



**ADAPTING THE CURRICULUM IN CONTEXT:  
A QUALITATIVE STUDY OF CLASSROOM PRACTICES  
FOR LEARNERS WITH MODERATE INTELLECTUAL  
DISABILITIES IN LUANSHYA DISTRICT, ZAMBIA**

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**Abstract:**

Curriculum adaptation is crucial for guaranteeing equal educational access for learners with moderate intellectual disabilities (IDs). This study explored the nature of curriculum adaptation practices in Zambian primary schools in Luanshya District, Zambia, emphasising the types of adaptations utilised by teachers, the problems encountered, and the necessary interventions to enhance practice. Utilising Johnsen's Curriculum Relation Model (2012), the research employed a qualitative multiple case study methodology. Data were gathered through semi-structured interviews, focus group discussions, and classroom observations from four specialised units in primary schools within Luanshya District. The sample consisted of 12 teacher-participants and 3 officials from the Ministry of Education, chosen using purposive sampling. Findings indicated that teachers adjusted pedagogical strategies, streamlined learning content, altered assessment methods, tailored instructional resources, transformed the learning environment, and extended learning duration. Nevertheless, adjustments frequently exhibited inconsistency owing to insufficient teacher training, a dearth of modified resources, overcrowded classrooms, weak policy direction, and minimal engagement from stakeholders. The study reveals that although teachers strive to modify the curriculum, their endeavours are limited by systemic deficiencies. Recommendations entail adjusting teacher training curricula to prioritise adaptation skills, creating tailored learning materials, instituting ongoing professional development programmes, and enhancing methods for monitoring policy implementation.

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## 1. Background

Worldwide, the education of learners with disabilities has transitioned from segregation to inclusion. The United Nations Convention on the Rights of Persons with Disabilities (UNCRPD, 2006) mandates that state parties shall guarantee an inclusive educational framework at all levels. Thus, curriculum adaptation has become an essential technique for facilitating access to education for learners with disabilities, allowing them to engage alongside their non-disabled peers. The World Health Organization (WHO, 2011) estimates that around 15% of the global population has some sort of impairment, with intellectual disabilities impacting approximately 1-3% of this demographic. UNESCO (2017) asserts that inclusive education demands both physical and curricular access, needing alterations to pedagogical approaches, resources, and evaluation methodologies. Africa demonstrates its dedication to inclusive education through multiple policy frameworks. The Continental Education Strategy for Africa (CESA 16-25) emphasises that member nations must advocate for inclusive education that caters to the needs of marginalised groups, including individuals with disabilities. Mutezigaju (2015) notes that in Rwanda, teachers utilise assistive technologies and tangible resources to aid students with modest intellectual disabilities. Wanjiku (2014) asserts that Kenyan teachers employ task analysis, modified daily living activities, and tangible items to facilitate learning for students with multiple disabilities. Adewumi *et al.* (2017) emphasise that educators in the Fort Beaufort District of South Africa employ individual tasks, collaborative activities, and supplementary assignments to support students with specific educational requirements. African countries continue to encounter enduring obstacles, such as insufficient teacher preparation, scarce resources, and oversized class sizes, which impede successful curriculum adaptation.

The Zambian government has exhibited dedication to inclusive education through multiple policy documents. The 1996 education policy, *Educating Our Future*, asserts that the Ministry will address the educational requirements of exceptional children by developing suitable curriculum and instructional resources (MoE, 1996). The 2011 National Policy on Special Education further delineates the necessity for curriculum adjustments to support learners with impairments. The 2015 National Inclusive Education Policy requires all institutions to modify courses to accommodate varied learner needs. Kalabula (2007) asserts that learners with impairments in Zambia necessitate an additional curriculum tailored to develop independent living skills. Muzata and Mahlo (2019) contend that educators in Zambia employ tactics that include extending time, minimising material volume, and personalised instruction to modify the curriculum. Muzata (2017) asserts that the majority of educators struggle to differentiate between curriculum accommodation and curriculum modification. Notwithstanding these official declarations, it remains unclear how teachers are modifying the curriculum

specifically for students with moderate intellectual disabilities in Zambian primary schools, hence creating a gap that this study aimed to solve.

## 2. Statement of the Problem

Zambian education policy (MoE, 1996; 2011; 2015) stipulates that all learners, including individuals with moderate intellectual disabilities, must access the same curriculum with suitable adaptations to instructional techniques, content, assessment, resources, and learning environments. Teachers are expected to possess adaptive skills to address the varied needs of learners in inclusive classrooms.

Nonetheless, the reality diverges considerably. Kandimba, Mandiyata, and Simalalo (2023) note that Zambian Teachers possess a restricted comprehension of curriculum adaptation, frequently conflating it with accommodation. The Ministry of Education (2017) indicates that standardised assessments do not adequately reflect the learning achievements of learners with exceptional needs. Classroom observations conducted by Kandimba, Kalimaposo, Mandiyata, Bwalya, Kabwe, and Kalunga (2025a) indicate that Teachers have difficulties in utilising suitable pedagogical methods owing to insufficient pre-service and in-service training. Kandimba *et al.* (2025b) assert that access to inclusive education continues to be problematic, since teachers lack essential resources, modified materials, and administrative assistance. Kaluta and Kandimba (2026) assert that the translation of policy into classroom practice is deficient due to ongoing implementation gaps and inadequate monitoring procedures.

The consequences of these challenges are severe. Learners with moderate intellectual disabilities struggle to engage with curriculum content appropriate for their level, resulting in poor academic performance, elevated dropout rates, and restricted development of practical life skills. Teachers become frustrated, disheartened, and suffer from burnout when they are unable to adequately assist these students despite their sincere endeavours. The inclusive education policy is predominantly unexecuted at the classroom level, compromising Zambia's pledge to ensure no learner is marginalised. This study aimed to ascertain the nature of curriculum adaptation occurring in Zambian classrooms, identify the particular problems encountered by teachers, and provide evidence-based, contextually appropriate interventions to enhance practice.

This study was guided by the following three objectives:

- 1) To explore the nature of curriculum adaptation teachers make in classrooms for learners with moderate intellectual disabilities in primary schools in Zambia.
- 2) To identify the challenges teachers face when adapting the curriculum for learners with moderate intellectual disabilities in primary schools in Zambia.
- 3) To suggest interventions that can improve curriculum adaptation for learners with moderate intellectual disabilities in primary schools in Zambia.

### **3. Theoretical Framework**

This research was based on Johnsen's (2012) Curriculum Relation Model. The model posits that the curriculum for learners with disabilities must be modified in three areas: conceptual skills such as academic content, learning duration, and complexity of concepts, social skills such as interpersonal relationships, self-esteem, and adherence to rules, and practical skills such as daily living activities, vocational skills, and utilisation of money and telecommunication devices. Johnsen (2012) asserts that educators ought to employ diverse and adaptable instructional strategies, such as cooperative learning, discovery learning, scaffolding, task analysis, and shaping, to meet the requirements of students with disabilities. The concept asserts that particular attention must be afforded to the physical structure, social setting, and cultural framework while modifying the learning environment.

This model's relevance to the current study is threefold. Firstly, it offers a framework for comprehending the diverse forms of curricular adaptation necessary for learners with moderate intellectual disabilities, encompassing instructional strategies, content adjustments, and environmental adaptations. Secondly, the model's focus on care and adaptability through supplementary learning time and remedial assistance corresponds with the adaptation tactics evident in Zambian classrooms. Thirdly, the model's principles of assessment diversity advocate for adaptable assessment methods for learners with moderate intellectual disabilities. However, the methodology is limited since it fails to offer explicit instructions for customising curricula for learners with moderate intellectual disabilities and does not consider the contextual challenges encountered by educators in low-resource environments such as Zambia. Notwithstanding these constraints, the Curriculum Relation Model was suitable for this research as it provided an extensive framework for examining the characteristics of curriculum adaptation techniques in the participating schools.

### **4. Literature Review**

The literature review was structured around the study's three objectives. It began with a conceptual explanation of curriculum adaptation. The review then examined the nature of curriculum adaptation teachers undertake for learners with moderate intellectual disabilities in Zambian primary schools, drawing on global, African, and Zambian studies. Thereafter, it discussed the challenges teachers face. Finally, it explored evidence-based interventions. Throughout, the review identified gaps in existing literature, particularly the lack of studies specifically focused on learners with moderate IDs in Zambia, justifying the present study.

#### **4.1 The Concept of Curriculum Adaptation**

According to the present study, curriculum adaptation refers to the type of curriculum modifications or changes teachers make to enable learners with moderate IDs to benefit

from classroom interaction. Adapting the curriculum involves differentiating instruction to provide learners with a variety of ways to process information and demonstrate what they have learned in order to match the way in which each individual learns most effectively and efficiently.

#### **4.2 Nature of Curriculum Adaptation for Learners with Moderate IDs**

Kaur (2013) conducted a study on curriculum adaptation involving learners with disabilities in India and revealed that adapting a curriculum for teachers meant adjusting subject content, instructional strategies, and using different ways to present content and assess what has been learnt. Kaur believed that the process involved a change in the formats through which information was presented to learners during instruction. His study further reported that the process of adapting materials involved simplifying learning materials and presenting them in a variety of modalities using different senses to make learners gain access to curriculum content. However, it was not known if teachers involved in making these forms of curriculum adaptations were competent and possessed the skills to adapt the curriculum.

Al-Dababneh, Al-Zboon and Baibers (2022) state that teachers understood adapting instructional strategies as adjusting what was taught and modifying methodologies to allow whole-class learning. Manley (2018) saw adaptation as changes in existing instructional processes, for instance, adjustment to demonstration or role play, modifying lesson presentation cues such as gestural, visual, or verbal, to stimulate learning. Further, the results indicated that curriculum modification allowed pupils with IDs to experience functional academics in areas such as reading, writing, and basic mathematics. However, the study by Al-Dababneh *et al.* (2022) focused on the curriculum implemented for learners with specific learning disability, while the present study focused on adaptation of the curriculum for learners with moderate IDs.

Reynolds, Zupanick and Dombeck (2013) carried out a study on effective teaching approaches for learners with IDs in America and found that there were two general strategies used to help learners with IDs learn: chunking information, providing visual and kinetic learning experiences and pairing learners with well-minded peers. The study revealed that the physical learning environment should be altered to ensure a safe learning environment that was as least distracting as possible. Reynolds, Zupanick and Dombeck (2013) observed that modeling was another useful teaching strategy because learners with moderate IDs benefit from seeing the action or behavior before they are asked to complete an assignment. However, not until the present study was conducted that it was known whether teachers in Zambian special schools were using these teaching strategies.

In Africa, Wanjiku (2014) conducted a study on teaching approaches used by teachers educating learners with multiple disabilities in Kenya and discovered that teachers used teaching strategies such as task analysis, adjusted learning on daily living, and frequently used real objects to ensure learning. Wanjiku (2014) observed that teachers used task analysis to break down larger tasks into specific component parts to aid

learning. Through task analysis, learners were taught using a variety of instructional supports, from physical and verbal prompting to observational learning, to strengthen the learning process. Teachers used a one-step-at-a-time approach to help support memorization and sequencing, and taught learners in small groups or one-on-one, a situation which might not be the same in Zambian schools.

Mutezigaju (2015) conducted a study on the implementation of strategies for reducing dropout rates of learners with mild IDs in inclusive primary schools in Bugesera District, Rwanda, and revealed that one of the approaches for reducing dropout rates was the use of Assistive Technology (AT). Mutezigaju (2015) pointed out that the use of real materials or actual tools in natural environments was an essential component in effective instruction of learners with IDs. Assistive Technology motivated learners and facilitated generalization to multiple environments. The study by Mutezigaju (2015), however, focused on learners with mild IDs, while the current study focused on learners with moderate IDs.

In South Africa, Adewumi *et al.* (2017) conducted a study on the adaptation of the curriculum for inclusion of learners with special education needs in selected primary schools in Fort Beaufort District and established that teachers used different teaching approaches and dedicated their time to curriculum adaptation within a multi-grade teaching environment. Further, teachers applied individual work, group work, and extra work, and came down to the learners' level to accommodate LSENs in lessons. However, the gap in this study was that some teachers were not adapting the curriculum to meet the needs of all learners because of larger classes, and some teachers lacked training on issues of curriculum adaptation.

In Zambia, Muzata and Mahlo (2019) conducted a study to establish teachers' knowledge on curriculum accommodation and adaptation in the context of learners with special educational needs and the strategies they used to adapt the curriculum. The study revealed that teachers used strategies such as giving extra time, giving different assessment tasks, reducing the amount of material, and individualized teaching to adapt the curriculum. Additionally, Bwalya, Mwamba and Kandimba (2026) assert that the majority of teachers who were teaching learners with special educational needs could not distinguish clearly between curriculum accommodation and curriculum adaptation. The study by Muzata and Mahlo (2019), however, was not specific to a disability, needs within curriculum adaptation and accommodation may differ from one disability to another.

Kandimba *et al.* (2025a) explored pedagogical approaches used by teachers for learners with intellectual disabilities in selected schools of Luanshya District, Zambia. The study revealed that teachers predominantly used teacher-centered approaches such as demonstration and question-and-answer methods, with limited use of learner-centered strategies like cooperative learning and task analysis. Similarly, Ng'uni and Kandimba (2026) found that teachers lacked confidence in employing diverse pedagogical approaches due to inadequate pre-service and in-service training. The strength of this study was its focus on specific pedagogical strategies, but it did not

examine other forms of adaptation, such as content modification, assessment adjustment, or environmental changes, which the present study addressed.

Kandimba *et al.* (2025b) investigated increasing accessibility to inclusive education for learners with disabilities in primary schools in Ndola District, Zambia. The study asserted that physical accessibility had received more attention than curricular accessibility, with teachers struggling to make learning content accessible to learners with disabilities. The study highlighted that policy implementation gaps remained a major barrier to effective inclusive education. The strength of this study was its focus on accessibility, but it did not specifically examine curriculum adaptation practices for learners with moderate IDs, creating a gap for the present study.

Kaluta and Kandimba (2026), along with Bwalya *et al.* (2026), conducted an evaluation of sign language as a medium of instruction for learners with hearing impairments in selected primary schools of Lusaka, Zambia. While this study focused on a different disability category, its findings on teacher preparedness for specialized instruction are relevant. The study found that teachers lacked adequate training in specialized instructional strategies and that curriculum materials were not appropriately adapted for learners with disabilities. The strength of this study was its critical examination of implementation gaps, but its focus on hearing impairments rather than intellectual disabilities left a knowledge gap for the present study.

### **4.3 Challenges in Curriculum Adaptation for Learners with IDs**

Globally, researchers have identified numerous challenges affecting curriculum adaptation for learners with IDs. Forlin (2010) conducted a study on teacher education for inclusion in Australia and found that the lack of adequate pre-service training in inclusive education practices was a major barrier to effective curriculum adaptation. Forlin (2010) contends that many teacher training programmes devote insufficient time to practical aspects of curriculum modification, leaving graduates ill-equipped for classroom realities. The study further revealed that even experienced teachers struggled with adaptation when they had not received ongoing professional development. However, Forlin's study was conducted in a developed country context with different resource levels, making generalization to Zambia problematic.

Sharma, Forlin and Loreman (2008) conducted an international study on the impact of training on teachers' attitudes, concerns, and efficacy towards inclusion. The study found that teachers who had received training in inclusive education demonstrated more positive attitudes and higher self-efficacy in adapting curricula for learners with disabilities. Sharma *et al.* (2008) observed that without adequate training, teachers developed negative attitudes towards inclusion and viewed learners with disabilities as burdens rather than valuable members of the classroom community. The strength of this study was its large international sample, but its findings on training needs are highly relevant to the Zambian context, where teacher preparation for inclusive education remains limited.

In Africa, Nketsia and Saloviita (2013) conducted a study on pre-service teachers' preparedness for inclusive education in Ghana and found that most teachers felt unprepared to adapt curricula for learners with disabilities. Nketsia and Saloviita (2013) argue that teacher training institutions in Africa have been slow to integrate inclusive education content into their programmes. The study highlighted that without practical experience in adapting curricula during training, teachers resorted to trial-and-error approaches in classrooms, which often proved ineffective. The gap in this study was that it did not specifically examine challenges related to learners with moderate IDs.

Adewumi *et al.* (2017) further reported that in South Africa, large class sizes and lack of training were significant barriers to curriculum adaptation. The study observed that teachers in classes with more than 40 learners found it impossible to attend to the individual adaptation needs of learners with disabilities. Adewumi *et al.* (2017) contend that even when teachers wanted to adapt curricula, the sheer number of learners made individualized adaptation impractical. The study recommended reducing class sizes or providing teacher aides, but did not examine how these challenges manifested specifically for learners with moderate IDs.

Mukhopadhyay (2015) conducted a study on challenges in implementing inclusive education in Botswana and found that the lack of adapted instructional materials and assessment tools was a major barrier. Mukhopadhyay (2015) asserts that even when teachers had the will to adapt curricula, they lacked the basic resources needed to implement adaptations. The study revealed that teachers resorted to improvising materials, but improvisation took time that teachers did not have, given their heavy workloads. The strength of this study was its focus on resource constraints, but it did not specifically address the Zambian context.

In Zambia, Muzata (2017) conducted a study on challenges faced by teachers in implementing inclusive education and found that inadequate teaching and learning resources, large class sizes, and lack of teacher training were significant barriers. Muzata (2017) observed that teachers in Zambian schools often taught learners with moderate IDs alongside learners with other disabilities in the same classroom, making targeted curriculum adaptation extremely difficult. The study further revealed that the curriculum itself was not designed with flexibility for adaptation, leaving teachers to determine adaptation strategies on their own without policy guidance. However, Muzata's study was conducted at the national level and did not focus specifically on classroom-level challenges for learners with moderate IDs.

Kandimba *et al.* (2023) found that teachers in Zambia faced challenges, including confusion between accommodation and adaptation, lack of policy clarity, and insufficient support from school administrators. The study revealed that teachers often received contradictory guidance from different sources, leaving them uncertain about appropriate adaptation practices. Kandimba *et al.* (2023) further observed that without clear policy directives on curriculum adaptation, teachers defaulted to what they knew from their own training, which often lacked adequate coverage of adaptation strategies. However,

this study focused on teachers' understanding rather than the actual challenges encountered during implementation.

Kandimba *et al.* (2025a) identified that pedagogical challenges included inadequate pre-service training, limited in-service professional development, and a lack of mentoring support. The study found that teachers who had received some training in special education still struggled because the training was theoretical rather than practical. Kandimba *et al.* (2025a) contend that without hands-on experience in adapting curricula during training, teachers cannot transfer adaptation skills to classroom practice. The strength of this study was its focus on pedagogical challenges, but it did not comprehensively examine other challenge areas such as resource constraints, policy gaps, or environmental barriers.

#### **4.4 Interventions to Improve Curriculum Adaptation for Learners with IDs**

Various interventions have been proposed in the literature to improve curriculum adaptation for learners with IDs. UNESCO (2017) recommends that teacher training institutions should integrate inclusive education content into all teacher preparation programmes. UNESCO (2017) argues that every teacher, regardless of their specialization, should graduate with basic skills in curriculum adaptation. The organization further recommends that governments should develop national guidelines for curriculum adaptation that provide clear, practical steps for teachers to follow. However, UNESCO's recommendations are global in nature and may not address specific Zambian contextual challenges.

Florian and Black-Hawkins (2011) conducted a study on inclusive pedagogy in the United Kingdom and found that providing teachers with practical frameworks for adaptation significantly improved their confidence and effectiveness. Florian and Black-Hawkins (2011) assert that teachers need concrete examples of how to adapt curriculum, not just theoretical principles. The study developed a framework that guided teachers through the process of identifying learner needs, selecting appropriate adaptations, implementing them, and evaluating their effectiveness. The strength of this study was its practical orientation, but it was conducted in a well-resourced context, unlike Zambia.

In Africa, Pather and Nxumalo (2013) conducted a study on developing inclusive education policies and practices in Swaziland and found that establishing school-based support teams was an effective intervention for improving curriculum adaptation. Pather and Nxumalo (2013) observed that when schools formed teams of teachers who met regularly to discuss adaptation strategies, share resources, and problem-solve together, curriculum adaptation improved significantly. The study recommended that every school with learners with disabilities should have a functioning support team. However, the study did not specifically address how such teams would function in under-resourced Zambian schools.

Okyere, Aldersey and Lysaght (2019) conducted a study on experiences of children with intellectual disabilities in inclusive schools in Ghana and found that providing assistive technology and adapted materials was crucial for effective

curriculum adaptation. Okyere *et al.* (2019) argue that without appropriate materials, even the most skilled teachers cannot effectively adapt curricula. The study recommended that governments should invest in producing and distributing adapted learning materials. The strength of this study was its focus on material resources, but it did not address the capacity-building needed for teachers to use these materials effectively.

In Zambia, the Ministry of Education (2015), through the National Inclusive Education Policy, proposes several interventions, including: developing adapted curricula for learners with special needs, providing teaching and learning materials, training teachers in inclusive education, and establishing school-based continuing professional development programmes. However, Kandimba *et al.* (2025b) observed that policy implementation has been weak, with many proposed interventions not reaching the classroom level. The study found that while policies existed on paper, there were no monitoring mechanisms to ensure implementation. Kandimba *et al.* (2025b) argue that without accountability structures, policy remains aspirational rather than operational.

Kaluta and Kandimba (2026) recommend that teachers need continuous access to expert advice and practical resources through specialist centres. While originally intended for learners with moderate intellectual disabilities, this principle applies equally to assistive technology for learners with visual impairment. Such specialist centres would provide Braille machines, screen readers, magnifiers, talking calculators, maintenance services, and ongoing teacher training. The study further recommends government financing for assistive technology acquisition, teacher training initiatives, and maintenance frameworks. However, these recommendations were specifically formulated for learners with visual impairment, not for learners with moderate intellectual disabilities. This distinction is critical because assistive technology addresses different needs: for visual impairment, it converts visual information into auditory or tactile formats; for moderate intellectual disabilities, it focuses on cognitive support such as task organisation and visual scheduling. While the principles of specialist centres and government funding apply across disability categories, the specific technologies, training content, and support frameworks must be tailored to each population's unique needs.

## 5. Methodology

This study adopted a qualitative multiple case study design. The design was appropriate because it allowed for an in-depth exploration of curriculum adaptation practices as they occurred naturally in classroom settings. The study was conducted in four primary schools in Luanshya District, Zambia, selected because they had special units for learners with moderate IDs. The target population comprised teachers teaching learners with moderate IDs, special education coordinators, and Ministry of Education officials. A purposive sampling technique was used to select 12 teacher-participants (9 female, 3 male) and 3 Ministry of Education officials. Data were collected using three instruments: semi-structured interview guides for teachers and MoE officials, focus group discussion

guides (two FGDs with 6 teachers each), and classroom observation checklists. Data were analyzed using thematic analysis, where themes were derived from the research objectives. Ethical considerations included obtaining permission from the University of Zambia, the Ministry of Education, and informed consent from all participants. Confidentiality and anonymity were maintained throughout.

## 6. Presentation of Findings

The findings were presented according to the study's three objectives: first, the nature of curriculum adaptation across six domains (pedagogical approaches, content, assessment, materials, environment, and learning time); second, the challenges faced (inadequate training, lack of materials, overcrowding, time constraints, weak policy, limited parental involvement); and third, evidence-based interventions (revised teacher training, CPD, adapted materials, smaller classes, policy strengthening, multi-stakeholder collaboration).

### 6.1 Nature of Curriculum Adaptation for Learners with Moderate IDs

This section presents findings on the nature of curriculum adaptation made by teachers to support the learning of learners with moderate IDs in classrooms. The findings revealed six significant themes: adapting pedagogical approaches; adjusting learning content; adjusting assessment procedures; modifying instructional materials; modifying the learning environment; and increasing learning time and support.

#### 6.1.1 Adapting Pedagogical Approaches

Teacher-participants revealed that they adapted pedagogical approaches by adjusting teaching methods, teaching strategies, and teaching techniques. One female teacher-participant from School 2 (SCH 2 T5F) observed that:

*"Some of the curriculum adaptations I make in my class is making changes to instructional approaches based on capacity of learners. For example, I use a variety of adjusted teaching methods such as demonstration methods and question and answer to help the learners understand the concept"* (Interview, SCH 2 T5F).

A female teacher-participant from School 4 during a focus group discussion (FGD 1 F) reported that:

*"There is no single teaching technique which fits all the learners, so among the available teaching techniques I adapt in the classroom for learners with moderate IDs to make them learn, including repetitions, coaching, hands-on and instructional prompts. When I do these adaptations, learners are motivated to learn and perform much better"* (FGD, 22.09.22).

Classroom observations confirmed that teachers used demonstration methods, question and answer, task analysis, cooperative learning, individualized learning, and pair work. In School 2, teachers were observed using storytelling, role-play, repetition, coaching, hands-on experiences, and instructional prompts.

### **6.1.2 Adapting Learning Content**

Regarding content adaptation, teachers reported simplifying learning content, task analyzing learning items, setting tasks based on ability, simplifying instructional resources, and reducing the bulkiness of learning content. One female teacher-participant from School 2 (SCH 2 T7F) noted that:

*"As you know, there are no adapted books for learners with moderate IDs. Therefore, we simplify the content in the ordinary books to the level of the learners with moderate IDs. We make sure that this is done and benefits the learners"* (Interview, SCH 2 T7F).

Another female teacher-participant from School 1 (SCH 1 T1F) pointed out that:

*"One example of content adaptations I make when teaching learners with intellectual disabilities includes the use of task analysis in teaching certain topics or skills. I do this by breaking down the content into small, manageable tasks that are easily understood by learners with IDs without having difficulties"* (Interview, SCH 1 T1F).

A male teacher-participant from School 4 during focus group discussion (FGD 1 M) noted that:

*"Some of the content adaptations I make in the class when teaching are simplifying tasks on the topic and reducing content bulkiness when presenting a lesson"* (FGD, FGD 1 M).

### **6.1.3 Adapting Assessment Procedures**

Teachers revealed that they provided extra time during exercises, tests, and examinations; provided rest or break time amidst assessment time; used stopwatches; provided scribes and human readers; and allowed use of counters such as stones, sticks, and bottle top lids. One Ministry of Education Special Education Official (MoE 3) reported that:

*"During assessment of learners with moderate IDs in schools, teachers and ECZ Officials provide access arrangements such as extra time during examination and provide rest or break time amidst examination time. Usually, learners are given 25 per cent of the normal examination time. This allows for compensation of any lost time"* (Interview, MoE 3).

Another female teacher-participant from School 3 (SCH 3 T9F) mentioned that:

*"We allow human readers to read questions for learners with moderate IDs during the examination. We also allow learners to use counters such as stones, sticks, bottle top lids and tables during examination"* (Interview, SCH 3 T9F).

However, classroom observations revealed that teachers had challenges attending to the individual needs of learners due to work overloads.

#### **6.1.4 Adapting Instructional Materials**

Teachers reported using multiple sensory learning aids, real or concrete objects, adapting books, producing instructional resources from local materials, creating classroom talking walls, and adjusting learning resources. One female teacher-participant from School 2 (SCH 2 T6F) confirmed that:

*"One of the instructional adaptations we make in my school is modifying the teaching and learning materials for learners with moderate IDs. Before using them in the lessons, we modify the available teaching and learning materials as well as real objects for easy understanding of the content. In moments where there are inadequate instructional materials, we improvise and produce them using local materials"* (Interview, SCH 2 T6F).

Another Special Education Official (MoE 2) remarked:

*"As we go round to monitor our trainee teachers countrywide, we have observed and seen them using modified teaching and learning materials in the classrooms. For example, teachers create or make charts, which they display in the classrooms as talking walls"* (Interview, MoE 2).

Observation data revealed that all study schools had inadequate teaching and learning resources. There were no computers or technology, except in School 3, where one teacher used a radio as a teaching tool.

#### **6.1.5 Modifying the Learning Environment**

Teachers provided appropriate classroom sitting arrangements, provision of classroom talking walls, adequate lighting systems, and well-ventilated classrooms. One female teacher-participant from School 3 (SCH 3 T8F) observed that:

*"The classroom environment is adjusted frequently. For example, we make learners sit in a cluster sitting arrangement. We also make and stick many charts on the classroom walls that act as talking walls for learners with moderate IDs. This enables learners to learn on their own and at their own time"* (Interview, SCH 3T8F).

A female teacher-participant from School 4 during focus group discussion (FGD 1 F) stated that:

*"We also make the classroom for learners with moderate IDs more communicative to learning by providing talking walls most of the time. We also ensure that there is an adequate lighting system and ventilation in the classroom in order to promote learning" (FGD 1 F).*

However, observation revealed that in Schools 2 and 3, desks were arranged in rows facing the teacher, which was not suitable for learners with moderate IDs. Classrooms were overcrowded because all three levels of learners with moderate IDs learned in one classroom simultaneously.

### **6.1.6 Increasing Learning Time and Support**

Teachers reported pacing learning based on abilities, setting learner-friendly tasks, allocating more learning time, providing extra assessment time, and providing remedial work. One female teacher-participant from School 1 (SCH 1 T2F) highlighted that:

*"We increase the time for teaching and learning for learners with moderate IDs because they take longer to understand the concepts. We do this by pacing learning according to the learners' abilities and setting learner-friendly tasks" (Interview, SCH 1 T2F).*

One Ministry of Education Special Education Official (MoE 1) articulated that:

*"One way we have adapted the learning time for learners with moderate IDs is that we have allocated more time for teaching so that we may complete the work coverage in the syllabus. For example, one period is one hour instead of forty minutes" (Interview, 27.02.22).*

## **6.2 Challenges Teachers Face in Curriculum Adaptation**

This section presents findings on the challenges teachers face when adapting the curriculum for learners with moderate IDs. The analysis revealed six major themes: inadequate teacher preparation and training; lack of adapted teaching and learning materials; overcrowded classrooms and insufficient infrastructure; limited time for adaptation and instruction; insufficient policy guidance and support from stakeholders; and limited involvement of parents and community.

### **6.2.1 Inadequate Teacher Preparation and Training**

The majority of teacher-participants reported that their initial teacher training did not adequately prepare them for curriculum adaptation for learners with moderate IDs. One female teacher-participant from School 1 (SCH 1 T1F) stated that:

*"During my training at college, we only had one module on special education that covered many disabilities in a short time. We learned about intellectual disabilities theoretically, but never practiced how to adapt the curriculum. When I came to this school, I did not know where to start" (Interview, SCH 2 T1F).*

A male teacher-participant from School 4 during focus group discussion (FGD 2 M) added:

*"The training we received focused on learners without disabilities. We were not taught how to modify content, how to adapt teaching methods, or how to create suitable assessments for learners with IDs. Everything I am doing now, I learned on the job through trial and error" (FGD 2 M).*

### **6.2.2 Lack of Adapted Teaching and Learning Materials**

Teacher-participants consistently reported the absence of adapted textbooks, teaching aids, and assistive technology. One female teacher-participant from School 2 (SCH 2 T5F) lamented:

*"We use the same textbooks as mainstream schools. There are no adapted books for our learners. We have to take ordinary textbooks and simplify the content ourselves. This takes a lot of time, and sometimes we do not know if our simplifications are appropriate" (Interview, SCH 2 T5F).*

One Special Education Official (MoE 3) confirmed:

*"The demand for adapted materials far exceeds supply. We produce some materials at the Ministry, but they are not enough for all schools. Many schools receive nothing at all. This is a resource constraint issue that requires more funding" (Interview, MoE 3).*

### **6.2.3 Overcrowded Classrooms and Insufficient Infrastructure**

The study found that classrooms for learners with moderate IDs were often overcrowded, with multiple grade levels taught simultaneously. One female teacher-participant from School 3 (SCH 3 T9F) observed:

*"In my classroom, I have learners from three different grade levels all learning at the same time. There are 25 learners in a classroom designed for 15. I cannot give individual attention to each learner because there are too many. The sitting arrangement is also poor; learners sit in rows, not in clusters" (Interview, SCH 3 T9F).*

A male teacher-participant from School 4 during focus group discussion (FGD 1 M) added:

*"The classroom is too small for the number of learners we have. There is no space for group work, no corner for individual instruction, and no area for practical activities like cooking or cleaning. The environment is not conducive for learners with IDs"* (FGD 1 M).

#### **6.2.4 Limited Time for Adaptation and Instruction**

Teachers reported that they did not have sufficient time to prepare adapted lessons, materials, and assessments. One female teacher-participant from School 2 (SCH 2 T6F) lamented:

*"Preparing an adapted lesson takes three times longer than preparing a normal lesson. I have to simplify content, create my own materials, and design alternative assessments. But I have the same planning time as teachers in mainstream schools. It is not enough"* (Interview, SCH 2 T6F).

Another female teacher-participant from School 4 during focus group discussion (FGD 2 F) added:

*"We also have many administrative tasks like marking books, completing records, and attending meetings. All this reduces the time we have for curriculum adaptation. Something has to give, and often it is the quality of adaptations"* (FGD 2 F).

#### **6.2.5 Insufficient Policy Guidance and Support from Stakeholders**

Participants indicated that policy documents on curriculum adaptation were not accessible or practical for classroom use. A male teacher-participant from School 2 (SCH 2 T4M) added:

*"There is no support from school administrators. The head teacher does not understand what we do in the special unit. We are left alone to figure things out. Sometimes we feel forgotten"* (Interview, SCH 2 T4M).

One Ministry of Education Official (MoE 1) acknowledged this challenge:

*"Policy dissemination has been weak. Many schools do not have copies of key policy documents. Even when they have them, teachers find them too theoretical and not practical. We need to translate policy into practical guidelines that teachers can use"* (Interview, MoE 1).

#### **6.2.6 Limited Involvement of Parents and Community**

Teachers reported that parents of learners with moderate IDs were often not involved in curriculum adaptation processes. One female teacher-participant from School 3 (SCH 3 T8F) observed:

*"Parents do not come to school to discuss their children's learning. They leave everything to us. Some parents do not even know what their children are learning. We cannot adapt the curriculum effectively without knowing what happens at home"* (Interview, SCH 3 T8F).

Another female teacher-participant from School 4 during focus group discussion (FGD 2 F) added:

*"We have tried to invite parents to meetings, but many do not come. Some parents are ashamed of their children with IDs. Others say they are too busy working. Without parental involvement, we cannot reinforce learning at home"* (FGD 2 F).

### **6.3 Interventions to Improve Curriculum Adaptation**

This section presents findings on interventions that can improve curriculum adaptation for learners with moderate IDs. Teacher-participants and Ministry officials proposed six major interventions: revising teacher training curricula to emphasize practical adaptation skills; providing continuous professional development programmes; developing and distributing adapted teaching and learning materials; reducing class sizes and improving infrastructure; strengthening policy implementation and monitoring; and enhancing multi-stakeholder collaboration.

#### **6.3.1 Revising Teacher Training Curricula**

Participants strongly recommended that teacher training institutions should revise their curricula to include more practical content on curriculum adaptation. One female teacher-participant from School 1 (SCH 1 T1F) stated:

*"The training colleges should teach student teachers how to actually adapt the curriculum, not just tell them that it is important. They need practical sessions where they practice simplifying content, creating adapted materials, and designing alternative assessments"* (Interview, SCH 1 T1F).

A male teacher-participant from School 4 during focus group discussion (FGD 1 M) added:

*"Student teachers should spend more time in special units during their teaching practice. They need to see how curriculum adaptation is done in real classrooms. Theory alone is not enough"* (FGD 1 M).

One Ministry of Education Official (MoE 2) supported this view:

*"We are already in discussions with teacher training institutions to revise the curriculum. Special education content should be compulsory for all student teachers, not optional. We need every teacher to graduate with basic adaptation skills"* (Interview, MoE 2).

### **6.3.2 Providing Continuous Professional Development Programmes**

Teacher-participants called for regular in-service training on curriculum adaptation. One female teacher-participant from School 2 (SCH 2 T5F) observed:

*"Even those of us already teaching need continuous training. New knowledge and strategies are emerging all the time. The Ministry should organize workshops, seminars, and short courses on curriculum adaptation for serving teachers"* (Interview, SCH 2 T5F).

Another female teacher-participant from School 3 (SCH 3 T9F) added:

*"We need school-based continuing professional development where teachers in the same school learn from each other. Those who have more experience can mentor those who are struggling. This is cheaper and more sustainable than sending everyone for external training"* (Interview, SCH 3 T9F).

### **6.3.3 Developing and Distributing Adapted Teaching and Learning Materials**

Participants emphasized the need for government to produce and supply adapted materials. One female teacher-participant from School 4 during focus group discussion (FGD 2 F) stated:

*"The Ministry should produce adapted textbooks for learners with moderate IDs. These books should have simplified language, more pictures, and larger print. We cannot continue to use mainstream books and simplify them ourselves"* (FGD, 23.09.22).

A female teacher-participant from School 1 (SCH 1 T3F) added:

*"Schools need assistive technology like tablets with educational software, hearing devices, and communication boards. The government should allocate a budget for assistive technology in special units"* (Interview, 24.02.22).

One Ministry of Education Official (MoE 1) responded:

*"We are working with development partners to produce more adapted materials. But we also encourage schools to produce their own materials using local resources. We need a balance between centralized production and local improvisation"* (Interview, MoE 1).

### **6.3.4 Reducing Class Sizes and Improving Infrastructure**

Participants recommended that class sizes should be reduced to allow for individualized attention. A male teacher-participant from School 3 (SCH 3 T7M) added:

*"We need more classrooms so that learners at different levels can be separated. Having all three levels in one classroom is chaotic. Each level should have its own classroom and teacher" (Interview, SCH 3 T7F).*

Another female teacher-participant from School 4 during focus group discussion (FGD 1 F) stated:

*"The infrastructure should be modified to suit learners with IDs. This includes appropriate furniture, ramps, safe play areas, and practical rooms for activities of daily living. The current infrastructure is not designed for our learners" (FGD 1 F).*

### **6.3.5 Strengthening Policy Implementation and Monitoring**

Participants called for stronger implementation and monitoring of inclusive education policies. One Ministry of Education Official (MoE 3) stated:

*"We have good policies, but implementation is weak. We need clear action plans with timelines and responsible persons. We also need regular monitoring visits to ensure that schools are implementing curriculum adaptation as required" (Interview, MoE 3).*

A female teacher-participant from School 1 (SCH 1 T2F) added:

*"The Ministry should provide schools with practical guidelines on curriculum adaptation. These guidelines should include examples, templates, and checklists that teachers can use daily. Theory is not enough; we need practical tools" (Interview, SCH 1 T2F).*

Another female teacher-participant from School 3 (SCH 3 T8F) observed:

*"There should be accountability for curriculum adaptation. School heads should include adaptation in their performance monitoring. Teachers should be recognized and rewarded when they adapt well" (Interview, SCH 3 T8F).*

### **6.3.6 Enhancing Multi-Stakeholder Collaboration**

Participants recommended that schools should work more closely with parents, communities, and other stakeholders. One male teacher-participant from School 4 during focus group discussion (FGD 2 M) stated:

*"Schools should establish parent-teacher associations specifically for the special unit. Parents need to understand what their children are learning and how they can help at home. When parents are involved, learning improves"* (FGD 2 M).

A female teacher-participant from School 2 (SCH 2 T7F) added:

*"Community members can contribute resources and expertise. For example, carpenters can help make adapted furniture, and artists can help create visual materials. We should not rely only on the government"* (Interview, SCH 2 T7F).

One Ministry of Education Official (MoE 1) supported this:

*"Inclusive education is everyone's responsibility. NGOs, faith-based organizations, the private sector, and communities all have a role to play. The Ministry cannot do it alone. We need partnerships"* (Interview, MoE 1).

## **7. Discussion of Findings**

The findings were discussed according to the study's three objectives: the nature of curriculum adaptation across six domains, the challenges faced and evidence-based interventions.

### **7.1. Nature of Curriculum Adaptation for Learners with Moderate IDs**

This study's first objective aimed to explore the curriculum adaptations made by teachers for learners with moderate intellectual disabilities. The findings revealed that teachers are working diligently, frequently in the face of significant challenges, to render the curriculum accessible to their learners. The research indicated that curriculum adaptation in Zambian primary schools comprises six interrelated dimensions, together embodying a holistic approach to differentiation. Initially, teachers modified instructional strategies by altering teaching methods, including demonstration, questioning, and exposition. They also altered pedagogical methodologies, incorporating discussion, cooperative learning, task analysis, individualised instruction, one-on-one learning, pair work, storytelling, role-play, and picture study. Additionally, they adapted teaching techniques such as repetitions, coaching, hands-on activities, and instructional prompts. Secondly, teachers modified learning content by simplifying information, conducting task analysis, assigning ability-appropriate tasks, and reducing content density. This indicates that teachers inherently recognise that learners with moderate intellectual disabilities cannot process extensive material simultaneously and require knowledge to be broken into manageable segments.

Thirdly, the study revealed that assessment modifications were prevalent, with teachers offering additional time, rest breaks, human readers, scribes, and counters to assist learners during evaluations. This signifies an acknowledgement that conventional

assessment methods disadvantage learners with intellectual disabilities and that flexibility is necessary to appropriately evaluate their knowledge and capabilities. Fourthly, instructional material adaptations included the use of multiple sensory aids, concrete objects, improvised local resources, and the creation of talking walls. Teachers exhibited creativity in using available resources to make learning tangible and engaging. Fifthly, environmental modifications encompassed cluster seating, talking walls, adequate lighting, and ventilation. Teachers recognised that the physical environment profoundly influences learning and made corresponding modifications. Sixthly, teachers increased learning time and support by pacing learning according to abilities, dedicating additional time for instruction, and offering remedial work. This indicates an understanding that learners with moderate intellectual disabilities need more time to comprehend material and acquire skills compared to their peers without disabilities.

Nonetheless, despite these sincere efforts, the study found that teachers possessed limited knowledge and skills in curriculum adaptation. They were essentially striving under difficult conditions, confronting obstacles such as inadequate pre-service training, lack of adapted materials, overcrowded classrooms, limited time, weak policy guidance, and minimal parental engagement. This creates a concerning paradox: teachers are adapting, yet they are doing so without the requisite expertise or support for effective implementation.

These findings align with Johnsen's (2012) Curriculum Relation Model, which posits that curricula for learners with disabilities must be modified across three domains: conceptual skills (academic content and learning time), social skills (interpersonal relationships and self-esteem), and practical skills (daily living activities). The six domains identified in this study correspond precisely to these three areas. Pedagogical modifications and increased learning time enhance conceptual skills through content delivery that learners can comprehend. Environmental modifications and cooperative strategies enhance social skills through supportive interactions. Material modifications and assessment flexibility enhance practical skills by making learning tangible and observable.

The pedagogical approaches used by teachers align with Wanjiku (2014), who found that Kenyan teachers used task analysis, modified daily living activities, and concrete objects to facilitate learning. They also align with Manley (2018), who viewed adaptation as modifications in instructional processes, including demonstration and role-play. The content adjustments correspond with Muzata and Mahlo (2019) in Zambia, who found that teachers used task reduction, task omission, and individualised instruction. The assessment results align with Dettmer *et al.* (2009), the South African Department of Education (2002), and Zambia's National Learning Assessment Framework (MoE, 2017), all of which endorse flexible assessment practices such as additional time, readers, and scribes. The instructional material findings corroborate Muzata (2017) regarding the use of concrete objects and improvisation, as well as Akaase (2020) concerning teachers' limited understanding of adaptation. The environmental modifications align with Janney and Snell (2013), who regarded supportive learning environments as facilitators of

unrestricted curriculum access. The time adjustments align with Adewumi *et al.* (2017) on multi-grade teaching and Johnsen's (2012) principle of care through extended time.

However, one finding contradicts international literature. This study found that Zambian teachers possessed insufficient skills in curriculum modification owing to inadequate training. This contradicts Bohning (2009), who asserted that teachers in the USA possessed adequate skills to modify instructional approaches. This contradiction highlights the disparity between developed and developing countries that cannot be ignored. In high-resource contexts such as the United States, teacher preparation programmes typically encompass extensive coursework and practical experience in differentiation and adaptation. In Zambia, most teacher training institutions provide only one module on special education, covering various disabilities superficially. Consequently, Zambian teachers enter the profession expected to modify curricula, yet lack the requisite skills. The Curriculum Relation Model, although theoretically sound, presupposes a level of teacher competence that is absent in the Zambian context, revealing a critical limitation.

The implications for policy and practice are significant. At the policy level, the Ministry of Education must revise teacher training curricula through the Higher Education Authority, requiring all teacher training institutions to provide compulsory practical modules on curriculum adaptation for learners with moderate IDs. These modules must move from theory to hands-on practice where student teachers simplify content, develop adapted materials, devise alternative assessments, and implement differentiated instruction under expert supervision. Teaching practice must include mandatory hours in special units. The Zambia Institute of Special Education should be strengthened to deliver specialised training and resources. The Curriculum Development Centre should create standardised yet flexible guidelines for content adaptation, and the Examinations Council of Zambia must formulate clear assessment guidelines specifying allowed access arrangements. At the practice level, schools should provide teachers with additional planning time or reduced teaching loads, formally designate extended learning periods on timetables, institutionalise remedial programmes, establish suitable classroom layouts with cluster seating, and enforce maximum class sizes of 10-12 learners in special units.

## **7.2 Challenges Teachers Face in Curriculum Adaptation**

The study identified six primary challenges that collectively illustrate a system under significant strain. Firstly, teachers reported inadequate pre-service preparation and training, observing that their initial teacher education offered only superficial coverage of special education topics with minimal practical application. Secondly, there was a widespread lack of adapted teaching and learning materials, compelling teachers to rely on mainstream textbooks and improvise resources with limited assistance. Thirdly, overcrowded classrooms and inadequate infrastructure created conditions that rendered individualised adaptation practically unfeasible, with multiple grade levels frequently taught simultaneously in the same space. Fourthly, teachers faced considerable time

constraints, as preparing adapted lessons required substantially more time than conventional lesson planning, yet they received the same allocation of planning time as their mainstream counterparts. Fifthly, there was insufficient policy direction and support, as many teachers had never encountered the Inclusive Education Policy or found existing policies too theoretical for daily practice. Sixthly, limited engagement of parents and community meant school efforts were not reinforced at home, with some parents absent due to stigma, shame, or work commitments. These challenges are not isolated incidents but systemic failures that interact with and amplify one another. Inadequate training complicates material adaptation, consuming more time that is already limited, while policy guidance remains absent.

These findings align with existing literature. The finding about inadequate teacher preparation aligns with Forlin (2010), who contended that poor training is a significant obstacle to effective curriculum adaptation globally, and with Kandimba *et al.* (2023), who specifically documented this issue in Zambia. The lack of adapted materials aligns with Mukhopadhyay (2015) in Botswana and Muzata (2017) in Zambia, and supports Okyere *et al.* (2019), who argued that without adequate resources, even skilled teachers cannot effectively modify curricula. The overcrowding finding aligns with Adewumi *et al.* (2017) in South Africa, while the time constraint finding aligns with both Adewumi *et al.* (2017) and Kandimba *et al.* (2025a). The policy guidance gap supports Kandimba *et al.* (2025b) and Kaluta and Kandimba (2026), revealing a consistent pattern where policy dissemination is weak, and implementation gaps persist.

Regarding Johnsen's (2012) Curriculum Relation Model, these challenges undermine each of the three domains simultaneously. Inadequate teacher training means teachers lack the conceptual knowledge to modify content appropriately. Overcrowded classrooms and limited time make it impossible to provide the individualised attention needed for social skill development. Lack of adapted materials and parental involvement hinders the development of practical skills that require reinforcement at home and in the community. The model's emphasis on "care and flexibility" through additional time and support is rendered hollow when teachers have no policy guidance, no training, no materials, and no time. The model, while theoretically sound, assumes a baseline of resources, training, and systemic support that does not exist in the Zambian context.

The implications for policy and practice are urgent. At the policy level, the Ministry of Education must conduct a thorough evaluation of pre-service teacher curricula, making special education content compulsory for all student teachers with specific modules on curriculum adaptation for different disability categories. Teaching practice must include mandatory placements in special units under expert guidance. The Curriculum Development Centre must prioritise the creation and production of adapted textbooks, workbooks, and teaching aids with designated budget allocations. The Ministry must establish and enforce maximum class sizes of 10-12 learners for special units and develop infrastructure standards. At the practice level, schools must provide teachers with additional planning time or reduced teaching loads, allocate longer lesson periods on timetables, establish systematic parental involvement programmes including

regular meetings and home visits, and conduct awareness campaigns to reduce stigma. The Ministry must develop practical implementation guidelines with step-by-step procedures, examples, templates, and checklists, disseminated actively through workshops and school visits. School heads must be trained on their role in supporting adaptation, and teacher performance assessments must include adaptation as a key indicator.

### **7.3 Interventions to Improve Curriculum Adaptation**

This study identified six key interventions that, if systematically implemented, could transform curriculum adaptation for learners with moderate IDs in Zambia. Firstly, revising teacher training curricula emerged as a fundamental intervention, with participants contending that pre-service programmes must move beyond theoretical instruction to incorporate practical, hands-on experiences in simplification, material adaptation, and alternative assessment design. Secondly, providing continuous professional development programmes was deemed crucial for serving teachers, with participants emphasising that CPD should be school-based and teacher-led rather than dependent exclusively on external workshops. Thirdly, developing and distributing adapted teaching and learning materials was considered essential, with consensus that teachers cannot modify curricula effectively without basic adapted textbooks and teaching aids. Fourthly, reducing class sizes and improving infrastructure were proposed as necessary preconditions for individualised attention, with participants advocating for maximum class sizes of 10-12 learners and separate classrooms for different grade levels.

Fifthly, strengthening policy implementation and monitoring was seen as crucial for accountability, as existing policies remain largely unexecuted due to no consequences for non-compliance. Sixthly, enhancing multi-stakeholder collaboration was recognised as a cross-cutting intervention, acknowledging the essential roles of parents, communities, NGOs, and private sector partners. These interventions are interdependent; failure in one area undermines progress in others. For instance, even with revised teacher training, without adapted materials and smaller class sizes, newly trained teachers will still struggle to implement what they have learned.

These findings align with existing literature. The recommendation to revise teacher training curricula aligns with UNESCO (2017), which called for integrating inclusive education into all teacher preparation programmes, and with Florian and Black-Hawkins (2011), who argued that teachers need practical frameworks for adaptation rather than merely theoretical principles. The current study adds that training should be disability-specific, with separate modules for learners with moderate IDs. The CPD recommendation aligns with Pather and Nxumalo (2013), who found school-based support teams effective in Swaziland, and with Kandimba *et al.* (2025a), who called for regular in-service training for Zambian teachers. The adapted materials recommendation aligns with Okyere *et al.* (2019) in Ghana and Muzata (2017) in Zambia. The class size and infrastructure recommendation align with Adewumi *et al.* (2017) and Kandimba *et al.*

(2025b), while policy implementation aligns with Kaluta and Kandimba (2026) and Kandimba *et al.* (2025b).

Regarding Johnsen's (2012) Curriculum Relation Model, these six interventions address the preconditions necessary for the model to function as intended. The model is largely silent on the systemic conditions that enable teachers to address conceptual, social, and practical skill domains. The interventions identified in this study fill that gap. Revised teacher training ensures teachers possess conceptual knowledge. CPD ensures this knowledge is updated over time. Adapted materials provide concrete tools for implementation. Smaller class sizes create conditions for individualised attention to social skills. Strengthened policy implementation creates accountability that motivates action. Multi-stakeholder collaboration ensures practical skills taught at school are reinforced at home and in the community. The model should be extended to include these "enabling conditions", the systemic factors that must be in place before teachers can effectively address the three domains.

The implications for policy and practice demand action at multiple levels simultaneously. At the policy level, the Ministry of Education, through the Higher Education Authority, should mandate that all teacher training institutions include compulsory, practical courses on curriculum adaptation. Teaching practice must include mandatory hours in special units under expert supervision. The Ministry should develop a national CPD framework for inclusive education with specific modules on curriculum adaptation. The Curriculum Development Centre should establish a dedicated unit for developing adapted materials with annual budget allocations. Maximum class sizes of 10-12 learners must be established and enforced, with infrastructure standards including specifications for classroom size, furniture, lighting, ventilation, and practical areas. At the practice level, schools should allocate time in weekly timetables for teacher collaboration on curriculum adaptation, creating professional learning communities. Experienced teachers should mentor less experienced colleagues in a structured, ongoing manner. Schools should establish parent-teacher associations for special units with regular meetings, conduct community mobilisation campaigns to reduce stigma, and develop memoranda of understanding with NGOs and private sector partners. The Ministry must develop practical implementation guidelines with step-by-step procedures, examples, templates, and checklists, disseminated actively through workshops, school visits, and digital platforms. Regular monitoring visits must be conducted using specific checklists for curriculum adaptation, with school heads held accountable and teacher performance assessments, including adaptation as a key indicator. Without these systemic changes across policy and practice, the six interventions will remain recommendations on paper rather than realities in classrooms. What is needed now is a coordinated, adequately resourced, and sustained national effort to transform curriculum adaptation for learners with moderate IDs in Zambia.

## 8. Conclusion and Recommendations

This study concludes that teachers in Zambian primary schools make genuine efforts to adapt the curriculum for learners with moderate intellectual disabilities across six domains, such as pedagogical approaches, learning content, assessment procedures, instructional materials, learning environment, and learning time. However, these efforts remain fundamentally compromised by systemic inadequacies. Regarding the first objective, while teachers employ various adaptation strategies, their competence is limited due to inadequate pre-service training, resulting in inconsistent quality across schools. Concerning the second objective, teachers face daunting interconnected challenges, including insufficient training, lack of adapted materials, overcrowded classrooms, time constraints, weak policy guidance, and limited parental involvement, barriers that cannot be overcome through individual teacher effort alone. Regarding the third objective, improving curriculum adaptation requires a multi-pronged approach: revising teacher training curricula, establishing continuous professional development, producing adapted materials, reducing class sizes, strengthening policy implementation, and enhancing multi-stakeholder collaboration. The fundamental message is clear: teachers cannot bear the burden of curriculum adaptation alone. Without systemic reforms addressing teacher preparation, resources, infrastructure, and policy implementation, Zambia's commitment to inclusive education will remain unfulfilled. What is needed now is not further documentation of problems, but the political will to act.

Based on the findings, the following three recommendations are made:

- 1) The Ministry of Education should revise teacher training curricula to include practical modules on curriculum adaptation for learners with moderate IDs, establish mandatory Continuous Professional Development for serving teachers, and provide special education teachers with additional planning time and reduced teaching loads.
- 2) The Ministry should increase funding for adapted teaching materials and low-cost assistive technology, enforce maximum class sizes of 10-12 learners in special units, construct additional classrooms, and develop infrastructure standards, including appropriate furniture, lighting, and ventilation.
- 3) The Ministry should develop practical curriculum adaptation guidelines with checklists and monitoring frameworks, train school heads to support adaptation, and establish structured collaboration mechanisms, including parent-teacher associations, community mobilisation, NGO partnerships, and a national coordination committee for inclusive education.

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### **Conflict of Interest Statement**

The author declares no conflicts of interest.

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