	0.207	0.56	3.185	0.003
	School environment	-0.784	0.373	-0.607	-2.102	0.043
	Curriculum	0.197	0.099	-0.233	1.977	0.036
	School Culture	-0.097	0.036	0.164	-2.698	0.049

a Dependent Variable: Teaching and learning management

Regression equation

$$Y = 2.632 + 0.658X_1 - 0.784X_2 + 0.197X_3 - 0.097X_4$$

Where:

Y – Teaching and learning management

X₁- Teacher characteristics

X₂ – School environment

X₃- Curriculum

X₄ – Cultural factors

The findings in Table 4.24 shows that teachers' characteristics had a positive and significant influence on teaching and learning management for pupils with intellectual disabilities ($\beta = .658$, $p=.003<.05$), and this implies that teachers' characteristics enhance teaching and learning management. The findings agree with Garrad et al. (2019), and Vaz et al. (2015), who elaborated that teacher attitudes determined the success of inclusive education. Similarly, Algahtani (2017) observed that teacher's characteristics address teaching and learning management for pupils with intellectual disabilities by ensuring adequate information acquisition.

School environment had a negative and significant influence on teaching and learning management for pupils with intellectual disabilities ($\beta = -.784$, $p=.043<.05$), and this implies that environmental challenges discourage teaching and learning management. The findings agree with Van Reenen and Karusseit (2017) that noise is a major hindrance to effective classroom learning, affecting learners' attention and academic achievement. Simialry, Isawumi and Oyundoyin (2016) found that classroom

environment hindered learner's social development. According to Carrion (2019), providing an interactive environment for pupils with intellectual disabilities allows for better learning.

Curriculum had a positive and significant influence on teaching and learning management for pupils with intellectual disabilities ($\beta = .197$, $p=.036<.05$), and this implies that curriculum enhance teaching and learning management. The findings are consistent with McLachlan et al. (2018) conclusion that curriculum assessment and implementation practices are necessary to deliver quality education. Moreover, Ohba and Malenya (2022) noted that curriculum directly impacts how, what, which and who of teaching and learning management in special primary schools.

Cultural factors had a negative and significant influence on teaching and learning management for pupils with intellectual disabilities ($\beta = -.097$, $p=.049<.05$), and this implies that cultural factors discourage teaching and learning management. According to Johnson et al. (2021), ignoring the importance of this culture may lead to exclusion, social isolation, and harm to these students' self-esteem. Additionally, culturally sensitive approaches to education for intellectually disabled students are not always prioritized (Iloabuchi et al., 2019).

4.13 Results on Moderating Effect of Teachers' Attitude

The study sought to assess the influence of teachers' attitude in moderating the factors that influence teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya. A hierarchical regression model was used to determine the moderation effect. The findings are presented in Table 4.25.

Table 4.25**Summary moderation Results**

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	2.632 (0.968)	0.968		2.72	0.01
	Teacher characteristics	0.658(0.207)	0.207	0.56	3.185	0.003
	School environment	-0.784	0.373	-0.607	-2.102	0.043
	Curriculum	-0.197	0.202	-0.233	-0.977	0.336
	Cultural factors	0.097	0.139	0.164	0.698	0.49
	R-square	0.534				
	F statistic	10.043				
	Prob > F	0.000				
2	(Constant)	3.641	0.985		3.695	0.001
	Teacher characteristics	0.42	0.214	0.357	1.962	0.058
	School environment	-0.991	0.357	-0.768	-2.778	0.009
	Curriculum	-0.78	0.298	-0.923	-2.621	0.013
	Cultural factors	-0.022	0.137	-0.036	-0.157	0.876
	Factors*Moderator (Interaction term)	0.293	0.116	0.669	2.527	0.016
	R-square	0.608				
	F statistic	10.547				
	Prob > F	0.000				

a Dependent Variable: Teaching and learning management

Based on the findings in Table 4.25, models 1 to 2 show a goodness of fit as indicated by R-squared values of between 0.534 and 0.608. The change in R square indicates that the introduction of a teacher's attitude increases the influence of factors (teacher characteristics, school environment, curriculum, cultural factors) on teaching and learning management for pupils with intellectual disabilities.

Further, the findings indicate that the interaction term (factors*moderator) had a positive and significant effect on teaching and learning management for pupils with intellectual disabilities ($\beta = 0.293$, $p = .016 < 0.05$). The results imply that teachers' attitude has a significant and positive moderating role on factors affecting teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya. Based on the findings, the null hypothesis that teachers' attitude has no significant moderating role on factors affecting teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya was rejected.

The findings concur with Jones et al. (2018) assertion that positive attitudes can create a supportive and inclusive atmosphere, while negative attitudes can lead to exclusion and hinder the progress of these students. Similarly, Goldman et al. (2017) demonstrated that a passionate attitude toward special education can be a powerful motivator, inspiring students and peers and contributing to a positive and supportive school environment.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the major results as well as the conclusion and recommendations. The purpose of the study was to investigate the factors that influence teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya. The specific objectives focused on the influence of teacher characteristics, school environment, and curriculum, cultural factors on teaching and learning management for pupils with intellectual disabilities as well as assessing the influence of teachers' attitudes in moderating the factors that influence teaching and learning management for pupils with intellectual disabilities. The study was guided by the Contingency theory of management, operant conditioning learning, and social learning theory. The study utilized a mixed research approach and adopted a descriptive survey design, collecting data from teachers, sub-county directors, and parents. Data were gathered using questionnaires for teachers, interview schedules for sub-county directors, focus group discussions for parents, and observation schedules. Descriptive statistics and inferential analysis were utilized on quantitative data while thematic analysis was employed on qualitative data.

5.2 Summary of Study Findings

The summary of the findings was done according main findings of study starting with background information, descriptive findings, and correlation and regression results.

5.2.1 Summary of background information of respondents

The findings indicated that female teachers 28 (70%) were compared to male teachers 12(30%). The results also indicated that 20 (50%) of the respondents had diplomas, 12 (30%) had certificates and 8(20%) had undergraduate degrees. All the respondents had at least a certificate implying that certificate is the minimum education requirement to become special schools' teacher. On teaching experience, 16 (40%) of the respondents reported below 5 years and 6 - 10 years of experience respectively. Further, 8(20%) indicated 11 - 15years of teaching experience.

5.2.2 Summary results on teaching and learning management in special schools

The study on teaching and learning management for intellectually disabled learners in special schools reveals diverse perceptions among teachers regarding school infrastructure, with 48% expressing disagreement. This highlights a clear need for targeted improvements in infrastructure to enhance the overall learning environment. Additionally, concerns were identified regarding the adoption of assistive technology, as evidenced by a low level of agreement (28%). The study noted a need for schools to focus on integrating and promoting the use of assistive technology to better support pupils with intellectual disabilities.

In terms of individualized learning, the findings indicate a divided perspective among teachers, with 35% in agreement and a high percentage (53%) in disagreement. To address these inconsistencies, the study suggests the importance of providing training and resources for effective implementation, which could significantly improve the overall learning experience for pupils with intellectual disabilities. Moreover, challenges were identified in the use of differentiated pedagogies (55% disagreement) and multi-sensory teaching methods (50% disagreement). The study recommends

creating a shared understanding of effective teaching methods and enhancing the use of multi-sensory approaches to contribute to a more cohesive and supportive learning environment.

The majority of teachers (56%) agreed that the learning environment in special schools is conducive. Moreover, standardized assessment tools were acknowledged by a substantial number of teachers (65%), but the study emphasizes the importance of transparency and effective communication about assessment practices. In addition, a mixed response is observed regarding the adequacy of teaching and learning materials, with 35% disagreement, 35% agreement, and 30% moderate agreement. Addressing the shortage of teaching and learning materials is considered crucial for effective curriculum implementation. The study also investigated the background issues affecting learners, such as single-parent households and societal misconceptions, with high agreement levels among teachers. The recommendation includes tailoring support services, community education, and dispelling myths to address these background issues.

The qualitative findings were critical in identifying key challenges in teaching and learning management for pupils with intellectual disabilities in special schools. They include resource constraints, inadequate teacher training, difficulties in implementing individualized education plans, inclusive curriculum design, and behavioral management. Additionally, issues such as the lack of structured transition plans for post-school life, insufficient technology integration, and the absence of supportive policies and advocacy efforts contribute to hindrances in effective education. The study suggests a need for collaborative environments, specialized support services, adaptive technology integration, and improved accessibility, emphasizing ongoing professional development and robust monitoring and evaluation mechanisms.

To overcome the above inhibiting issues, administrators were advised to implement individualized education plans, foster collaboration among stakeholders, ensure specialized support services, and integrate adaptive technology. Other issues that should concern BOM and the Ministry of Education were infrastructure, teaching materials, professional development, inclusive education collaboration, and accessibility.

5.2.3 Influence of teachers' characteristics on teaching and learning management for pupils with intellectual disabilities

The study's findings present several significant results regarding the characteristics of teachers involved in special education in Meru County, Kenya. Firstly, the results indicate that a substantial proportion of teachers (70%) had received training in various aspects of special education, including learning disabilities, intellectual disabilities, physical disabilities, communication disorders, and inclusive education. Secondly, the majority of teachers were also trained for a period ranging from 6 to 11 months. These results suggest that teachers in the study were well-equipped with the necessary skills to handle the diverse needs of special needs pupils, aligning with previous research that emphasizes the positive impact of training on teaching management.

The results further reveal that 50% of the teachers were primarily trained in this area, followed by 30% in inclusion and 20% in types of disabilities. This emphasizes the importance placed on effective teaching methods in managing special education classrooms. The detailed breakdown of teaching methodologies illustrates that guided practice is the most frequently employed method (60%), followed by cooperative learning and special grouping (each at 20%). The utilization of different methodologies suggests that teachers can address diverse needs, with guided practice potentially

serving as a scaffolded approach to learning, while cooperative learning and special grouping cater to collaboration and individualized learning needs, respectively.

The study also covered teachers' perceptions and practices related to individualized education plans (IEPs) and materials adaptation. It indicates a high level of consensus (60%) among teachers regarding the effectiveness of IEPs for learners with physical disabilities, highlighting the importance of tailored educational plans. However, there is more variability in opinions about the appropriateness of adapted materials (52.5%), suggesting a need for further professional development and training sessions in this area.

Furthermore, the study examined teachers' attitudes and behaviors toward pupils with intellectual disabilities. A moderate level of consensus (45%) indicates that teachers were caring and respectful, with a similar level of agreement (52.5%) on teachers having a sense of ownership and responsibility.

The quantitative and qualitative analyses of teachers' competencies and skills reveal their crucial role in teaching and learning management for pupils with intellectual disabilities. Competencies such as recognizing individual differences, implementing differentiated instruction, adapting the curriculum, effective communication, behavior management, collaboration, assessment, and advocacy are identified as essential components of effective teaching in special schools.

The participants in the focus group discussion expressed a clear preference for specially trained teachers, citing their possession of the right skills and knowledge to handle pupils with intellectual disabilities. This preference aligns with the broader findings

emphasizing the importance of teachers' qualifications and competencies in promoting effective teaching and learning management in special education.

While a considerable proportion of teachers express caring and respectful behavior toward pupils with intellectual disabilities, the moderate level of consensus suggests ongoing variability in attitudes. The findings underscore the necessity of sustained initiatives to create a consistently supportive atmosphere within special schools. The findings collectively emphasize the multifaceted nature of teachers' characteristics and the pivotal role they play in shaping the educational landscape for pupils with intellectual disabilities in special schools in Meru County, Kenya. Overall, the results highlight the positive impact of training, the significance of various teaching methodologies, the importance of individualized education plans and materials adaptation, and the crucial role of teachers' competencies and skills in fostering an inclusive and supportive learning environment.

5.2.4 Influence of school environment on teaching and learning management for pupils with intellectual disabilities

The second objective of the study was to assess the influence of the school environment on teaching and learning management for pupils with intellectual disabilities in special schools, in Meru County, Kenya. Descriptive results indicated that teachers reported a high agreement level on the following environmental challenges: long home-to-school distance, poorly maintained roads and terrain for wheelchair users, narrow pathways for wheelchair users in the school, lack of individualized attention of learners with ID, lack of adapted toilet facilities, unpaved pathways around the school compound, inappropriate learning equipment and lack of a school nurse to attend to learners with chronic illness.

From qualitative results, the respondents noted the importance of having appropriate infrastructure and facilities to support the needs of pupils with intellectual disabilities. The majority of the parents noted that they preferred special schools since their child's special needs are catered for there. However, some parents noted that they would consider regular school so that their children can interact with pupils without intellectual disabilities. The parents argued that interacting with pupils without intellectual disabilities would improve their child's intellectual development.

Correlation analysis results indicated that school environment had a negative and significant relationship with teaching and learning management for pupils with intellectual disability. Based on the results, the null hypothesis was rejected implying that the school environment has a significant relationship with teaching and learning management for pupils with intellectual disabilities in special schools, in Meru County, Kenya. Multiple regression results showed that the school environment had a negative and significant influence on teaching and learning management for pupils with intellectual disability.

5.2.5 Influence of curriculum on teaching and learning management for pupils with intellectual disabilities

The third objective of the study was to determine the influence of curriculum on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya. The descriptive findings revealed a mix of opinions among teachers regarding the pupil-oriented nature of the curriculum. A quarter of participants (25%) agreed, 30% expressed moderate agreement, and 46% disagreed, indicating a perception gap about the alignment of the curriculum with the needs of pupils with intellectual disabilities.

Regarding curriculum delivery, there was general agreement (50%), with 33% indicating moderate agreement and 18% in disagreement. However, moderate variability in opinions suggested potential variations in teachers' understanding of standardized assessment aspects. The standardized assessment mechanisms of the curriculum received moderate support, with 40% in agreement, 35% moderately agreeing, and 25% disagreeing, highlighting concerns about consistency and fairness.

The study also explored aspects of instructional delivery approaches in the curriculum. A majority (43%) agreed, 40% expressed moderate agreement, and 18% disagreed, indicating a perception gap regarding the clarity of guidelines for teachers on instructional delivery approaches. Differentiated learning approaches encountered strong disagreement, with 63% of teachers disagreeing, 18% moderately agreeing, and 23% agreeing, implying significant gaps in promoting differentiated learning approaches among learners with intellectual disabilities.

The curriculum's emphasis on intellectual, cognitive, and behavioral development was widely acknowledged (56% agreement, 28% moderate agreement, 18% disagreement). However, regarding the promotion of learners' growing independence, 38% indicated disagreement, 33% were moderately in agreement, and 30% disagreed, suggesting a moderate agreement and an opportunity for improvement.

Correlation and multiple regression analyses indicated a positive and significant relationship between the curriculum and teaching and learning management for pupils with intellectual disabilities, rejecting the null hypothesis. Qualitative results echoed concerns about the Kenyan curriculum's lack of alignment with the needs of learners

with intellectual disabilities, with key informants suggesting a thorough review for inclusivity.

Responsive measures for addressing curriculum issues included a review of the education system, provision of adequate teaching and learning materials, emphasis on individualized education, collaboration with experts, differentiation strategies, and incorporation of universal design for learning. Parents expressed disappointment with the lack of inclusivity in the curriculum and highlighted disparities in facilities between urban and rural areas. Divergent opinions on various aspects of the curriculum underscore potential areas for improvement in meeting the needs and preferences of intellectually disabled learners. The findings emphasize the critical role of ongoing curriculum review and adaptation to ensure quality education for learners with intellectual disabilities.

5.2.6 Influence of school culture on teaching and learning management for pupils with intellectual disabilities

The fourth objective of the study was to determine the influence of school culture on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya. Teachers demonstrated a consensus on the perceived influence of various stakeholders, with parents, teachers, and non-disabled individuals identified as wielding significant influence. Parental involvement was particularly highlighted (Mean = 4.0), followed closely by teachers (Mean = 4.1) and non-disabled individuals (Mean = 4.0). The study emphasized the importance of considering and collaborating with these cultural groups in the education of intellectually disabled learners.

Regarding the alignment of the school's mission and vision with intellectual disability, a moderate level of agreement (40%) was observed, indicating room for improvement

(Mean = 3.1). Similarly, a relatively high level of agreement (43%) was noted regarding the support of intellectual disabilities by school values (Mean = 3.2). Additionally, strong agreement (55%) was observed concerning the perception that school rules and regulations support intellectually disabled learners (Mean = 3.4).

In contrast, perceptions on religious and belief systems and language policies addressing intellectual disabilities varied across teachers' responses. There were mixed views on religious and belief systems (28% agreement) and disagreement on language policies (73%). Diverse opinions were expressed on the seriousness of inclusivity issues, with a minority (21%) in agreement, 48% in disagreement, and 33% holding a moderately positive stance. However, there was a strong agreement (73%) that stigma and victimization of disabled learners are prohibited at the school (Mean = 3.8).

The correlation analysis indicated a negative and statistically significant relationship between cultural factors and teaching and learning management for pupils with intellectual disabilities ($r = -.539$, $p = .000 < .05$), leading to the rejection of the null hypothesis. This finding aligns with previous research emphasizing the impact of cultural factors on the learning experiences of intellectually disabled students.

The convergence of both quantitative and qualitative results underscored the multifaceted influence of parental involvement, teacher attitudes, inclusive practices, and the overall school culture on teaching and learning management for pupils with intellectual disabilities. To improve school culture the study underscored inclusive mission and vision statements, ongoing training, diversity awareness campaigns, policy evaluation, and community engagement. Fostering a school culture that values diversity and inclusion, engaging parents, and adjusting existing policies were also recommended. Other measures, such as curriculum modification and combating stigma,

were suggested to enhance the learning environment for intellectually disabled learners. Overall, these findings emphasize the critical role of school culture in shaping an inclusive school environment at special schools for learners with intellectual disabilities.

5.2.7 Influence of teachers' attitude in moderating the factors that influence teaching and learning management for pupils with intellectual disabilities

The fifth objective of the study was to assess the influence of teachers' attitude in moderating the factors that influence teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya. The findings reveal that a majority of teachers exhibit noticeable interest (36%) and motivation (36%) towards pupils with intellectual disabilities, indicating a moderate level of engagement. Additionally, teachers generally hold positive perceptions of assistive technology, with 50% expressing a favourable view, suggesting a willingness to incorporate innovative teaching methods into their practices.

Moreover, the study identifies that teachers actively demonstrate patience and empathy towards learners with intellectual disabilities, as indicated by 56% agreement with the relevant statements. This positive attitude contributes to a supportive learning environment for pupils facing intellectual challenges. Notably, teachers also make commendable efforts to combat misconceptions and stereotypes, with 40% actively engaging in this aspect. However, the presence of variability, highlighted by a standard deviation of 1.33, suggests a need for tailored professional development to strengthen strategies for combating stereotypes.

The results further illustrate positive interactions within the school community, with teachers fostering good interaction with pupils (55%), management (65%), and each

other (71%). However, interactions with parents, as indicated by a high moderate level of agreement (35%), may require improvement. The study suggests that targeted strategies are needed to enhance communication and collaboration with parents, thereby fostering a stronger support system for students with intellectual disabilities.

Additionally, qualitative insights obtained through focus group discussions with parents and interviews with education stakeholders highlight key themes affecting teaching and learning management. These include expectations and beliefs, classroom climate, teaching strategies, communication, and professional development. Positive attitudes and high expectations are identified as crucial elements that contribute to a supportive learning environment, while negative attitudes or low expectations may hinder students' progress.

The results emphasized the importance of continuous learning and professional development for teachers to effectively address the diverse needs of students with intellectual disabilities. Furthermore, improving teachers' attitudes through targeted training, collaboration with parents, and fostering positive communication is crucial for creating an inclusive and supportive educational environment for pupils with intellectual disabilities in special schools. The findings further indicated that the interaction term (factors*moderator) had a positive and significant effect on teaching and learning management for pupils with intellectual disabilities. This revealed that teachers' attitude has a significant and positive moderating role on factors affecting teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya. Based on the findings, null hypothesis that teachers' attitude has no significant moderating role on factors affecting teaching and learning

management for pupils with intellectual disabilities in special schools in Meru County, Kenya was rejected.

5.3 Conclusion

This section provides a conclusion based on the study findings. The conclusions are presented according to variables of the study, starting with conclusion on dependent variables, independent variables and then moderating variable.

5.3.1 Conclusion results on Teaching and learning management

The study concluded that school management have made efforts to improve special schools. The study reveals a strong consensus among teachers regarding the influence of various cultural factors, including parents, teachers, non-disabled individuals, and school policies, on the education of intellectually disabled learners. The findings underscore the need for inclusive school cultures that explicitly embrace the needs of pupils with intellectual disabilities, as evidenced by the positive impact of inclusive mission and vision statements, values and belief systems, and clear rules and regulations. Furthermore, the study emphasizes the interconnectedness of these cultural factors, highlighting their collective influence on teaching and learning management.

The qualitative data, derived from interviews with education professionals, and focused group discussions with parents, complements the quantitative findings by offering deeper insights into the ways in which specific aspects of school culture, such as values, beliefs, and inclusive practices, manifest in teaching and learning environments. Importantly, the convergence of both quantitative and qualitative results strengthens the overall conclusion, reinforcing the significance of factors like parental influence, teacher attitudes, inclusive practices, mission and vision alignment, values, rules and regulations, language, and the broader impact of school culture on teaching and learning

outcomes for intellectually disabled learners. Although some progress on teaching and learning management status was not worst, a few issues still needs to be improved to make the institutions effective. Some of the areas of concern included infrastructure, teaching and learning materials, teaching staff and education system.

5.3.2 Teachers' characteristics and teaching & learning management for pupils with intellectual disabilities

The study concluded that academic qualification of teachers is critical in enhancing teaching and learning management for pupils with intellectual disabilities. Experience is important in teachers' recruitment. Despite a need for professional development in material adaptation, the study emphasizes the importance of fostering a collaborative culture for sharing effective approaches in managing teaching and learning for pupils with intellectual disabilities in special schools.

The study further concluded that teachers' characteristics have a positive and significant influence on teaching and learning management for pupils with intellectual disability. The implication is that teachers' characteristics contribute significantly to improvement in teaching and learning management for pupils with intellectual disability. Therefore, the null hypothesis that teachers' characteristics have no significant influence on teaching and learning management for pupils with intellectual disabilities was rejected. Moreover, the thematic analysis from interviews with education directors, head teachers, and parents underscores the critical role of teacher competencies and skills. These include recognizing individual differences, implementing differentiated instruction, curriculum adaptation, effective communication, behaviour management, collaboration, assessment, and advocacy. The study concludes that ongoing

professional development opportunities for teachers are essential to enhance their capabilities in effectively managing pupils with intellectual disabilities.

The findings emphasized the significance of teachers' characteristics, attitudes, and competencies in shaping the educational experiences of pupils with intellectual disabilities in special schools in Meru County, Kenya. The positive teacher perceptions, coupled with a call for continuous support, collaborative practices, and ongoing professional development, provide valuable insights for improving special education practices in Meru County.

5.3.3 School environment and teaching & learning management for pupils with intellectual disabilities

The findings reveal common concerns among participants, especially in challenges such as long home-to-school distance, poorly maintained infrastructure for wheelchair users, and lack of individualized attention for learners with intellectual disabilities. Other challenges noted were congested classrooms, narrow pathways, inappropriate learning equipment, lack of a school nurse as a challenge, and lack of an adapted curriculum.

The result emphasize the necessity of addressing both physical and instructional challenges to create a supportive educational environment for learners with intellectual disabilities. The study concluded that it is important to have appropriate infrastructure and facilities to support the needs of pupils with intellectual disabilities. The study also concluded that school environment has a negative and significant influence on teaching and learning management for pupils with intellectual disability. These findings mean that school environment discourages teaching and learning management for pupils with intellectual disability. Therefore, the null hypothesis that school environment has no

significant influence on teaching and learning management for pupils with intellectual disabilities was rejected. This underscores the impact of environmental factors on the educational experiences of these learners. The findings provide a roadmap for policymakers and educators to prioritize interventions and foster positive changes that benefit all students, regardless of their abilities or circumstances.

Thematic analysis of interviews with education authorities and head teachers, as well as focus group discussions with parents, identified several mitigation strategies. These include teacher training, curriculum adaptation, inclusive socialization, access to assistive technologies, establishment of sensory-friendly spaces, regular monitoring and evaluation, and policy advocacy.

Parents expressed a preference for special schools due to the tailored support for their children's special needs. They spelt out their expectations for a school environment that include individualized education plans, qualified and trained staff, small class sizes, inclusive curriculum, adaptive teaching methods, behavioural support services, communication and collaboration; safe and inclusive environment; transition planning, and emphasis on social skills development. There was a convergence of findings between quantitative and qualitative data on various key issues, reinforcing the significance of challenges related to infrastructure, individualized attention, and curriculum adaptation.

5.3.4 Curriculum and teaching & learning management for pupils with intellectual disabilities

The study identified a significant perception gap concerning the alignment of the curriculum with the needs of intellectually disabled pupils, indicating a necessity for a deeper understanding of their challenges. While consensus exists on aspects like assessment clarity and individualized learning programs, divergent opinions emerge on

the pupil-oriented nature of the curriculum, specification of material resources, and its promotion of differentiated learning approaches and learner independence. The study highlights the importance of clearer communication to inform teachers about required resources for a more effective and standardized curriculum implementation.

The study emphasizes the need to align the education system with the specific requirements of intellectually disabled learners. It underscores the importance of maintaining assessment clarity while accommodating variations for a standardized and effective curriculum delivery. The positive and significant relationship found between the curriculum and teaching and learning management for pupils with intellectual disabilities rejects the null hypothesis, emphasizing potential areas for improvement. The study identified ongoing review and adaptation of the curriculum to cater the needs and preferences of intellectually disabled learners.

Although correlation analysis reveals a positive relationship between the curriculum and teaching and learning management for pupils with intellectual disabilities. There is however, concerns regarding the lack of consensus on differentiated learning approaches and growing independence among learners, prompting a call for a comprehensive review of the current curriculum. Discontent with the curriculum's inclusivity, particularly in the Kenyan context and differences between urban and rural facilities, is noted. The concludes that there is a need to align the curriculum with the needs of intellectually disabled learners, providing adequate resources, and incorporating individualized education plans for a more inclusive curriculum.

The study identified a flexible approach to curriculum design and implementation, advocating for the incorporation of Universal Design for Learning (UDL),

collaboration with experts, and regular reviews aligned with contemporary educational theories and practices focusing on inclusivity and responsiveness to diverse learner needs.

5.3.5 School culture and teaching & learning management for pupils with intellectual disabilities

The study concludes that there is a negative and significant influence of cultural factors on teaching and learning management for pupils with intellectual disabilities. This intricate relationship between cultural elements and educational outcomes suggests that cultural factors can act as discouraging factors in the teaching and learning process for intellectually disabled pupils. The rejection of the null hypothesis underscores the significance of cultural dimensions in shaping the educational experiences of these students in special schools in Meru County, Kenya.

There is a strong consensus regarding the influential roles of parents, teachers, and non-disabled individuals in the educational context. Parents and teachers were identified as particularly impactful, emphasizing the need for collaboration with these cultural groups to enhance teaching and learning management for pupils with intellectual disabilities. While there was agreement on certain aspects, such as the prohibition of stigma and victimization, the study revealed diverse opinions on elements like religious and belief systems and language policies.

The study underscores the importance of various cultural aspects, including parental influence, teacher attitudes, inclusive practices, and overall school culture, in the management of teaching and learning for learners with intellectual disabilities in special schools in Meru County. The results advocate for inclusive mission and vision statements, continuous professional development for teachers, and the cultivation of a

school culture that values diversity and inclusion. Additionally, the study emphasizes the need for policy evaluation, community engagement, and awareness campaigns to combat stigma. The results reinforce the pivotal role of school culture in shaping the educational experiences of intellectually disabled students.

5.3.6 Teachers' attitude in moderating the factors that influence teaching and learning management for pupils with intellectual disabilities

The study noted that while the majority of teachers demonstrate a moderate level of interest, motivation, and positive perceptions of assistive technology, there is room for improvement in addressing the variability observed in combating misconceptions and stereotypes. It underscores the importance of targeted professional development to strengthen teachers' strategies in this area, ensuring a more consistent and supportive learning environment for students facing intellectual challenges. The positive interactions within the school community, particularly with pupils, management, and fellow teachers, are evident. The findings emphasize the need for targeted strategies to improve communication and collaboration with parents, fostering a stronger support system for students with intellectual disabilities.

The study concluded that teachers' attitude has a significant and positive moderating role on factors affecting teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya. The implication is that introduction of teacher's attitude increases the influence of factors (teacher characteristics, school environment, curriculum, cultural factors) on teaching and learning management for pupils with intellectual disabilities. Based on the findings, null hypothesis that teachers' attitude has no significant moderating role on factors

affecting teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya was rejected.

5.4 Recommendations

This section presents recommendations on research results, implications on policy, practice, and theory.

5.4.1 Recommendations on study results

This section provides recommendation based in line with the main variables of the study.

5.4.1.1 Recommendations results on Teaching and learning management

The study's findings notes the need for Ministry of Education to address infrastructure deficiencies, and inadequate teaching and learning materials. This requires collaborative effort, involving stakeholder feedback and prioritized development initiatives. It should also prioritize the integration and promotion of assistive technology, requiring comprehensive teacher training, resource provision, and awareness campaigns to enhance learning outcomes.

Owing to the mixed perceptions on individualized learning, targeted interventions are recommended in each school for intellectually disabled learners to address inconsistencies and needed resources for effective implementation. TSC should create a shared understanding of effective teaching methods, particularly in differentiated pedagogies and multi-sensory approaches. Continuous monitoring and evaluation by the Ministry of Education are advised to maintain and improve the learning environment. This involves regular assessments and feedback mechanisms to ensure ongoing support for pupils with intellectual disabilities.

Transparent communication about standardized assessment tools is essential, aligning methods with diverse student needs and promoting differentiated approaches. Efforts are needed by the KICD and the Ministry of Education to address shortages of teaching and learning materials, directing resources towards ensuring adequacy for effective curriculum implementation. Lastly, recognizing high agreement on background issues affecting learners, the school should tailor support services to address unique needs, dispel myths, and foster collaboration with parents for a more inclusive and supportive learning environment.

5.4.1.2 Teachers' characteristics and teaching and learning management

The study findings established that teachers' characteristics have a positive and significant influence on teaching and learning management for pupils with intellectual disability. The study recommended the need for TSC to prioritize the recruitment and placement of teachers with strong academic backgrounds and relevant experience in special education. It should invest in specialized training programs for teachers in special schools. These programs should focus on equipping teachers with the necessary skills and knowledge to effectively implement universal design for learning practices. This investment can contribute to better outcomes for pupils with intellectual disabilities.

Given the positive perception of individualized education plans (IEPs) and the need for ongoing support in their professional development and implementation, the study recommends the need for TSC to consider qualification and experience when recruiting teachers for intellectually disabled special schools. It should ensure that special needs teachers have the right qualifications and experience. This is likely to enhance teaching and learning management for pupils with intellectual disability. The TSC should

enhance professional development opportunities for teachers. Focus should be placed on refining skills in tailoring education plans to address diverse needs of intellectual disabled learners. This can be achieved through targeted workshops, training sessions, and collaborative forums where teachers can share successful approaches and strategies.

The variability in opinions regarding the appropriateness of adapted materials underscores the importance of standardizing material adaptation strategies. To address this, there is a need for the Ministry of Education and TSC to focus on professional development and training sessions specifically designed to improve teachers' abilities to adapt materials effectively for pupils with intellectual disabilities. Moreover, despite the generally positive agreement that teachers are caring and respectful toward pupils with intellectual disabilities, the moderate level of consensus suggests a need for continuous efforts in fostering a supportive and inclusive classroom environment. Recommendations for school management include implementing programs and initiatives that promote positive teacher-student relationships, empathy, and understanding. Additionally, recognizing and reinforcing teachers who demonstrate a sense of ownership and responsibility in educating students with disabilities can contribute to building a positive classroom culture.

Acknowledging the diverse responses regarding collective brainstorming among teachers for effective learning solutions, it is recommended to encourage and facilitate collaborative practices. The special schools for learners with intellectual disabilities should establish platforms for regular brainstorming sessions of their teachers to enable them share best practices, and foster a culture of open communication. This is envisaged

to contribute to a more cohesive and effective teaching community in special schools of learners with intellectual disability.

5.4.1.3 School environment and teaching and learning management

The study findings established that school environment has a negative and significant influence on teaching and learning management for pupils with intellectual disability. The study recommended the need for special schools' management to invest in improving the school environment. The government of Kenya through the Ministry of Education should prioritize and invest in infrastructure improvements to address challenges such as narrow pathways, inaccessible classrooms, and unpaved walkways. This may involve conducting thorough accessibility audits and implementing necessary modifications to create a friendly and safe school environment for pupils with intellectual disability.

The school management should partner with parents in exploring solutions to mitigate the challenges associated with long home-to-school distances. This could involve optimizing school locations, improving public transportation options, or implementing reliable and accessible school bus services to ensure that learners have reliable and accessible transportation. In addition, collaborative efforts are called upon on all stakeholders including with the community, parents, local authorities, advocacy groups, educators and curriculum developers to create and implement adapted curricula that cater to diverse learning styles and abilities in favour of learners with intellectual disabilities. The development of specialized instructional materials and teaching strategies can better address the needs of all students, including those with intellectual disabilities.

The school management should establish and enhance support structures that promotes individualized attention to learners with intellectual disabilities. This may involve implementing special education programs, training teachers in specialized teaching practices, upgrade educational resources and creating a supportive learning environment that accommodates diverse learning needs for pupils with intellectual disabilities. The schools management should also implement a systematic process for evaluating the effectiveness of environmental accommodations and support mechanisms. Regular assessments should include feedback from teachers, parents, and students to identify areas for improvement and adjustment.

The other recommendations is about health matters. The school board of management should address the absence of a school nurse by either hiring a dedicated healthcare professional or collaborating with local healthcare services. Ensuring the availability of health support services within the school can contribute to the overall well-being of pupils, particularly those with chronic illnesses.

The head teachers should liaise with teachers and the Ministry of Education in developing and implementing effective classroom management strategies to alleviate concerns related to congested classrooms and in acquiring adaptable learning equipment to address concerns about inappropriate learning tools. This may involve optimizing class schedules, redistributing resources, redesigning of classroom, building additional facilities, adjusting class schedules to create a more conducive learning environment and or exploring innovative teaching methods to enhance the learning experience for all learners.

5.4.1.4 Curriculum and teaching and learning management

The study results established that curriculum has a positive and significant influence on teaching and learning management for pupils with intellectual disability. The study recommended the need for the government of Kenya through the ministry of education to review education policy relating to special needs learners. There is need to ensure that the education system meets the needs of learners with intellectual disability.

5.4.1.5 School cultural factors and teaching and learning management

The study findings revealed that school culture have a negative and significant influence on teaching and learning management for pupils with intellectual disability. Emphasis on school culture is therefore necessary. To enhance the teaching and learning environment for pupils with intellectual disabilities in special schools, the study recommends the special schools to revise and explicitly include the unique needs of these students in the school's mission and vision statements. This inclusive approach ensures a sense of belonging and purpose for both teachers and learners with intellectual disabilities. Additionally, continuous professional development programs should be implemented by TSC, offering regular training and professional development opportunities for teachers and non-teaching staff. This training should equip them with the necessary knowledge and skills to effectively address the diverse needs of pupils with intellectual disabilities, promoting a more inclusive educational atmosphere in the school.

Community engagement plays a pivotal role in fostering a supportive culture in the school. The Ministry of Education and head teachers should collaborate by organizing workshops and awareness campaigns to educate parents and the local community about intellectual disabilities, combat stigma and misconceptions, inclusive practices, and

effective ways to support their children's learning at home. Furthermore, the Ministry of Education should liaise with head teachers instituting a thorough evaluation and adjustment of existing school policies, with a focus on special education and inclusion to ensure these policies align with and support the individualized needs of pupils with intellectual disabilities. Further collaborations with KICD and needed in modifying curriculum and availing teaching materials to special schools. The head teachers should establish and enhance student support services, and create an accessible and adaptable learning environment in the school. The Ministry of Education and Teacher Service Commission should work together in monitoring and evaluating regularly to assess the effectiveness of inclusive practices and make necessary adjustments to continually improve the educational experience for learners with intellectual disabilities in special schools.

5.4.1.6 School teachers' attitude and teaching and learning management

The results show that there is a pressing need for targeted professional development programs focusing on strategies to combat misconceptions and stereotypes. Given the observed variability in teachers' efforts in this aspect, tailored training can provide educators with the tools and knowledge to consistently foster an inclusive and supportive atmosphere for students facing intellectual challenges. These programs should emphasize the importance of positive attitudes and expectations, encouraging teachers to actively counter stereotypes and contribute to a more positive and empowering learning environment.

The study also highlights the importance of improving interactions with parents, recognizing their valuable role in the education of students with intellectual disabilities. Recommendations are suggested on implementing strategies to enhance

communication and collaboration between teachers and parents. Inclusive education workshops, peer collaboration opportunities, and regular constructive feedback on teaching practices can facilitate better understanding and cooperation. Moreover, showcasing success stories and positive outcomes of effective teaching practices through role modelling can inspire and motivate educators, creating a ripple effect of positive change.

The study findings show that teachers' attitude has a significant and positive moderating role on factors affecting teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya. The study recommended the need for special schools' management to encourage teachers to have positive attitude towards learners with intellectual disability. This will enhance teaching and learning management for pupils with intellectual disability.

5.4.2 Implications of the Findings on Theories

The study findings has implications on contingency theory, which posits that effective organizational strategies are contingent on internal and external factors. The findings affirm this theory, indicating that optimal teaching and learning management for pupils with intellectual disabilities depends on various factors such as teacher characteristics, school environment, curriculum, and cultural elements. The study suggests that educational strategies should be adaptable based on the specific needs of students, aligning with contingency theory's emphasis on matching strategies to situational demands.

Furthermore, the contingency theory underscores the importance of aligning organizational structure with the external environment. In the context of the study, recommendations for revising mission and vision statements, continuous professional

development, and policy evaluation align with contingency theory's tenets. Adapting the school culture to accommodate pupils with intellectual disabilities reflects an acknowledgment of external demands and the need for organizational flexibility.

The study also connects well with Pavlov's classical conditioning theory. The findings indicate that learners with intellectual disabilities associate learning with the school environment, curriculum, and qualified teachers. Classical conditioning principles align with the study's emphasis on the positive correlation between curriculum changes and teaching and learning outcomes. From the findings reported in this study, improvements to classical conditioning theory could involve incorporating cognitive and emotional elements, recognizing the complexity of real-world educational settings.

Vygotsky's social interaction theory is also invoked by the findings of this study, suggesting a gap in perceptions regarding the curriculum's alignment with pupils' needs. The study recommends interventions promoting social interaction and cultural tools in learning. While the study aligns with Vygotsky's emphasis on individualized learning, it also indicates a need to examine the implementation of differentiated learning approaches.

Bronfenbrenner's Bioecological Theory also corroborate well with the current study findings, emphasizing the influence of various environmental factors on individuals. The study suggests interventions to improve communication and collaboration among teachers to create a supportive microsystem. Recommendations for community engagement and policy evaluation align with Bronfenbrenner's ecological systems theory, recognizing the importance of the microsystem, mesosystem, and chronosystem in development.

In nutshell, the study supports contingency theory by highlighting the need for adaptable educational strategies. It aligns with classical conditioning principles, emphasizes social interaction in line with Vygotsky's theory, and underscores environmental influences as per Bronfenbrenner's theory. Consequently, the notes a great need to embrace continuous evaluation, adaptation of the curriculum, and fostering inclusive and responsive educational practices in special schools for learners with intellectual disabilities.

5.4.2 Implications of the Findings on Policies

The study findings has implications for educational policies, addressing key aspects of special needs education. It emphasizes the necessity for a thorough review and strengthening of policies by the Ministry of Education on special schools' management. Specifically, the focus should be on teacher characteristics, the school environment, curriculum, and school cultural factors.

The study raised concerns regarding the pupil-oriented nature of the curriculum, indicating potential misalignment with the needs of pupils with intellectual disabilities. Policies should encourage regular reviews of curricula to ensure alignment and emphasize the importance of flexibility and adaptability in curriculum design. Standardized guidelines for assessment practices are recommended, with an emphasis on providing professional development opportunities for teachers to ensure fair and consistent assessment methods.

The study suggests an opportunity for improvement in the promotion of individualized learning programs, indicating a need for policies emphasizing the importance of individualized education plans and provisions for training and resources. Divergent views on standardized assessment mechanisms highlight concerns about consistency

and fairness, prompting need to develop policies to occasion regular reviews and inclusive stakeholder involvement in the process.

The perception gap on instructional delivery approaches calls for clearer guidelines in policies, emphasizing explicit instructions and professional development opportunities for teachers. Disagreements on specifying material resources signal a need for improved communication channels and resource allocation strategies; hence, a need for policies to ensure teachers have access to necessary materials.

Policies should be developed to advocate for the inclusion of differentiated learning approaches in curriculum design, providing support mechanisms, including training and resources, to address diverse learning styles. Dissenting views on the curriculum's emphasis on holistic development suggest further indicate a need for comprehensive policies, emphasizing the incorporation of social, emotional, and physical aspects, with clear guidelines and support for teachers.

The study also identified need for policies emphasizing the importance of fostering independence in learners, providing support mechanisms, curriculum adaptations, and teacher training. The positive relationship between the curriculum and teaching & learning management underscores the need for continuous review, prompting advocacy for ongoing curriculum adaptation based on feedback and collaboration with experts.

The results call for policy revisions aligning mission and vision statements with inclusive goals, creating a supportive educational environment. Moreover, there is a need for continuous professional development for teachers, urging policies to provide clear guidelines for ongoing training. This enhances educators' capacity to meet the diverse needs of pupils with intellectual disabilities effectively.

The school policies should actively encourage inclusivity initiatives, community engagement efforts, and continuous evaluation. The special schools management should therefore ensure clear directives to foster a positive culture that challenges stereotypes and adapts to the evolving understanding of pupils' needs. The study further advocates for policy adjustments to create a more inclusive, supportive, and adaptive educational system for pupils with intellectual disabilities.

Overall, the policy implications highlight the importance of clear guidelines, flexibility in curriculum design, ongoing professional development for teachers, and a commitment to inclusivity in policies related to the education of pupils with intellectual disabilities in special schools. The study provides a comprehensive framework for policy enhancement to better address the diverse needs and characteristics of learners with intellectual disabilities.

5.4.2 Implications of the Findings on Practices / Practical Implications

The findings of the study have several practical implications for improving teaching and learning management for pupils with intellectual disabilities. The study suggests a potential misalignment between the curriculum and the needs of pupils with intellectual disabilities. To address this, curriculum designers should regularly reassess and adapt the curriculum, incorporating more student-centered and inclusive approaches. According to the findings of this study, teachers require additional support, training, and resources to implement individualized learning programs effectively. Clear communication about necessary materials and targeted training on differentiated learning approaches can enhance teaching and learning management practices.

There is a need for clearer guidance on the assessment process to ensure consistency in evaluating curriculum delivery. Professional development programs for teachers on

assessment practices are crucial for consistent and fair evaluation methods. The study emphasizes the importance of strategies that encourage autonomy in fostering overall development and the need for continuous feedback from stakeholders for ongoing curriculum adjustments.

Practical steps are recommended, such as revising mission and vision statements to explicitly embrace the needs of pupils with intellectual disabilities. Ongoing professional development programs for teachers, fostering inclusive practices within the school culture, and regular evaluation and adaptation of school policies are essential. Moreover, collaborative efforts involving parents, teachers, and non-disabled individuals are crucial for creating a supportive and inclusive environment.

The study recommends a focus on the school environment, teacher characteristics, curriculum, and cultural factors. A collaborative approach is emphasized, recognizing the significant influence of parents, teachers, and non-disabled individuals in creating a supportive and inclusive environment. Inclusive mission and vision statements set the tone for a school culture prioritizing the diverse needs of intellectually disabled learners. Continuous professional development for teachers, fostering inclusive practices, policy evaluation and adaptation, community engagement, and monitoring and evaluation contribute to an effective teaching and learning environment for pupils with intellectual disabilities. The study therefore underscore the importance of a collaborative, inclusive, and adaptive approach to teaching and learning management for pupils with intellectual disabilities in special schools.

5.5 Suggestions for Further Studies

The current study identified teacher characteristics, school environment, curriculum, and cultural factors as contributors, explaining 53.4% of variations in teaching and learning management. Future research could explore additional factors not covered in the study and extend the scope beyond Meru County for comparative purposes.

The study also suggests exploring the integration of technology in special education settings, focusing on assistive technologies and adaptive software, and evaluating the impact of teacher training and professional development programs on curriculum strategies.

Regarding curriculum approaches, there is room for exploration into specific aspects of pupil-centered approaches. Research could focus on the effects of collaborative and student-driven learning methods on the educational outcomes of pupils with intellectual disabilities. Longitudinal studies may assess the enduring impact of individualized learning programs on academic and personal development over an extended period. The study suggests further exploration into the incorporation of social, emotional, and physical aspects in curriculum design.

Understanding the translation of teacher beliefs and training into classroom practices is crucial. Another study can therefore explore the interplay between cultural beliefs, practices, and educational experiences can offer targeted insights for effective interventions. Furthermore, effective strategies for enhancing parental involvement in the education of pupils with intellectual disabilities should be explored. Lastly, evaluating the effectiveness of student support services, including counseling and special education services, can provide insights into their impact on overall well-being and academic success.

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APPENDICES

Appendix I: Letter of Introduction

TO

Dear Sir/Madam

REF: PERMISSION TO CONDUCT RESEARCH

I am a Doctoral student at KeMU pursuing a high degree in leadership and educational management. All students are required to conduct research as part of their Doctorate requirements.

As a result, I respectfully request that you to participate in this study title: ***Critical Analysis of Factors Affecting Teaching and Learning Management for Pupils with Intellectual Disabilities in Special Schools, Meru-County, Kenya.*** Your participation will enable me to meet this requirement. The data generated will only be used for scholarly purposes.

Your participation will be much appreciated.

Yours faithfully,

Esther Kaario M'birithu.

Phone no. 0714594095

Appendix II Informed Consent

Esther Kaario M'birithu
Kenya Methodist University
P.O. Box 267 – 60200.

Dear respondent,

I am writing to request for consent to participate in my study which will help me to actualize my academic research that investigates on ***Critical Analysis of Factors Affecting Teaching and Learning Management for Pupils with Intellectual Disabilities in Special Schools, Meru-County, Kenya.*** This research hope to impact practices in the teaching and learning management for pupils with intellectual disabilities in special schools in Kenya.

Procedure to be followed

The specific questions in the questionnaire and interview is organized into sections ranging from section A to I. Section A covers background information while sections B, C, D, E, F and, G contain questions regarding the predictive variables (teachers' characteristics, school environment, curriculum, school culture, and teachers' attitude); while section H constitutes questions on the dependent variable (teaching and learning management for pupils with intellectual disabilities). Several questions in the questionnaire are closed-ended, and some open-ended ones for each construct. All sentiments in the questionnaire are in Likert scale. In total. It takes approximately 20 minutes to complete the questionnaire and respond to interview session. The interview may take about 30 minutes to complete. The respondent is under no obligation to complete the questionnaire or to answer all questions presented or participate in the interview. If one comes across a question which one don't wish to answer, simply skip it.

Your responses will go a long way to help in designing appropriate practices. I hope you will also be willing to participate in this study in your capacity.

Discomforts and risks

In this study, there is no risks of participating in the research. The reputation of the participant will also not be injured. The respondent is welcome to discontinue

participation in the study at any time, should one wish to do so due to discomfort. You may also stop the interview at any time.

Benefits

If you participate in this study you will help us to strengthen the teaching and learning management for pupils with intellectual disabilities in special schools, in Kenya. Your input is therefore critical in generating new knowledge and will go a long way in strengthening in special schools.

Rewards

There is no reward for anyone who chooses to participate in the study.

Confidentiality

Your participation and those of the pupils will remain strictly confidential. No name will be recorded on the questionnaire or attached to any of the data you provide. The data collection will be kept in a confidential location after collection and in future and, moreover, will not have anything to identify you.

Contact Information

Should you have questions regarding your participation, please contact me; Esther Kaario M'birithu; estherkirema@yahoo.com. You may also contact my research supervisor at severina.mwirichia@kemu.ac.ke

I am kindly asking you to sign the consent form (below) indicating agreement for you to participate in the study. By head teacher signing this consent form, is also an indicator that one has agreed the researcher to make observation for pupils.

Participant's Statement

The above statement regarding my participation in the study is clear to me. I have been given a chance to ask questions and my questions have been answered to my satisfaction. My participation in this study is entirely voluntary. I understand that my records will be kept private and that I can leave the study at any time. I understand that I will not be victimized at my place of work whether I decide to leave the study or not and my decision will not affect the way I am treated at my work place.

Name of Participant..... Signature.....Date.....

Investigator's Statement

I, the undersigned, have explained to the volunteer in a language s/he understands the procedures to be followed in the study and the risks and the benefits involved.

Name of Interviewer.....Date.....

Interviewer Signature.....

Researcher; Esther Kaario M'birithu

Phone no. 0714594095

Appendix III: Questionnaire for Teachers

Title of the study: Influence of teaching and learning management on education for pupils with intellectual disabilities in special schools, Meru County, Kenya.

Instructions

This questionnaire is intended for educational purposes only, and it will be kept private. Please do not provide your name in this survey.

Please tick to indicate your answer or write your response as guided in each question.

Section A. General Information

- 1) Your gender? Male ☐ Female ☐
- 2) What is your highest level of education? _____
Secondary ☐ Certificate ☐ Diploma ☐ Bachelor's degree ☐
Post graduate degree ☐
- 3) What is your teaching experience?
Less than 5 years ☐ 6- 10 years ☐ 11- 15years ☐ 16- 20 years ☐
Over 20 years ☐

Section B: Influence of teachers' characteristics on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya

- 4) Have you been trained in Special Needs Education?
 - Yes ☐
 - No ☐
 - Currently being trained ☐
- 5) If yes, in which area?
 - Learning Disabilities and Intellectual disabilities ☐
 - Emotional and Behaviour Disorder ☐
 - Physical Disabilities ☐
 - Communication Disorder ☐
 - Inclusive education ☐
- 6) How long was the training period?
Below 2 months ☐ 3 – 5 months ☐ 6 – 11 months ☐ Over 1 year ☐

- 7) What was the focus of the training?
- Types of disabilities []
 - Inclusion []
 - Teaching methodologies []
 - Any other, specify.....
- 8) What kind of teaching methodologies do you use?
- Task analysis []
- Cooperative learning []
 - Guided practice []
 - Special grouping []
 - Others, specify [].....
- 9) The table below contains statements on the aspects of teachers' qualification that can influence the teaching and learning management on education for pupils with intellectual disabilities in special schools, Meru County. Based on your experience as a teacher, indicate to what extent you agree with each statement provided in the table. Key: SA = Strongly Agree (5), A = Agree (4), MA = Moderately Agree (3), D = Disagree (2); and SD = Strongly Disagree (1)
- 10)

Teachers' aspects	Level of Influence				
	Strongly agree	Agree	Moderately agree	Disagree	Strongly disagree
• Individualized education plan help learners with ID					
• Materials used in teaching and learning process suit learners with Intellectual Disabilities					
• Teachers know how to use materials for teaching and learning learners with Intellectual Disabilities					
• Teachers are caring and respects the pupils with ID					
• Teachers have a sense of ownership and responsibility					
• Teachers collectively brainstorm on resolutions to provide effective learning					

Section C: Influence of school environment on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya

11) To what extent do the environmental factors influence the teaching and learning management on education for pupils with intellectual disabilities in special schools, Meru County?

Very Great Extent ()
 Great Extent ()
 Average ()
 Low Extent ()
 No Effect ()

12) The table below presents statements on environmental challenges that can influence the teaching and learning management on education for pupils with intellectual disabilities in special schools, Meru County. Based on your experience as a teacher, indicate to what extent the statement ‘influence of teaching and learning management on education of pupils with intellectual disabilities in Meru County, Kenya. Key: SA = Strongly Agree (5), A = Agree (4), MA = Moderately Agree (3), D = Disagree (2); and SD = Strongly Disagree (1)

Environmental challenges	Level of Influence				
	Strongly agree	Agree	Moderately agree	Disagree	Strongly disagree
Long home to school distance.					
Poorly maintained roads and terrain for wheelchair users.					
Congested classrooms.					
Narrow pathways for wheelchair users in the school.					
Lack of individualized attention of learners with ID.					
.Lack of adapted curriculum to cater for the needs of all learners.					
Lack of adapted toilet facilities.					
Inaccessible classrooms due to narrow doorways.					

Unpaved pathways around the school compound.					
Inappropriate learning equipment.					
. Lack of a school nurse to attend to learners with chronic illness.					

Section D: Influence of curriculum on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya

13) The table below presents statements on aspects of curriculum that can influence the teaching and learning management on education for pupils with intellectual disabilities in special schools, Meru County. Based on your experience as a teacher, indicate to what extent you agree with each statement provided in the table. Key: SA = Strongly Agree (5), A = Agree (4), MA = Moderately Agree (3), D = Disagree (2); and SD = Strongly Disagree (1)

Statements on curriculum (N=40)	Level of Influence				
	Strongly agree	Agree	Moderately agree	Disagree	Strongly disagree
• The curriculum we use is pupils oriented					
• Assessment of curriculum delivery is well spelt out					
• The curriculum promotes individualized learning programs					
• The curriculum has standardized assessment mechanisms					
• The curriculum specify the instructional delivery approaches					
• The curriculum specify material resources					
• The curriculum promotes differentiated learning approaches					
• The curriculum emphasizes on attention to					

intellectual, cognitive and behavioural development					
The curriculum promotes growing independence of a learner					

Section E: Influence of school culture on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya

14) To what extent does the people's cultural groups of people in their school's community towards influence the management of teaching and learning management of pupils with intellectual disabilities in special schools, Meru County? Key: SA = Strongly Agree (5), A = Agree (4), MA = Moderately Agree (3), D = Disagree (2); and SD = Strongly Disagree (1)

	Strongly agree	Agree	Moderately agree	Disagree	Strongly disagree
Parents					
Teachers					
Non-disabled					

15) The table below presents some of cultural, environmental and teacher qualification influences of teaching and learning management on education for pupils with intellectual disabilities in special schools, Meru County? Based on your experience, indicate to what extent they influence teaching and learning management on education for pupils with intellectual disabilities in special schools, Meru County. Key: SA = Strongly Agree (5), A = Agree (4), MA = Moderately Agree (3), D = Disagree (2); and SD = Strongly Disagree (1)

Aspects of school culture	Strongly agree	Agree	Moderately agree	Disagree	Strongly disagree
School mission and vision embraces intellectual disability					
School values support intellectual disability					
School rules and regulations supports the intellectually disabled learners					
Religious and belief systems are candid on intellectual disability					
Language policies takes care of intellectual disability					
Inclusivity issues are taken very serious at our school					

Stigma and victimization of disabled learners are prohibited at our school					
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Section F: Teaching and learning management for pupils with intellectual disabilities in special schools

16) The table below presents statements on aspects of teaching and learning management for pupils with intellectual disabilities in special schools, Meru County. Based on your experience as a teacher, indicate to what extent you agree with each statement provided in the table. Key: SA = Strongly Agree (5), A = Agree (4), MA = Moderately Agree (3), D = Disagree (2); and SD = Strongly Disagree (1)

Aspects of school culture	Strongly agree	Agree	Moderately agree	Disagree	Strongly disagree
Our school has the required infrastructure					
Our school has adopted assistive technology					
Our school has adopted individualized learning					
Teachers use differentiated pedagogies					
Teachers use multi-sensory teaching methods					
The learning environment is conducive for learners with intellectual disabilities					
Our school has adopted standardized assessment tools					
Teaching and learning materials are adequate					
Most learners with intellectual disabilities belongs to single parents					
Many people associate disabilities with curses and witchcraft					
Most parents prefer to educate non-disabled children					
Stigma force parent to hide children with intellectual disability					

Section F: Teachers' attitude, and teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya

17) The table below presents statements on aspects of teachers' attitude in moderating schools factors and the teaching and learning management for pupils with intellectual disabilities in special schools, Meru County. Based on your experience as a teacher, indicate to what extent you agree with each statement provided in the table. Key: SA = Strongly Agree (5), A = Agree (4), MA = Moderately Agree (3), D = Disagree (2); and SD = Strongly Disagree (1).

Aspects of teachers' attitude	Strongly agree	Agree	Moderately agree	Disagree	Strongly disagree
Teachers have noticeable interests for pupils with intellectual disabilities					
Teachers are motivated to handle pupils with intellectual disabilities					
Teachers perception on assistive technology is good					
Teachers demonstrate patience and empathy for ID learners					
Teachers provide emotional support to ID learners					
Teachers fight misconceptions and stereotypes of ID learners					
Teachers have good interaction with pupils					
Teachers have good interaction with parents					
Teachers have good interaction with management					
Teachers have good interaction with each other.					

Appendix IV: Focus Group Discussion for Parents

Title of the study: Influence of teaching and learning management of pupils with intellectual disabilities in special schools, Meru County, Kenya.

Section A: General Information

- 1) Discuss the contextual settings of special schools for learners with intellectual disabilities in Meru County, Kenya

Section B: Influence of teachers' characteristics on teaching and learning management for pupils with intellectual disabilities in special schools

- 2) What type of teacher would you prefer to teach your child and why?
 - a) Untrained teacher
 - b) Trained teacher
- 3) Discuss reasons for your answer.

Section C: Influence of school environment on teaching and learning management for pupils with intellectual disabilities in special schools

- 4) What type of school would you prefer to take your child?
 - a) Regular school
 - b) Special unit
 - c) Special school

Explain reasons for your answer.

- 5) Describe the kind of school environment parent expect for effective management of pupils with intellectual disabilities in special schools.

Section D: Influence of curriculum on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya

- 6) Discuss how learners with intellectual disabilities benefit from the Kenyan curriculum.
- 7) Discuss the availability of facilities to support curriculum delivery for learners with intellectual disabilities.

Section E: Influence of school culture on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya

- 8) Discuss appropriate measures that should be taken on school culture to improve the teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya.

Section F: Teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya

- 9) Discuss the kind of advice you would give to administrators regarding teaching and learning management for pupils with intellectual disabilities in special schools?

Section G: Teachers' attitude, and teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya

- 1) Discuss how teachers' attitude affect teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya.
- 10) Discuss how teachers' attitude can be improved to enhance teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya.

Appendix V: Interview Schedule for Sub-County Director of Education and TSC Sub-County Director

Section A: General Information

- 2) How do physical facilities affect teaching and learning management of pupils with intellectual disabilities?

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- 3) Explain how controlling and monitoring by government officers help to improve learning and teaching management in special schools for learners with intellectual disabilities.

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Section B: Influence of teachers' characteristics on teaching and learning management for pupils with intellectual disabilities in special schools

- 4) What qualifications do you consider when posting teachers to special schools in your Sub-County?

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- 5) Also comments on teacher's experience when doing posting in special schools?

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Section C: Influence of school environment on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya

- 6) State what should be done to mitigate school environment-related challenges facing the management of pupils with intellectual disabilities in special schools.

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Section D: The influence of curriculum on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya

- 7) The Kenyan curriculum is not fully inclusive to pupils with intellectual disabilities; what advice can you give to curriculum designers?
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- 8) What suggestions would you give to KICD regarding curriculum used to teach learners with intellectual disabilities in special schools?
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Section F: Influence of school culture on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya

- 9) Explain ways in which school culture influence teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya
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Section F: Teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya

- 10) What advice would you give to administrators and other stakeholders regarding teaching and learning management for pupils with intellectual disabilities in special schools?
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Section G: Teachers' attitude, and teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya

- 11) Explain how teachers' attitude affect teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya.
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12) Suggest how the teachers' attitude should be handled to enhance teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya.

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Appendix VI: Interview Schedule for Head teachers

Section A: General Information

- 1) What is your comment on adequacy of physical facilities used in teaching and learning management of pupils with intellectual disabilities?

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Section B: Influence of teachers' characteristics on teaching and learning management for pupils with intellectual disabilities in special schools

- 2) Explain how teachers' competencies and skills affect teaching and learning management for pupils with intellectual disabilities in special schools

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Section C: Influence of school environment on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya

- 3) State what can be done to mitigate school environment challenges facing the management of pupils with intellectual disabilities in your special school.

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Section D: The influence of curriculum on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya

- 4) What advice would you give to curriculum developer regarding curriculum used to teach learners with intellectual disabilities in special schools?

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Section E: Influence of school culture on teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya

- 5) Explain ways in which school culture influence teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya

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Section F: Teaching and learning management for pupils with intellectual disabilities in special schools, Meru County, Kenya

- 6) Explain the strategic issues inhibiting effective teaching and learning management for pupils with intellectual disabilities in special schools?

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Section G: Teachers' attitude, and teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya

- 7) Explain how teachers' attitude affect teaching and learning management for pupils with intellectual disabilities in special schools in Meru County, Kenya.

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- 8) Explain how you handle teachers' attitude to ensure effective teaching and learning management for pupils with intellectual disabilities in special schools.

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Appendix VII: Observation Schedule

The purpose of this instrument was to look into the management of teaching and learning in relation to pupils with intellectual disabilities in Meru County, Kenya's special schools.

Leading Questions for Observation

- 1) Students exhibited entry behaviour with ID during lesson proceedings.

Comments on observations

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- 2) Is the classroom set up in such a way that students' learning differences may be accommodated?

Comments.....

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- 3) Does the teacher give adequate attention to pupils with Intellectual Disabilities during teaching learning? Comments on observations made.

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4) How does the teacher organize the pupils during lesson proceeding? Comments on observations made

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5) Does the teacher use the recommended curriculum designs in teaching pupils with intellectual disabilities? Comments on observations made.

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6) What adaptations are made on materials used in teaching and learning process to suit learners with Intellectual Disabilities? Comments on observations made.

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7) Does the school have enough facilities and equipment to facilitate accommodation of learners with Intellectual Disabilities? Comments on observations made.

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8) Are the facilities/ equipment available appropriately adapted to meet the needs of learners with Intellectual Disabilities? Comments on observations made.

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9) How is the participation level of pupils with ID during lesson proceeding? Comments on observations made.

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10) Which of the following teaching resources and aids are available in class during teaching, and how are they used in assisting pupils with ID?

Teaching resources and aids	In class		How used	
	Yes	No	Effectively	Ineffective
Textbooks	{ }	{ }	{ }	{ }
Charts	{ }	{ }	{ }	{ }
Modules	{ }	{ }	{ }	{ }
Audio visual materials	{ }	{ }	{ }	{ }
Teacher made resources	{ }	{ }	{ }	{ }

11) State four ways in which the teacher used motivate pupils with ID to participate in learning activities. Comments on observations made.

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12) Any other classroom observation(s) made in relation to management of teaching and learning of pupils with intellectual disabilities. Comments on observations made.

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Appendix VIII: Consolidated observation findings from the special schools

• Constructs -related observation points	Specific Aspects	Observations / Comments
• Teachers' training, teaching dynamics and methods	• Training: Any specialized training or workshops attended relevant to teaching pupils with intellectual disabilities.	• Teachers were specialized training • There was no evidence of teachers having attended workshops regarding teaching pupils with intellectual disabilities.
	• Teaching dynamics and methods: Observation of varied teaching methods used to engage pupils with intellectual disabilities.	<u>Motivations</u> • Clapping hands • Appraising • Giving incentives • Shaking hands <u>Teaching dynamics</u> • Individualized in some situations, while in others, there was standardized approach • Teacher could not give adequate attention to every intellectually disabled learner due to large numbers of pupils in class in some schools e.g. Nkamathi special school, Kunene special school, and Meru School for mentally disabled.
	• Content delivery and learners' participation: Evaluation of the level of participation and engagement of pupils in	• Effective participation was hindered by large numbers of pupils in some schools e.g. Nkamathi special school, Kunene special school, and Meru School for mentally disabled.

	classroom activities.	
School Environment	Physical infrastructure: The accessibility, adequacy, and suitability of classrooms and facilities for pupils with intellectual disabilities.	- The facilities and equipment are not enough at Meru School for mentally disabled. - The compound was too small e.g. at Nkamathi special school. - Classrooms were small and had very few equipment at most special schools for intellectually disabled. - The compound was enough to accommodate the learners at Kunene special school. - The special schools had had very few facilities and equipment - Classroom ventilation e.g. ventilation, space, safety and cleanliness were below expectations e.g. at Kunene special school.
	Teaching and learning resources: Availability and appropriateness of teaching aids, materials, and assistive technologies.	- Textbooks, charts, modules and audio visual materials were inadequate, and the few were not effectively used - Teacher-made resources were noticed and were effectively utilized
	Class size: Number of pupils per class and the impact on individualized attention.	The classrooms were congested and the compound was small in many schools.
	Safety and well-being: Evaluation of the safety measures and overall well-being of pupils within	- Moderate - Classroom ventilation e.g. ventilation, space, safety and cleanliness- Kunene special school.

	the learning environment.	
	• Disabilities Friendly: Check friendliness of facilities to learners with intellectual disabilities	• Somehow • The environment is not very friendly
• Curriculum Implementation	• Alignment with individual needs: how well the curriculum caters to the individual learning needs of pupils with intellectual disabilities.	• There is no curriculum design which has been given noted in special schools • Used standardized curriculum
	• Adaptations: Identification of any modifications or adaptations made to the curriculum to accommodate diverse learning styles and needs.	• Teachers had arranged learners and attended to them pupil's individual needs, one at a time at Nkamathi special school. • The number of pupils was large such that the teacher could manage them adequately at Irindiro special school. • The teacher had arranged learners according to individual behavior at Meru School, although giving individualized attention was a challenge due to pupils' numbers. • The teacher has set learners according to individual interests at Kunene special school, although giving individualized attention was a challenge due to pupils' numbers.

		- Teachers had adapted teaching and learning materials at Meru School - Teachers were using own initiatives to do adaptation for example at Nkamathi special school.
	Teaching and Learning Methods.	Hybrid
School Cultural Factors	Sensitivity: Observation of cultural sensitivity and awareness in the interactions and teaching approaches used by educators.	Moderate
Teacher Attitudes	Interactions: Observation of teacher-pupil interactions, noting the level of encouragement, patience, and positive reinforcement.	Moderate. The teacher-pupil interactions was curtailed by large numbers in many instances
Parents Involvement	Support systems: Assessment of the involvement and support provided by parents in the learning process.	- Moderate. - Some parents were less bothered. - Structures for involving parents were lacking in special schools for learners with intellectual disabilities.

• Constructs-related observation points	Specific Aspects	Observations / Comments
• Teachers' training, teaching dynamics and methods	• Training: Any specialized training or workshops attended relevant to teaching pupils with intellectual disabilities.	• Teachers were specialized training • There was no evidence of teachers having attended workshops regarding teaching pupils with intellectual disabilities.
	• Teaching dynamics and methods: Observation of varied teaching methods used to engage pupils with intellectual disabilities.	<u>Motivations</u> • Clapping hands • Appraising • Giving incentives • Shaking hands <u>Teaching dynamics</u> • Individualized in some situations, while in others, there was standardized approach • Teacher could not give adequate attention to every intellectually disabled learner due to large numbers of pupils in class in some schools e.g. Nkamathi special school, Kunene special school, and Meru School for mentally disabled.
	• Content delivery and learners' participation: Evaluation of the level of participation and	• Effective participation was hindered by large numbers of pupils in some schools e.g. Nkamathi special

	engagement of pupils in classroom activities.	school, Kunene special school, and Meru School for mentally disabled.
School Environment	Physical infrastructure: The accessibility, adequacy, and suitability of classrooms and facilities for pupils with intellectual disabilities.	- The facilities and equipment are not enough at Meru School for mentally disabled. - The compound was too small e.g. at Nkamathi special school. - Classrooms were small and had very few equipment at most special schools for intellectually disabled. - The compound was enough to accommodate the learners at Kunene special school. - The special schools had had very few facilities and equipment - Classroom ventilation e.g. ventilation, space, safety and cleanliness were below expectations e.g. at Kunene special school.
	Teaching and learning resources: Availability and appropriateness of teaching aids, materials, and assistive technologies.	- Textbooks, charts, modules and audio visual materials were inadequate, and the few were not effectively used - Teacher-made resources were noticed and were effectively utilized

	• Class size: Number of pupils per class and the impact on individualized attention.	• The classrooms were congested and the compound was small in many schools.
	• Safety and well-being: Evaluation of the safety measures and overall well-being of pupils within the learning environment.	• Moderate • Classroom ventilation e.g. ventilation, space, safety and cleanliness- Kunene special school.
	• Disabilities Friendly: Check friendliness of facilities to learners with intellectual disabilities	• Somehow • The environment is not very friendly
• Curriculum Implementation	• Alignment with individual needs: how well the curriculum caters to the individual learning needs of pupils with intellectual disabilities.	• There is no curriculum design which has been given noted in special schools • Used standardized curriculum
	• Adaptations: Identification of any modifications or adaptations made to the curriculum to accommodate diverse learning styles and needs.	• Teachers had arranged learners and attended to them pupil's individual needs, one at a time at Nkamathi special school. • The number of pupils was large such that the teacher could manage them adequately at Irindiro special school. • The teacher had arranged learners according to individual behavior at Meru School, although giving individualized attention was a challenge due to pupils' numbers.

		• The teacher has set learners according to individual interests at Kunene special school, although giving individualized attention was a challenge due to pupils' numbers. • Teachers had adapted teaching and learning materials at Meru School • Teachers were using own initiatives to do adaptation for example at Nkamathi special school.
	• Teaching and Learning Methods.	Hybrid
• School Cultural Factors	• Sensitivity: Observation of cultural sensitivity and awareness in the interactions and teaching approaches used by educators.	Moderate
• Teacher Attitudes	• Interactions: Observation of teacher-pupil interactions, noting the level of encouragement, patience, and positive reinforcement.	• Moderate. The teacher-pupil interactions was curtailed by large numbers in many instances
• Parents Involvement	• Support systems: Assessment of the involvement and support provided by parents in the learning process.	• Moderate. • Some parents were less bothered. • Structures for involving parents were lacking in special schools for learners with intellectual disabilities.

Appendix IX: Letter of Research Authorization from KeMU



KENYA METHODIST UNIVERSITY

P. O. Box 267 Meru - 60200, Kenya
Tel: 254-064-30301/31229/30367/31171

Fax: 254-64-30162
Email: deanrd@kemu.ac.ke

DIRECTORATE OF POSTGRADUATE STUDIES

April 25, 2022

Commission Secretary,
National Commission for Science, Technology and Innovations,
P.O. Box 30623-00100,
NAIROBI.

Dear Sir/Madam,

RE: ESTHER KAARIO – (REG. NO. EDU-4-0166-1/2014)

This is to confirm that the above named is a bona fide student of Kenya Methodist University, in the School of Education and Social Sciences, Department of Education undertaking a Doctoral Degree in Education. She is conducting research on; **Influence of Teaching and Learning Management on Education for Pupils with Intellectual Disability in Special Schools, Meru County, Kenya**. We confirm that her research proposal has been presented and approved by the University.

In this regard, we are requesting your office to issue a research license to enable her collect data.

Any assistance accorded to her will be appreciated.

Thank you.

Dr. John Muchiri, Ph.D.

Director, Postgraduate Studies

Cc: Dean, School of Education

CoD, Education

Postgraduate Co-ordinator

Supervisors



Appendix X: NACOSTI Research Permit

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 750834	Date of Issue: 06/May/2022
RESEARCH LICENSE	
	
This is to Certify that Ms.. ESTHER M'BIRITHU KAARIO of Kenya Methodist University, has been licensed to conduct research in Meru on the topic: INFLUENCE OF TEACHING AND LEARNING MANAGEMENT ON EDUCATION FOR PUPILS WITH INTELLECTUAL DISABILITY IN SPECIAL SCHOOLS, MERU COUNTY, KENYA for the period ending : 06/May/2023.	
License No: NACOSTI/P/22/17290	
750834 Applicant Identification Number	 Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
	Verification QR Code 
NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.	

Appendix XII: Letter of Authorization from the Director County Commissioner

REPUBLIC OF KENYA



OFFICE OF THE PRESIDENT
MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Telegrams:
Telephone:
Email: ccmeru@yahoo.com
Fax:

COUNTY COMMISSIONER
MERU COUNTY
P.O. BOX 703-60200
MERU.

When replying please quote
Ref:ED.12/3 VOL IV(43)
and Date:

6th May, 2022

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION – ESTHER M'BIRITHU KAARIO.

This is to inform you that **Esther M'birithu Kaario** of Kenya Methodist University has reported to this office as directed by the National Commission for Science, Technology and Innovation and will be carrying out research on **"Influence of Teaching and Learning Management on Education for Pupils with Intellectual Disability in Special Schools"** in Meru County.

Since authority has been granted by the said Commission, and the above named person has reported to this office, she can embark on her research project for a period ending on **6th May, 2023**

Kindly accord her the necessary assistance she may require.



BETTY KINANDA
FOR: COUNTY COMMISSIONER
MERU COUNTY.