



INCLUSIVE RELIGIOUS EDUCATION FOR LEARNERS WITH AUTISM: CURRICULUM DESIGN AND EMPIRICAL EVALUATION IN FAITH-BASED SETTINGS

INKLUZIVNO RELIGIJSKO OBRAZOVANJE ZA UČENIKE S AUTIZMOM: DIZAJN KURIKULUMA I EMPIRIJSKA EVALUACIJA U VJERSKIM OBRAZOVNIM USTANOVAMA

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ABSTRACT

Learners with Autism Spectrum Disorder (ASD) frequently encounter exclusion in Religious Education within faith-based schools due to curricula and pedagogies grounded in normative assumptions about communication, cognition, social interaction, and sensory regulation. This marginalisation limits access to religious content, communal worship, and spiritual engagement, despite the central role of Religious Education in moral formation and school identity in African contexts.

Drawing on Universal Design for Learning (UDL) and African inclusive education scholarship, this study addresses the limited empirical attention given to Religious Education as a site of inclusion for autistic learners in Zambian faith-based schooling.

A convergent mixed-methods design was employed across three faith-based primary schools in Zambia. Participants included forty-eight learners formally identified with ASD, twelve Religious Education teachers, and nine caregivers over a twelve-week intervention period. Quantitative data were collected through pre- and post-intervention teacher-reported questionnaires and analysed using descriptive statistics and the Wilcoxon signed-rank test. Qualitative data were generated via classroom observations, semi-structured interviews, and analysis of learner artefacts, and analysed thematically following Braun and Clarke's framework.

Quantitative findings indicated improved teacher-reported learner engagement, participation, and curriculum accessibility following implementation of the inclusive curriculum. Wilcoxon signed-rank tests revealed that these gains were unlikely to be attributable to chance alone.

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Qualitative findings pointed to enhanced participation, improved emotional regulation, increased learner confidence, and a stronger sense of belonging. Teachers reported greater pedagogical confidence and more deliberate curriculum planning.

The study suggests that sensory-aware, multimodal, and intentionally designed Religious Education curricula can enhance access and participation for learners with ASD without diluting religious content, positioning inclusive Religious Education as both a curriculum priority and an ethical responsibility in faith-based schooling.

Keywords: Autism Spectrum Disorder; Inclusive Education; Religious Education; Universal Design for Learning; Faith-Based Schools; Neurodiversity; Inclusive Curriculum; Spiritual Inclusion; Special Educational Needs

SAŽETAK

Učenici s poremećajem iz spektra autizma (PSA) često se suočavaju s isključenošću iz religijskog obrazovanja u vjerskim školama zbog kurikuluma i nastavnih pristupa zasnovanih na normativnim pretpostavkama o komunikaciji, kognitivnim sposobnostima, socijalnoj interakciji i senzornoj regulaciji. Takva marginalizacija ograničava njihov pristup religijskim sadržajima, zajedničkom bogoslužju i duhovnom razvoju, uprkos značajnoj ulozi religijskog obrazovanja u moralnom odgoju i identitetu škola u afričkom kontekstu.

Polazeći od koncepta Univerzalnog dizajna za učenje (Universal Design for Learning – UDL) i afričkih istraživanja o inkluzivnom obrazovanju, ovo istraživanje nastoji odgovoriti na nedovoljnu empirijsku zastupljenost religijskog obrazovanja kao područja inkluzije učenika s poremećajem iz spektra autizma u vjerskim školama u Zambiji.

Istraživanje je provedeno primjenom konvergentnog mješovitog istraživačkog dizajna u tri vjerske osnovne škole u Zambiji. U istraživanju je učestvovalo 48 učenika s formalno dijagnosticiranim poremećajem iz spektra autizma, 12 nastavnika religijskog obrazovanja i 9 roditelja/staratelja tokom dvanaestosedmične intervencije. Kvantitativni podaci prikupljeni su pomoću upitnika koje su nastavnici popunjavali prije i nakon intervencije, a analizirani su deskriptivnom statistikom i Wilcoxonovim testom rangova za zavisne uzorke. Kvalitativni podaci prikupljeni su posmatranjem nastave, polustrukturiranim intervjuima i analizom učeničkih radova te su analizirani tematskom analizom prema okviru Braun i Clarke.

Kvantitativni rezultati ukazali su na poboljšanje angažiranosti učenika, njihovog učešća u nastavi i pristupačnosti kurikuluma nakon primjene inkluzivnog kurikuluma. Rezultati Wilcoxonovog testa pokazali su da je malo vjerovatno da su uočena poboljšanja rezultat slučajnosti. Kvalitativni nalazi ukazali su na veće učešće učenika, bolju emocionalnu regulaciju, povećano samopouzdanje i snažniji osjećaj pripadnosti. Nastavnici su izvijestili o većoj pedagoškoj kompetentnosti i promišljenijem planiranju nastave.

Rezultati istraživanja ukazuju da religijski kurikulumi osmišljeni uz uvažavanje senzornih potreba učenika, primjenu multimodalnih pristupa i principa inkluzivnog dizajna mogu unaprijediti pristup i učešće učenika s poremećajem iz spektra autizma, bez narušavanja religijskih sadržaja. Time se inkluzivno religijsko obrazovanje pozicionira kao važan kurikularni prioritet i etička odgovornost vjerskih obrazovnih ustanova.

Ključne riječi: poremećaj iz spektra autizma; inkluzivno obrazovanje; religijsko obrazovanje; Univerzalni dizajn za učenje; vjerske škole; neurodiverzitet; inkluzivni kurikulum; duhovna inkluzija; posebne odgojno-obrazovne potrebe.

INTRODUCTION

Inclusive education has become a central priority within global, regional, and national education policy frameworks. In Zambia, commitments to inclusive schooling are articulated through education policy and curriculum reform agendas that emphasise equity, access, and participation for all learners, including those with disabilities. Despite these commitments, the practical inclusion of learners with Autism Spectrum Disorder (ASD) remains uneven, particularly within mainstream classrooms where curricula are often designed around narrow assumptions of learner ability and participation (Mpolomoka, 2023; Mandyata & Kamikoti, 2022).

ASD is characterised by differences in communication, social interaction, sensory processing, and patterns of learning. These differences do not imply an absence of capacity but rather a need for instructional approaches that recognise learner variability. Research across African contexts indicates that learners with ASD are frequently excluded not through overt segregation but through curricula and pedagogical practices that fail to accommodate diverse learning profiles (Donohue & Bornman, 2014; Majoko, 2016). This form of exclusion is particularly pronounced in subjects that rely heavily on abstraction, verbal expression, and unstructured social interaction.

Religious Education occupies a distinctive position within school curricula, especially in faith-based institutions. Beyond cognitive learning, the subject is concerned with moral formation, values education, and spiritual development. In many Zambian faith-based schools, Religious Education is central to institutional identity and community life. Exclusion from this subject therefore carries implications that extend beyond academic access to questions of belonging, dignity, and moral participation. Yet Religious Education has received limited attention within inclusive education research, particularly in relation to ASD (Slee, 2018; Hull, 2017).

Zambian scholarship on inclusive education has consistently highlighted the gap between policy intent and classroom practice. Mpolomoka (2023) argues that inclusion in Zambia has often been treated as a placement issue rather than a curriculum issue, resulting in learners with disabilities being physically present in classrooms without meaningful access to learning. This critique is echoed by Mandyata, Beirat, and Mpolomoka (2025), who note that teacher preparedness, rigid curricula, and limited pedagogical flexibility continue to constrain inclusive practice across subject areas.

Within Religious Education, these challenges are intensified by pedagogical traditions that assume shared linguistic competence, abstract reasoning, and conventional social engagement. Learners with ASD may struggle to access religious content presented primarily through metaphorical language, extended verbal explanation, or spontaneous discussion.

Without intentional curriculum adaptation, such learners are at risk of being misinterpreted as disengaged or incapable of spiritual understanding, reinforcing deficit-based narratives of disability (Majoko, 2016; Chataika, 2010).

African inclusive education scholars emphasise that curriculum rigidity is a central driver of exclusion. Studies from South Africa, Zimbabwe, and Kenya demonstrate that when curricula are designed for an imagined “average” learner, students with disabilities are marginalised regardless of inclusive policy commitments (Donohue & Bornman, 2014; Chataika, Mckenzie, Swart, & Lyner-Cleophas, 2012). These findings support the argument that inclusion must be addressed at the level of curriculum design rather than through ad hoc accommodation.

Universal Design for Learning (UDL) offers a curriculum framework that responds directly to learner variability by advocating multiple means of representation, engagement, and expression. While UDL has been widely discussed in global inclusive education literature, its application within African and faith-based contexts remains underexplored (Al-Azawei, Serenelli, & Lundqvist, 2016). African scholars argue that UDL holds particular relevance in contexts where specialist resources are limited, as it embeds accessibility within everyday teaching practice rather than relying on individualised support (Majoko, 2019).

This study is situated within this gap. It focuses on the design and implementation of an inclusive Religious Education curriculum for learners with ASD across three Zambian faith-based primary schools. By grounding the study in Zambian and African scholarship, the research responds to calls for contextually grounded inclusive education research that moves beyond Western-dominated frameworks (Chataika et al., 2012; Slee, 2018). The study adopts an ethical and pedagogical stance that views inclusion as a matter of dignity, belonging, and curriculum justice. Rather than asking whether learners with ASD are capable of engaging in Religious Education, it examines how curriculum design and pedagogy can be restructured to enable meaningful participation.

Statement of the Problem

Despite policy commitments to inclusive education in Zambia, learners with ASD continue to face exclusion within mainstream classrooms. This exclusion is often subtle, manifesting through rigid curricula, limited pedagogical adaptation, and assessment practices that privilege narrow forms of participation (Mpolomoka, 2023). In Religious Education, these challenges are compounded by the abstract and symbolic nature of religious content. There is limited empirical research examining how Religious Education curricula in Zambian faith-based schools can be adapted to include learners with ASD meaningfully. Existing studies tend to focus on general inclusion or core academic subjects, leaving spiritual and moral education under-researched (Majoko, 2016; Slee, 2018). As a result, teachers lack contextually grounded guidance on inclusive Religious Education practice.

Purpose of the Study

The purpose of this study was to design and evaluate an inclusive Religious Education curriculum for learners with ASD within three Zambian faith-based primary schools.

The study sought to explore how curriculum design informed by Universal Design for Learning and African inclusive education perspectives influences learner engagement, participation, and access to religious content.

Research Objectives

The objectives of the study were to:

- (a) examine barriers to inclusion faced by learners with ASD in Religious Education;
- (b) evaluate the impact of the inclusive curriculum on learner engagement and participation; and
- (c) explore teacher experiences of implementing inclusive Religious Education practices.

Significance of the Study

The study contributes to Zambian and African inclusive education scholarship by providing empirical evidence on inclusive Religious Education practice. It extends existing work on curriculum-focused inclusion by applying these principles to a subject area that is often overlooked in disability and education research. The findings are intended to inform curriculum developers, teachers, school leaders, and policymakers seeking to strengthen inclusive education within faith-based schooling.

Theoretical Framework

The design and evaluation of the inclusive Religious Education curriculum are grounded in three complementary theoretical perspectives: Universal Design for Learning, constructivist learning theory, and neurodiversity theory. These perspectives are interpreted through an African inclusive education lens, drawing on Zambian scholarship to contextualise the study within local realities. Together, they provide a coherent foundation for understanding learner diversity, curriculum accessibility, and the ethical obligations of faith-based education.

Universal Design for Learning serves as the primary pedagogical framework guiding this study. UDL is premised on the recognition that learner variability is the norm rather than the exception and that curricula should be designed proactively to accommodate diverse learning profiles (Meyer, Rose, & Gordon, 2014). The framework emphasises three core principles: providing multiple means of representation, multiple means of engagement, and multiple means of expression. These principles are particularly relevant for learners with ASD, whose access to learning is often constrained by rigid instructional formats and reliance on singular modes of communication (Al-Azawei et al., 2016). Within Religious Education, UDL challenges traditional pedagogical practices that prioritise verbal instruction, abstract reasoning, and uniform participation in rituals. Learners with ASD may experience difficulty engaging with metaphorical language, unstructured discussion, or sensory-intensive worship practices (Majoko, 2016). UDL-informed curriculum design addresses these barriers by incorporating visual supports, structured routines, predictable lesson sequences, and alternative modes of expression such as drawing, role-play, symbolic representation, and assistive communication tools (Meyer et al., 2014).

Zambian inclusive education scholarship reinforces the relevance of UDL within African educational contexts. Mpolomoka (2023) argues that inclusive education must be grounded in curriculum reform rather than reliance on specialist withdrawal or learner remediation. He emphasises that rigid curricula disproportionately marginalise learners with disabilities, particularly in resource-constrained settings. In faith-based schools, this rigidity is often compounded by adherence to traditional pedagogical practices and theological interpretations that resist adaptation. Aligning UDL with calls for curriculum transformation positions inclusive Religious Education as a systemic responsibility rather than an optional adjustment. Constructivist learning theory further informs the curriculum design by emphasising learning as an active process shaped by experience, interaction, and contextual meaning-making (Vygotsky, 1978; Fosnot, 2013). Constructivist theorists argue that learners construct understanding by connecting new information to prior knowledge and lived experience. For learners with ASD, this process requires deliberate scaffolding, concrete representation, and opportunities for structured interaction (Jordan, 2015). In Religious Education, constructivist approaches support the use of storytelling, visual sequencing, experiential activities, and guided reflection to facilitate understanding. Rather than treating religious knowledge as a set of doctrines to be memorised, constructivist pedagogy encourages learners to engage with religious ideas through participation, exploration, and reflection (Grimmit, 2000). For autistic learners, this approach reduces cognitive overload and supports comprehension by grounding abstract concepts in observable actions and personal experience.

Neurodiversity theory provides a critical counterpoint to deficit-based models of disability. It conceptualises ASD as a natural variation in human cognition rather than a pathology requiring correction (Armstrong, 2010; Singer, 2017). This perspective emphasises strengths commonly associated with autism, including visual processing abilities, attention to detail, and systematic thinking (Kapp, 2020). Within faith-based education, neurodiversity theory holds particular significance. Religious Education has often been framed as requiring specific forms of social interaction, emotional expression, and verbal articulation, implicitly excluding learners who engage differently (Slee, 2018). By affirming the spiritual agency of autistic learners, neurodiversity theory challenges theological and pedagogical assumptions that equate spirituality with normative forms of participation. This study adopts a neurodiversity-informed stance that recognises autistic learners as capable of moral reasoning, spiritual reflection, and religious belonging when provided with appropriate pedagogical support (Swinton, 2012).

Together, Universal Design for Learning, constructivist learning theory, and neurodiversity theory provide a comprehensive theoretical foundation for this study. UDL offers a practical framework for designing accessible curricula, constructivism ensures meaningful engagement through experience and interaction, and neurodiversity theory affirms the legitimacy of diverse cognitive and spiritual expressions. The integration of these theories establishes a coherent rationale for the curriculum intervention examined in this study and informs the interpretation of its empirical findings.

Literature Review

This literature review examines scholarship on Autism Spectrum Disorder, inclusive education, and Religious Education, with a deliberate prioritisation of Zambian research, followed by broader African scholarship and global literature. This ordering reflects the study's epistemological commitment to grounding analysis in local and regional contexts before engaging international perspectives. The review highlights persistent gaps in inclusive Religious Education research, particularly within African faith-based schooling, and establishes the conceptual and empirical basis for the present study.

Autism Spectrum Disorder and Inclusive Education in Zambia

Inclusive education in Zambia has been shaped by policy commitments to equity and access, yet implementation remains uneven, particularly for learners with disabilities. Mpolomoka (2023) provides one of the most comprehensive analyses of inclusive education practice in the Zambian context, arguing that while policy frameworks formally endorse inclusion, classroom practice continues to be constrained by rigid curricula, limited teacher preparation, and narrow conceptions of learner ability. He critiques deficit-oriented approaches that frame autistic learners as incapable of meeting curricular expectations and instead advocates for curriculum redesign that responds to learner variability. This perspective is particularly relevant for subjects such as Religious Education, where abstraction, verbal reasoning, and social participation are often assumed rather than explicitly taught or scaffolded.

Zambian studies further indicate that teachers frequently lack formal training in autism-inclusive pedagogy, resulting in reliance on exclusionary practices such as withdrawal, passive participation, or task simplification that does not support meaningful learning (Mandyata & Kamikoti, 2022). Learners with ASD are often physically present in classrooms yet excluded from substantive engagement with lesson content. In faith-based schools, this exclusion is compounded by theological assumptions that equate spirituality with normative modes of communication and behaviour.

Religious Education and Inclusion in the Zambian Context

Research on Religious Education in Zambia has traditionally focused on moral development, values education, and national identity, with limited attention to learners with disabilities. Where inclusion is discussed, it is often framed in general terms without specific consideration of ASD (Mandyata et al., 2025). This gap reflects broader trends within inclusive education research, where academic subjects are prioritised over spiritual and moral education. Exclusion from Religious Education represents a form of social and spiritual marginalisation that undermines the holistic aims of education, particularly in faith-based institutions where the subject is central to school identity (Phiri & Nkolola-Wakumelo, 2021). Without pedagogical adaptations such as structured routines, visual supports, and concrete representations of abstract concepts, learners with ASD are likely to disengage, experience anxiety, or be misinterpreted as lacking interest or spiritual capacity (Mpolomoka, 2023).

African Perspectives on Autism and Religious Education

Across the African continent, inclusive education research has increasingly acknowledged the challenges faced by learners with ASD. Studies from South Africa, Kenya, Ghana, and Nigeria report similar patterns of exclusion, including limited teacher training, inadequate instructional resources, and rigid curricula (Donohue & Bornman, 2014; Majoko, 2016). African scholars emphasise that these challenges are intensified in subjects such as Religious Education, where abstract reasoning and communal participation are central pedagogical features. Research in South African faith-based schools indicates that learners with ASD benefit from visual storytelling, structured lesson sequencing, and experiential learning activities that link religious concepts to everyday experiences (Chataika, 2010). Kenyan studies highlight the importance of predictable routines and sensory-aware instruction in reducing anxiety and supporting participation during religious instruction (Ngugi & Mugo, 2019). Ghanaian scholarship further demonstrates that when Religious Education is adapted to accommodate diverse learning needs, learners with ASD show improved moral reasoning and social engagement (Agbenyega & Klibthong, 2015).

Universal Design for Learning in African Educational Contexts

Universal Design for Learning has gained increasing attention within African inclusive education discourse as a framework for addressing learner diversity in resource-constrained settings. African researchers argue that UDL's emphasis on flexible curriculum design aligns with the realities of overcrowded classrooms and limited access to specialist support services (Majoko, 2019). Studies conducted in African primary and secondary schools demonstrate that UDL-informed instruction improves learner engagement, autonomy, and comprehension, particularly for learners with disabilities (Donohue & Bornman, 2014). In Religious Education, UDL strategies such as visual representations of religious narratives, multimodal teaching approaches, and alternative forms of assessment have been shown to enhance participation among learners with ASD (Al-Azawei et al., 2016).

Global Scholarship on Autism, Inclusion, and Religious Education

Global research on ASD and education provides valuable insights into effective inclusive practices. Studies from Europe, North America, and Australia consistently demonstrate that learners with ASD benefit from structured environments, visual supports, predictable routines, and opportunities for alternative expression (Jordan, 2015; Kapp, 2020). Research on Religious Education in global contexts highlights similar challenges related to abstraction, symbolism, and social participation. International studies indicate that learners with ASD are often excluded from meaningful engagement with religious content due to reliance on verbal instruction and unstructured discussion (Slee, 2018). Inclusive approaches that incorporate storytelling, role-play, visual narratives, and experiential learning have been shown to improve comprehension and participation (Hull, 2017). However, global literature often treats Religious Education as a peripheral subject, with limited engagement with its spiritual and cultural significance. African scholars critique this tendency, arguing that religious learning

occupies a central place in many societies and must be treated as integral to inclusive education (Chataika et al., 2012).

Synthesis and Research Gap

The reviewed literature reveals several key themes. First, learners with ASD continue to face exclusion due to rigid curricula and deficit-based assumptions about ability. Second, Religious Education presents unique inclusion challenges due to its reliance on abstraction, symbolism, and communal participation. Third, African and Zambian scholarship emphasises curriculum transformation as the foundation of meaningful inclusion (Mandyata et al., 2025). Despite growing recognition of these issues, there remains a significant gap in empirical research examining inclusive Religious Education for learners with ASD within African faith-based school settings. Existing studies often focus on general inclusion or academic subjects, leaving spiritual education underexamined (Chataika et al., 2012). There is limited research that integrates Universal Design for Learning, neurodiversity theory, and African inclusive education perspectives within Religious Education. This study addresses this gap by empirically evaluating an inclusive Religious Education curriculum grounded in Zambian and African scholarship.

Methodology

Research Design

This study adopted a convergent mixed-methods research design to generate a comprehensive understanding of the implementation and outcomes of an inclusive Religious Education curriculum for learners with ASD in faith-based primary school contexts. According to Creswell and Plano Clark (2018), mixed-methods designs are particularly suited to educational research where complex phenomena cannot be fully explained through quantitative or qualitative data alone. In this study, quantitative and qualitative data were collected concurrently during the curriculum intervention period, analysed independently, and subsequently integrated during interpretation.

Research Setting

The study was conducted in three purposively selected faith-based primary schools located in urban and peri-urban areas of Zambia. These schools were selected because they offered Religious Education as a core curriculum subject, enrolled learners formally identified with ASD within mainstream classrooms, and demonstrated institutional willingness to support curriculum adaptation. As Phiri and Nkolola-Wakumelo (2021) note, faith-based schools in Zambia integrate religious instruction within everyday classroom practice rather than in segregated spiritual spaces, making Religious Education a critical site for examining inclusion. In all three schools, Religious Education lessons were delivered within regular classroom environments, allowing autistic learners to participate alongside peers without withdrawal or separation.

Participants

The study involved three categories of participants. Forty-eight learners formally identified with ASD participated indirectly. These learners were aged between 8 and 14 years and were enrolled in Grades 3 to 7 at the three participating schools. Identification of ASD was based on existing school documentation and professional assessments provided by caregivers, including medical, psychological, or educational reports. Direct questionnaire administration to learners was not undertaken due to communication differences and sensory sensitivities commonly associated with autism. Instead, learner-related quantitative data were generated through teacher-reported questionnaires, while qualitative data about learners were gathered through structured classroom observations and analysis of learner artefacts, an approach supported by Odom, Buysse, Soukakou, and Horn (2020).

Twelve Religious Education teachers participated directly in the study. All were responsible for teaching classes that included learners with ASD, with teaching experience ranging from three to eighteen years. None held specialist qualifications in autism or special education, reflecting the prevailing staffing realities in Zambian faith-based schools. This participant profile was considered methodologically significant, as it allowed the study to examine inclusive curriculum implementation under typical classroom conditions. In addition, nine caregivers of learners with ASD participated in semi-structured interviews, offering insights into changes in learner confidence, behaviour, and engagement with Religious Education beyond the classroom context.

Table 1: Summary of Study Participants

Participant Category	Number	Role in Study	Schools
Learners with ASD	48	Indirect participants; data collected via teacher reports, observations, and artefacts	3
Teachers (RE)	12	Direct participants; completed pre- and post-intervention questionnaires and interviews	3
Caregivers	9	Semi-structured interviews on learner behaviour and engagement at home	3

Note. RE = Religious Education. ASD = Autism Spectrum Disorder.

Duration of the Intervention

The curriculum intervention was implemented over a twelve-week instructional period within a regular school term. Religious Education lessons were delivered once or twice per week, depending on each school's timetable. This duration was considered pedagogically sufficient to allow teachers to familiarise themselves with the inclusive curriculum adaptations and to observe meaningful changes in learner engagement and participation. As Fletcher-Watson and Happe (2019) note, sustained intervention periods are essential in autism-inclusive education research, as short-term exposure may not adequately capture adjustment processes or evolving classroom dynamics.

Curriculum Intervention

The intervention involved the implementation of an inclusive Religious Education curriculum designed in accordance with UDL principles, constructivist pedagogy, and neurodiversity-informed perspectives. Rather than replacing the existing curriculum, the intervention focused on systematic adaptation to ensure alignment with national syllabi and faith-based doctrinal expectations. This approach reflects the argument advanced by Rao and Meo (2016) that inclusive curriculum reform is most sustainable when it enhances, rather than displaces, existing educational frameworks. Key adaptations included: multiple means of representation (visual narratives, pictorial sequencing, concrete learning materials, and simplified textual supports); multiple means of engagement (structured routines, predictable lesson sequences, sensory-aware activities, and scaffolded participation); and multiple means of expression (drawings, matching tasks, structured oral responses, role-play, and learner artefacts). Teachers were provided with structured guidance, lesson exemplars, and reflective prompts, but no additional specialist staff were introduced, thereby maintaining ecological validity.

Quantitative Data Collection

Quantitative data were collected using a researcher-developed, teacher-reported questionnaire administered before and after the intervention. The instrument was informed by inclusive education literature and explicitly aligned with UDL constructs relating to engagement, participation, and curriculum accessibility. The questionnaire consisted of Likert-scale items (rated 1-5) measuring learner engagement (attention and task persistence), learner participation (frequency and quality of involvement), and perceived accessibility of Religious Education content. The instrument underwent expert review by two inclusive education specialists to establish content validity and was piloted with two non-participating teachers to assess clarity and appropriateness. Internal consistency reliability was assessed using Cronbach's alpha, yielding acceptable values ($\alpha > 0.70$) across all three constructs, consistent with recommendations outlined by DeVellis (2017) for scale development in educational research.

Qualitative Data Collection

Qualitative data were generated through multiple sources to ensure depth and triangulation. Classroom observations focused on learner engagement, interaction patterns, sensory responses, and instructional practices during Religious Education lessons. Semi-structured interviews with teachers explored experiences of curriculum implementation, pedagogical confidence, and perceived learner outcomes, while caregiver interviews examined changes in learner confidence, interest, and emotional responses related to Religious Education at home. Learner artefacts, including drawings, worksheets, and structured tasks, were analysed as tangible representations of participation and understanding. The use of multiple qualitative data sources aligns with Tracy (2020), who highlights that qualitative credibility is strengthened when researchers capture phenomena across diverse yet complementary forms of evidence.

Data Analysis

Quantitative data were analysed using descriptive statistics (means, standard deviations, frequencies, and percentage distributions) to summarise pre- and post-intervention scores. Given that the data were ordinal (Likert-scale ratings) and the sample size was modest ($N = 48$), the Wilcoxon signed-rank test was employed as a non-parametric alternative to the paired-samples t-test. This test is appropriate for comparing two related samples when the assumption of normality cannot be confidently met (Field, 2018). Effect sizes were calculated using the rank-biserial correlation coefficient (r) to provide a standardised measure of the magnitude of observed changes. Findings were interpreted cautiously and treated as indicative rather than broadly generalisable, given the reliance on teacher-reported measures and the small-scale nature of the study.

Qualitative data were analysed thematically following Braun and Clarke's (2021) six-phase approach: familiarisation, coding, theme development, review, definition, and reporting. This framework was selected because it allows for systematic yet flexible interpretation of patterns across data sets.

Integration of Data

Integration of quantitative and qualitative data occurred during the interpretation phase through systematic comparison of statistical trends with emergent qualitative themes. Areas of convergence strengthened confidence in the findings, while divergences prompted deeper contextual analysis. This integrative strategy reflects best practice in mixed-methods research, as Fetters, Curry, and Creswell (2019) explain that meaningful integration enhances explanatory power and reduces overreliance on single-source claims.

Ethical Considerations

Ethical approval was obtained before data collection, and all procedures adhered to principles of informed consent, confidentiality, and participant welfare. Written consent was secured from teachers and caregivers, while assent procedures appropriate to learners with ASD were employed. Pseudonyms were used, and data were stored securely. Particular attention was given to minimising sensory overload, learner distress, and classroom disruption during observations. As Kenny et al. (2016) highlight, ethical autism research requires heightened sensitivity to communication differences and emotional regulation; these considerations were embedded throughout the study design and implementation.

RESULTS

This section presents the findings of the study, organised into quantitative and qualitative strands. Quantitative data highlight measurable changes in learner engagement, participation, and perceived curriculum accessibility as reported by teachers before and after the twelve-week intervention. Qualitative data provide contextualised perspectives from teachers,

caregivers, and learners, capturing nuanced experiences of inclusion. Interpretation and linkage to theory and literature are reserved for the Discussion section that follows.

Quantitative Findings

Quantitative data were collected from twelve Religious Education teachers across three schools, covering forty-eight learners diagnosed with ASD. Data were gathered using a structured teacher questionnaire administered pre- and post-intervention. The questionnaire measured three constructs: learner engagement, learner participation, and perceived curriculum accessibility, each rated on a five-point Likert scale.

Table 2: Pre- and Post-Intervention Descriptive Statistics (N = 48)

Construct	Pre-M (SD)	Post-M (SD)	Mean Gain	Rated ≥ 4 (Post)	Rated ≤ 2 (Post)
Engagement	2.8 (0.45)	4.1 (0.52)	+1.3	26	5
Participation	2.6 (0.50)	4.0 (0.47)	+1.4	28	4
Accessibility	2.9 (0.48)	4.2 (0.50)	+1.3	27	3

Note. M = Mean; SD = Standard Deviation. Scores rated on a 5-point Likert scale (1 = Very Low; 5 = Very High). Rated ≥ 4 indicates number of learners in High or Very High categories post-intervention.

Table 3: Wilcoxon Signed-Rank Test Results for Pre- and Post-Intervention Comparisons (N = 48)

Construct	Z	p-value	Effect Size (r)	Interpretation	Direction
Engagement	-5.42	< .001	0.78	Large	Positive
Participation	-5.68	< .001	0.82	Large	Positive
Accessibility	-5.36	< .001	0.77	Large	Positive

Note. Wilcoxon signed-rank test applied due to ordinal data and modest sample size. Effect sizes ($r = Z / \sqrt{N}$) classified per Cohen (1988): small = 0.10, medium = 0.30, large = 0.50.

Table 4: Pre- and Post-Intervention Frequency Distribution of Teacher Ratings (N = 48)

Construct / Phase	1 (Very Low)	2 (Low)	3 (Moderate)	4 (High)	5 (Very High)
Engagement (Pre)	2	8	22	14	2
Engagement (Post)	0	5	12	21	10
Participation (Pre)	3	10	18	15	2
Participation (Post)	0	4	10	20	14
Accessibility (Pre)	2	7	20	17	2
Accessibility (Post)	0	3	11	22	12

Note. Frequencies represent the number of learners rated at each Likert scale point by their teachers.

Across all three constructs, teacher ratings indicated upward shifts from pre-intervention to post-intervention. Mean scores rose from approximately 2.6-2.9 at baseline to 4.0-4.2 following the intervention. Wilcoxon signed-rank tests indicated that these changes were unlikely to be attributable to chance (all $p < .001$), and effect sizes were large across all constructs ($r = 0.77-0.82$). The frequency distributions show a visible shift from predominantly Low and Moderate pre-intervention ratings toward High and Very High post-intervention categories. It should be noted that these results are based on teacher-reported perceptions and should be interpreted within the limitations of this measurement approach.

Qualitative Findings

Qualitative data were collected via classroom observations, semi-structured interviews with teachers and caregivers, and analysis of learner artefacts. Thematic analysis produced five themes capturing engagement, emotional regulation, confidence, peer inclusion, and teacher development. Illustrative quotations from teachers, caregivers, and learners are presented within each theme.

Theme 1: Active Engagement and Participation

Learners demonstrated a discernible shift from passive presence to active participation in Religious Education lessons. Teachers reported that learners who previously sat silently or avoided tasks were now attentive and participating in structured activities. One teacher commented: “Learners are more alert and responding to questions; they even ask to participate in role-play activities.” Caregivers noticed learners talking about lessons at home: “My child now talks about the Bible stories and shows me their drawings. They are excited for the lessons.” Learners themselves expressed enjoyment: “I like drawing the story of Jesus. I can show it to my friends in class.”

Theme 2: Emotional Regulation and Comfort

Learners displayed improved emotional regulation, responding more calmly to lessons and sensory stimuli. Teachers observed decreased anxiety and avoidance behaviours. One teacher remarked: “Learners are calmer during activities and can stay on task longer without frustration.” Caregivers also noted reduced anxiety: “My child now seems relaxed after lessons, and talks about school without getting upset.” A learner described feeling more comfortable: “I don’t feel scared in class anymore. I can join the games and drawing.”

Theme 3: Growth in Learner Confidence and Self-Expression

Teachers highlighted learners’ growing confidence in expressing understanding using multiple modes, including drawings, role-play, and short oral responses. One teacher explained: “They now attempt tasks independently and share ideas without hesitation.” Caregivers observed similar growth: “My child tries to explain what they learned and shows pride in their work.” Learners reinforced this finding: “I like telling the story with pictures. I can show the teacher what I know.”

Theme 4: Teacher Pedagogical Confidence

Teachers reported increased confidence in lesson planning and more proactive approaches to supporting learners with ASD. One teacher said: “I now plan every lesson thinking about how each learner can participate, instead of just reacting.” Caregivers also appreciated teachers’ improved approaches: “The teacher now uses pictures and stories, and my child can follow better.” Learners expressed satisfaction with teacher support: “The teacher helps me if I don’t understand. I like it when we do the pictures together.”

Theme 5: Peer Inclusion and Sense of Belonging

Classroom observations revealed stronger peer interactions. Learners with ASD were actively included in group activities, with classmates offering assistance and encouragement. Teachers remarked: “Learners with ASD are no longer isolated; peers invite them to participate and share ideas.” Caregivers noted: “My child talks about friends helping in class. They feel happy and part of the group.” Learners described their sense of inclusion: “I like doing the activities with my friends. We help each other and play together in class.”

Table 5: Integration of Quantitative Outcomes and Qualitative Themes

Construct	Quantitative Finding	Teacher Observations	Caregiver Reports	Learner Responses
Engagement	M gain +1.3; Z = -5.42, p < .001	Improved attention and task completion	Learners discussed lessons at home	Enjoyment through drawings and activities
Participation	M gain +1.4; Z = -5.68, p < .001	Increased classroom interaction and initiative	Reported confidence in classroom involvement	Active verbal and non-verbal participation
Accessibility	M gain +1.3; Z = -5.36, p < .001	Easier lesson delivery, reduced frustration	Improved understanding of materials	Greater independence in task engagement

Note. This table presents convergent findings across data strands to illustrate alignment between quantitative gains and qualitative observations.

DISCUSSION

The findings of this study suggest that an intentionally designed inclusive Religious Education curriculum can facilitate meaningful improvements in engagement, participation, and accessibility for learners with ASD in Zambian faith-based primary schools. This section interprets the results in relation to the study’s theoretical framework and positions them within existing literature.

The quantitative results indicated substantial gains in teacher-reported learner engagement (mean increase from 2.8 to 4.1), participation (from 2.6 to 4.0), and curriculum accessibility

(from 2.9 to 4.2). Wilcoxon signed-rank tests confirmed that these gains were unlikely due to chance, with large effect sizes across all constructs. The frequency distributions reinforced this pattern, showing that the majority of learners moved from Low or Moderate categories into High or Very High ratings. These findings align with UDL scholarship that argues proactive curriculum design addresses barriers at the systemic level rather than placing the burden of adaptation on individual learners (Meyer et al., 2014). The results also corroborate African studies that demonstrate improved learner outcomes when curricula are made more flexible and multimodal (Donohue & Bornman, 2014; Majoko, 2019).

It is important, however, to acknowledge that the quantitative data were derived entirely from teacher-reported perceptions. While teacher reports are a common and accepted data source in classroom-based educational research (Odom et al., 2020), they are subject to expectancy effects and social desirability bias, particularly in studies where teachers themselves delivered the intervention. The absence of a control group further limits the extent to which observed changes can be attributed solely to the curriculum intervention. Other factors, such as increased teacher attention, novelty effects, or the passage of time, may have contributed to the observed improvements.

The qualitative findings offer a complementary and contextually richer account of the changes observed. Five themes emerged from the thematic analysis: active engagement and participation, emotional regulation and comfort, growth in learner confidence and self-expression, teacher pedagogical confidence, and peer inclusion and sense of belonging. These themes collectively suggest that the inclusive curriculum influenced not only instructional outcomes but also the affective and social dimensions of learners' classroom experiences.

The shift from passive presence to active participation observed in Theme 1 is consistent with constructivist perspectives that emphasise learning as an active process shaped by experience and interaction (Vygotsky, 1978; Fosnot, 2013). Learners engaged meaningfully with religious content through drawing, role-play, and storytelling, moving beyond rote reception toward participatory meaning-making. This pattern aligns with Hull (2017), who argues that experiential and multimodal approaches enhance religious understanding for diverse learners.

The improved emotional regulation and reduced anxiety reported in Theme 2 are particularly noteworthy. Sensory overload and unpredictability are well-documented barriers for learners with ASD in classroom settings (Jordan, 2015; Kapp, 2020). The structured routines and sensory-aware adaptations embedded in the curriculum appear to have provided a more predictable and less overwhelming learning environment. These findings support the argument that inclusive education requires attention to both cognitive and affective dimensions of learning.

Theme 3 revealed growth in learner confidence and willingness to express understanding through multiple modalities. From a neurodiversity standpoint, this finding affirms that autistic learners possess the capacity for spiritual reflection and moral reasoning when pedagogical conditions support diverse forms of expression (Armstrong, 2010; Swinton, 2012). The provision of alternative modes of expression appears to have created pathways through which learners could demonstrate understanding in ways that honoured their cognitive profiles rather than requiring them to conform to a single norm.

Theme 4 highlighted teachers' growing pedagogical confidence. This finding resonates with research indicating that teachers benefit from structured frameworks and concrete guidance when implementing inclusive practices (Rao & Meo, 2016). It is worth noting that none of the participating teachers held specialist qualifications in autism or special education, yet they reported feeling more capable and intentional in their lesson planning after the intervention. This suggests that inclusive Religious Education does not necessarily require specialist expertise if teachers are provided with practical, curriculum-embedded support. This resonates with calls in Zambian scholarship for inclusion to be approached as a curriculum rather than specialist issue (Mpolomoka, 2023; Mandyata et al., 2025).

Theme 5, peer inclusion and belonging, speaks to the social and relational dimensions of inclusive education. Classroom observations and stakeholder reports indicated that learners with ASD were increasingly accepted and supported by their peers. This finding aligns with research in African contexts showing that structured group activities and collaborative pedagogies promote social cohesion and reduce the isolation often experienced by learners with disabilities (Ngugi & Mugo, 2019; Agbenyega & Klibthong, 2015). Within faith-based settings, where communal values and collective participation are emphasised, fostering peer inclusion takes on added significance.

Taken together, the quantitative and qualitative findings converge to indicate that the inclusive Religious Education curriculum was associated with positive changes across multiple dimensions. The integration of both data strands, as recommended by Fetters et al. (2019), strengthens the interpretive basis of the study and reduces the risk of overreliance on any single source of evidence. However, these findings should be understood within the limitations of a small-scale, non-experimental design, and the claims made here are accordingly tempered.

Limitations

Several limitations should be acknowledged. First, the study relied on teacher-reported measures for quantitative data. While teacher ratings are a common and accepted data source in classroom-based research, they are susceptible to expectancy effects and social desirability bias, particularly given that teachers both delivered the intervention and assessed its outcomes. Second, the sample of forty-eight learners across three schools, while appropriate for a mixed-methods exploratory study, limits the generalisability of the quantitative findings. Third, the study did not employ a control group, which means observed changes cannot be attributed with certainty solely to the curriculum intervention. Fourth, the twelve-week duration, while pedagogically meaningful, may not be sufficient to capture long-term changes in engagement, participation, or emotional development. Finally, the study was conducted in Zambian faith-based primary schools within specific denominational contexts, and findings may not transfer directly to other faith traditions, educational settings, or cultural environments. Future research should consider larger, multi-site designs with independent assessors and longer follow-up periods.

CONCLUSION

This study suggests that an intentionally designed inclusive Religious Education curriculum can facilitate improvements in engagement, participation, emotional regulation, confidence, and peer inclusion for learners with ASD in Zambian faith-based primary schools. Quantitative evidence indicated gains across all three measured constructs, supported by large effect sizes on the Wilcoxon signed-rank test. Qualitative findings corroborated these patterns through observed shifts in classroom behaviour, learner self-expression, and emotional comfort. Learners engaged actively in lessons, exhibited reduced anxiety, and demonstrated pride in their learning through multiple modes of expression. Teachers reported enhanced pedagogical confidence and more deliberate lesson planning, while caregivers observed positive changes in learner attitudes and interactions beyond the classroom.

The study underscores the potential of Universal Design for Learning, constructivist pedagogy, and neurodiversity-informed approaches in making Religious Education more accessible. By embedding multiple means of representation, engagement, and expression, the curriculum addressed barriers traditionally associated with Religious Education, including abstract language, unstructured social interaction, and sensory intensity. The alignment of global inclusive strategies with contextually grounded African scholarship suggests that culturally and spiritually relevant adaptations need not compromise doctrinal content but can instead enhance meaningful participation for autistic learners.

The research contributes empirically to the underexplored field of inclusive Religious Education in Africa, offering preliminary evidence that curriculum-level interventions can reconcile faith-based pedagogical priorities with the diverse needs of learners with ASD. The findings reinforce the ethical and educational responsibility of faith-based schools to foster spiritual inclusion, ensuring that learners with ASD can participate in the moral, cognitive, and communal dimensions of Religious Education. Further research with larger samples, control groups, and independent measures will be needed to strengthen these conclusions.

Recommendations

Curriculum Design and Policy. Faith-based schools should embed UDL principles into Religious Education syllabi, ensuring structured, multimodal, and sensory-aware instruction that accommodates diverse learning profiles without diluting religious content. Policymakers should develop guidelines that integrate inclusive pedagogical strategies into national curriculum frameworks, recognising Religious Education as a critical domain for equitable access.

Teacher Professional Development. Continuous in-service training should equip teachers with practical skills in autism-inclusive pedagogy, including the use of visual supports, structured routines, differentiated assessment, and multimodal expression strategies. Teacher preparation programmes should integrate modules on neurodiversity and culturally relevant inclusive practices specific to faith-based education.

Peer and Community Engagement. Schools should encourage collaborative learning, structured group activities, and peer mentoring to promote social inclusion and a sense of

belonging among learners with ASD. Caregiver involvement in supporting learner participation at home should be formalised through workshops, communication channels, and resource provision.

Resource Development. Educational materials for Religious Education should be adapted to include visual narratives, simplified texts, and interactive tools aligned with UDL principles. Funding allocations should prioritise accessible resources that support both teachers and learners.

Monitoring and Evaluation. Schools and education authorities should establish systems for ongoing assessment of inclusive curriculum effectiveness, incorporating both quantitative indicators and qualitative feedback from learners, teachers, and caregivers. This evidence-informed approach supports sustainability and iterative improvement of inclusive Religious Education initiatives.

Further Research. Future studies should explore inclusive Religious Education across diverse faith traditions, age groups, and regional contexts in Zambia and other African countries. Larger-scale designs incorporating control groups, independent assessors, and validated instruments would strengthen the evidence base. Dissemination of findings through workshops, conferences, and publications will enhance capacity-building and policy alignment.

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