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The effect of learner engagement on teachers' delivery of the curriculum in Limpopo province, South Africa

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This study investigated the impact of learner engagement on teachers' curriculum delivery in a rural secondary school in Limpopo Province, South Africa. A qualitative case study design was employed, guided by self-determination theory and social constructivism. Data were collected through semi-structured interviews with five teachers and open-ended questionnaires administered to ten learners. The findings revealed that learner engagement positively shaped teachers' instructional strategies, promoting interactive teaching, collaborative learning, and the integration of technology. However, challenges such as large class sizes, limited resources, and time constraints constrained effective implementation. The study concludes that enhancing learner engagement requires systemic support, including teacher professional development and resource provision. Practically, the findings recommend the structured integration of learner-centred pedagogies and technology-supported teaching to improve curriculum delivery in resource-constrained rural schools.

KEYWORDS
curriculum, engagement, learners, pedagogy, teachers

1 Introduction

The growing emphasis on learner-centred pedagogies in contemporary education has positioned learner engagement as a critical determinant of effective teaching and learning. Learner engagement, broadly understood as the behavioural, emotional, and cognitive involvement of learners in academic activities, plays a central role in shaping not only learner outcomes but also teachers' instructional practices (Finn and Zimmer, 2012; Fredricks et al., 2018; Trowler, 2010). Classrooms characterised by high levels of engagement are often associated with improved knowledge retention, critical thinking, and meaningful participation, while disengaged classrooms may hinder both learner achievement and teachers' ability to effectively deliver the curriculum (Hattie and Timperley, 2007; Woolley, 2020).

In the South African context, particularly in rural provinces such as Limpopo, the promotion of learner engagement remains a persistent challenge due to structural constraints, including limited resources, overcrowded classrooms, and diverse learner needs (Mthethwa and Ngwenya, 2022; Spaull, 2021; Taylor, 2021). While education policy and curriculum reforms increasingly promote interactive and learner-centred approaches, classroom realities often create a gap between policy expectations and practical implementation. Consequently, teachers are required to continuously adapt their instructional strategies in response to varying levels of learner engagement, which

directly influences their delivery of the curriculum (Kearney and Haydn, 2018; Tomlinson, 2017).

Existing literature has extensively documented the positive relationship between learner engagement and learner achievement. Engaged learners are more likely to demonstrate higher-order thinking skills, participate actively in classroom discussions, and develop deeper conceptual understanding (Fredricks et al., 2018; Kahu, 2013; Reeve et al., 2018). However, much of the existing research has focused primarily on learner outcomes, with limited attention given to how learner engagement shapes teachers' pedagogical decisions, instructional strategies, and classroom practices (Mercer, 2020; Quin, 2017). This creates a critical gap in understanding the reciprocal relationship between learner engagement and teachers' delivery of the curriculum.

Furthermore, teachers' experiences of learner engagement are closely linked to their motivation, enthusiasm, and professional practices. When learners are actively engaged, teachers tend to experience increased motivation and instructional creativity, whereas disengaged learners often contribute to frustration, reduced instructional effectiveness, and classroom management challenges (Kearney and Haydn, 2018; Yusuf and Oladunjoye, 2018). Despite these dynamics, there remains insufficient empirical evidence, particularly within rural South African schooling contexts, that explains how learner engagement influences teachers' curriculum delivery in practice.

Against this backdrop, this study investigated the effects of learner engagement on teachers' delivery of the curriculum in a rural secondary school in the Capricorn District of Limpopo Province. Drawing from teachers' interviews and learners' questionnaire responses, the study provided a context-specific understanding of how learner engagement shaped instructional practices, classroom interactions, and curriculum implementation. The findings aimed to contribute to the development of contextually relevant, evidence-based strategies that could enhance learner engagement and improve educational outcomes in resource-constrained rural schools.

1.1 Research problem statement

Despite policy and theoretical emphasis on learner-centred education, there is insufficient empirical evidence on how learner engagement influences teachers' delivery of the curriculum in resource-constrained rural schools. Specifically, it remains unclear how varying levels of learner engagement shape teachers' instructional strategies, classroom management, and their ability to effectively implement the curriculum in such contexts.

Therefore, this study seeks to explore the influence of learner engagement on teachers' delivery of the curriculum in a rural secondary school in Limpopo Province, South Africa.

Despite increasing emphasis on learner-centred pedagogies in South African education policy, there remains a disconnect between theoretical expectations and classroom realities, particularly in rural schools where structural constraints persist. This creates a critical need to empirically examine how learner engagement operates not only as a learner outcome but as a factor shaping teachers' instructional practices and

1.2 Research questions

The study is guided by the following research questions:

1. What strategies do teachers use to promote learner engagement in the classroom?
2. How do learners perceive these strategies and their impact on their engagement?
3. What challenges do teachers face in implementing learner engagement strategies?

2 Literature review

2.1 The concept of learner engagement

Learner engagement is a multifaceted concept central to understanding its impact on teachers' curriculum delivery. At its core, learner engagement refers to the level of attentiveness, involvement, and motivation demonstrated by learners throughout the learning process (Finn and Zimmer, 2012). This encompasses their willingness to acquire new knowledge, skills, and attitudes, as well as their ability to reflect on and apply what they learn meaningfully (Trowler, 2010).

Scholars typically conceptualize learner engagement through three interrelated dimensions: behavioral, emotional, and cognitive engagement (Fredricks, Blumenfeld, and Paris, 2018). Behavioral engagement reflects learners' active participation in classroom activities, including attending lessons, completing assignments, and contributing to discussions. Emotional engagement pertains to learners' affective responses, such as enjoyment, interest, and a sense of belonging, while cognitive engagement involves deeper learning strategies like critical thinking, problem-solving, and self-regulation (Kahu, 2013).

The National Survey of Student Engagement in 2018 further delineates learner engagement into behavioral and emotional dimensions, highlighting the importance of observable participation and affective commitment. Research underscores the critical role of learner engagement in fostering academic achievement, higher-order thinking, and information retention (Fredricks et al., 2018).

However, the concept is influenced by various internal and external factors. These include the learning environment, instructional methods, curriculum design, and social interactions, as well as individual learner characteristics like motivation, self-regulation, and prior knowledge (Trowler, 2010). Given its complexity, promoting learner engagement necessitates diverse strategies, such as incorporating active learning, ensuring relevance in curriculum design, and fostering an inclusive classroom climate (Kahu, 2013).

2.2 How learner engagement impacts the teacher's delivery of the curriculum

Learner engagement can have a significant impact on teachers' enthusiasm for teaching in the classroom. According to Kearney and Haydn (2018), teachers' experiences with learners vary depending on the level of engagement. When learners are

engaged, teachers experience positive emotions such as joy and satisfaction, increased motivation, and vitality, resulting in more dynamic and engaging instructional practices.

A study conducted by Fedricks, Blumenfeld and Paris, (2018) found that when teachers observed higher levels of learner engagement, it positively influenced their own enthusiasm and motivation towards teaching. This suggests that engaged learners can indirectly enhance a teacher's enthusiasm by creating a more interactive and dynamic learning environment. On the other hand, when learners are not engaged, teachers feel frustrated and disheartened because they believe that learners should be more active participants in the learning process (Yusuf and Oladunjoye, 2018).

Engaged learners, especially those with exceptional talents or abilities, can be demanding on the teacher's time, energy, and expertise. Although this does not contradict the positive impact of engagement on teachers, it does show that there are some potential risks or drawbacks to consider. Learners who engage in the teaching and learning process foster a positive classroom environment and reduce unnecessary disruptions, which in turn make it easier for teachers to deliver the content effectively (Woolley, 2020). A positive and welcoming classroom environment can help learners feel comfortable and ready to learn. This suggests that when learners are engaged, there is potential for teachers to optimise their own instructional methods to cater to their needs. Engaged learners facilitate improved communication and instruction skills for teachers. When learners are actively engaged in the learning process, teachers are required to adapt their instructional methods to effectively convey information, promote understanding, and address learners' individual needs (Hughes et al., 2019).

As learners actively participate and show interest, teachers become more attentive to their responses and can modify their communication style accordingly. This may include using different modes of communication, such as visual aids, interactive discussions, or technology-based tools, to cater to diverse learning preferences (Silvero and Shea, 2020). Harrison, Lee and Ha (2017) found a positive relationship between learner engagement and teachers' communication skills. Engaged learners stimulated teachers to use a wider range of communication techniques, such as asking open-ended questions, providing clear instructions, and offering explanations from multiple perspectives, leading to more effective classroom instruction.

Learner engagement allows teachers to facilitate the personalisation of learning, allowing them to tailor their instruction to meet individual learners' needs, abilities, and interests (Tomlinson, 2017). Engaged learners provide teachers with valuable insights into their learning preferences, strengths, and areas that require additional support. By actively involving learners in the learning process and encouraging their participation, teachers can gain a better understanding of each learner's learning style. This understanding enables teachers to adjust their instructional strategies, materials, and activities to accommodate diverse learner needs and optimise learning outcomes. Prendergast, Oberhauser and Odell (2019) support the relationship between learner engagement and personalised learning. They found that high levels of learner engagement enabled teachers to provide individualised instruction, such as differentiated assignments, targeted interventions, and the incorporation of real-life examples that resonate with learners' interests and experiences.

Fredricks et al. (2018), assert that engaged learners exhibit higher levels of self-regulation and self-discipline, leading to improved classroom management for teachers. When learners are engaged, teachers can establish a positive classroom environment characterised by mutual respect, collaboration, and effective discipline strategies. Engaged learners are more likely to follow classroom rules and procedures, reducing disruptive behaviour and promoting a supportive and safe learning atmosphere. Teachers can spend less time on disciplinary actions and devote more time to delivering the curriculum and facilitating meaningful learning experiences.

According to a study by Hughes et al., (2019), learner engagement is strongly associated with positive teacher-learner relationships and effective classroom management. Engaged learners tend to develop a sense of ownership and responsibility for their learning, leading to greater self-regulation and reduced instances of disruptive behaviour.

2.3 Theoratical framework

Theory plays a crucial role in the study of the effects of learner engagement on teachers' delivery of the curriculum since it provides a framework for understanding the complex interactions between teachers, learners, and the learning environment. Theoretical models such as social constructivism (Vygotsky, 1968) and self-determination theory (Deci and Ryan, 1985) will serve as the lens for this study. The concept of learner engagement essentially aligns with the self-determination theory (SDT) postulated by Deci and Ryan, 1985. The SDT suggests that an individual's inherent motivation and psychological needs are significant determinants of their engagement in any activity. According to the SDT, individuals are more motivated and engaged when they feel a sense of autonomy, competence, and connection with others in their learning environments (Ryan and Deci, 2017).

Self-determination theory offers a lens to understand how learner engagement affects teachers and curriculum. When learners are more engaged in their learning, they are more likely to experience a sense of autonomy, competence, and relatedness. As a result, teachers may witness increased learner motivation, improved task persistence, and positive learning outcomes (Ryan and Deci, 2017). Engaged learners are more likely to perceive the curriculum as meaningful and relevant, which can positively influence teachers' perceptions of the curriculum's effectiveness (Fredricks, Blumenfeld, and Paris, 2018). The framework of this study posits that learner engagement is a multifaceted construct that is influenced by a range of contextual and individual factors, including teacher practices, learner motivation, and the learning environment.

Social constructionism theory posits that reality is not an objective truth but rather a social construct shaped by individuals and societies through shared meanings and interpretations of the world. This theory emphasises that knowledge is not a fixed entity but is gradually constructed

through social interactions and cultural context (Berger and Luckmann, 1966). Social constructionism is a sociological theory of knowledge that argues that human development is socially situated and knowledge is constructed through interaction with others (Berger and Luckmann, 1966). From an educational perspective, this means that learning is a collaborative process where learners construct knowledge through engagement with the material, their teacher, and their peers, rather than passively receiving it from their teachers.

In this study, social constructivism will guide the exploration of how teachers and learners interact in the classroom and how their experiences influence the way the curriculum is taught. Moreover, social constructionism suggests that learner engagement drastically alters the manner in which the curriculum is presented and experienced. Instead of simply conveying predetermined knowledge, teachers are encouraged to foster an environment of active learning where learners can engage with the material and each other, thereby jointly constructing knowledge (Palincsar, 1998).

Teachers acting through the lens of social constructionism would therefore strive to actively involve learners in the learning process rather than just deliver one-way lectures. For instance, they may use group discussions, debates, role-plays, or problem-solving tasks to encourage learners to engage with the material in a more practical and dynamic way. Such interactive teaching strategies help learning become more meaningful, personalised and fun for learners. Engaging learners in the curriculum delivery process can, in turn, substantially impact the teacher's role. Teachers become less of the 'sage on the stage' and more of the 'guide on the side', facilitating the learners' interaction with the learning materials (King, 1993). The teacher's role then comprises eliciting learners' prior knowledge, incorporating learners' perspectives, and scaffolding their construction of knowledge.

Furthermore, social constructionism encourages teachers to be responsive to learner input. When learners are engaged and active participants, the feedback they offer (through questions, comments, or challenges) can reshape how the curriculum is delivered (Vygotsky, 1978). For example, if a teacher notices that a significant number of the learners seem to struggle with a certain topic, they might slow down, offer additional explanations, or present the material in a novel way that might better resonate with the learners. Incorporating social constructionism in the classroom acknowledges diverse learner experiences.

As every learner brings their own unique understanding to a topic, their engagement could prompt teachers to adapt their teaching strategies to accommodate diverse interpretations (Burr, 2015).

3 Research methodology

3.1 Research paradigm and approach

This study was grounded in the interpretivist paradigm, which emphasises understanding social phenomena from the perspectives of participants (Thanh and Thanh, 2015; Willis, 2007). The interpretivist stance was appropriate as the study sought to explore how teachers and learners subjectively experienced learner engagement and how these experiences influenced the delivery of the curriculum.

A qualitative research approach was employed to allow for an in-depth, contextually grounded exploration of participants' lived experiences (Creswell and Poth, 2018). The study further adopted a phenomenological orientation to capture teachers' and learners' perceptions of engagement within the classroom context, enabling the researcher to interpret meanings attached to their experiences.

3.2 Research design

A case study design was utilised to investigate the effects of learner engagement on teachers' delivery of the curriculum within a real-life context (Creswell and Poth, 2018; Maxwell, 2005). The case study approach enabled an in-depth examination of a single rural secondary school in the Capricorn District of Limpopo Province, allowing for a detailed understanding of how learner engagement manifests within a specific educational setting.

3.3 Study context

The study was conducted in Limpopo Province, South Africa, which has approximately 3,800 public schools, the majority of which are located in rural and under-resourced contexts. The selected school represents a typical rural schooling environment characterised by resource constraints, diverse learner needs, and contextual challenges affecting teaching and learning.

3.4 Population and sampling strategy

The population for the study comprised teachers and learners within a selected secondary school. A multistage purposive sampling strategy was employed.

First, one rural secondary school in the Capricorn District was purposively selected for its accessibility and representation of typical rural schooling conditions. Second, a Grade 11 class was selected, as learners at this level are considered capable of reflecting critically on their learning experiences. Third, participants were purposively selected based on their relevance to the study.

The final sample consisted of:

- Five (5) teachers with teaching experience and direct involvement in curriculum delivery
- Ten (10) Grade 11 learners representing varying levels of engagement

Purposive sampling was appropriate as it allowed the researcher to select participants with rich, relevant knowledge of learner engagement and its influence on teaching practices (Patton, 2015; Merriam, 2009).

3.5 Data collection methods

Data were collected using two complementary methods:

3.6 Semi-structured interviews

Semi-structured interviews were conducted with teachers to explore their experiences of learner engagement and its influence on curriculum delivery. This method allowed flexibility and depth, enabling participants to elaborate on their experiences while allowing the researcher to probe for clarity (Denzin and Lincoln, 2011; Patton, 2012).

3.7 Open-ended questionnaires

Open-ended questionnaires were administered to learners to capture their perspectives on engagement and its influence on teaching practices. The use of questionnaires provided an additional layer of data and enabled triangulation, thereby strengthening the credibility of the findings.

3.8 Data analysis

Data were analysed using thematic analysis, following the approach outlined by Braun and Clarke (2013). This involved:

1. Familiarisation with the data
2. Coding of responses
3. Identification of recurring patterns
4. Development of themes

Thematic analysis allowed the researcher to systematically interpret participants' experiences and identify key patterns related to learner engagement and curriculum delivery.

In addition, content analysis was applied to questionnaire responses to identify recurring trends and patterns, thereby complementing the thematic analysis process.

3.9 Trustworthiness

To ensure trustworthiness, the study adhered to the criteria of credibility, transferability, dependability, and confirmability (Guba and Lincoln, 2005).

- Credibility was ensured through triangulation and participant validation
- Transferability was achieved through detailed contextual descriptions
- Dependability was supported through consistent documentation of procedures
- Confirmability was maintained through an audit trail and minimisation of researcher bias

3.10 Ethical considerations

Ethical approval was obtained from the Turfloop Research Ethics Committee (TREC). Permission to conduct the study was also secured from the circuit manager and school principal.

Participants were informed of the purpose of the study and provided written informed consent. For learners, parental consent was obtained. Participation was voluntary, and participants were free to withdraw at any stage.

Confidentiality and anonymity were ensured through the use of pseudonyms, and all data were securely stored to prevent unauthorised access

4 Findings

4.1 Introduction

This section presents the findings of the study on the effects of learner engagement on teachers' delivery of the curriculum. Data were generated from semi-structured interviews with five teachers (T001–T005) and open-ended questionnaires completed by ten learners (L001–L010). The findings are presented thematically, with verbatim quotations used to illustrate participants' perspectives and to enhance the credibility of the analysis.

4.2 Theme 1: peer involvement and collaborative learning

Teachers consistently reported that peer interaction and collaborative learning enhanced learner engagement and facilitated more effective curriculum delivery.

> "Group work was very essential for active participation." (T001)

> "Peer-to-peer teaching and grouping learners increased their level of engagement." (T003)

> "Cooperative learning activities fostered teamwork, communication, and critical thinking." (T004)

> "Learner-centred teaching allowed learners to solve problems independently and support each other." (T005)

Learners similarly confirmed the importance of peer engagement:

> "Group discussions helped me understand better because we explained things to each other." (L002)

> "I participated more when working with others than when working alone." (L006)

> "Debates and group work made learning interesting." (L009)

These findings indicate that collaborative learning created opportunities for active participation, knowledge sharing, and deeper understanding, thereby supporting teachers' instructional practices.

4.3 Theme 2: relevance of content and assessment practices

Teachers emphasised that the relevance of curriculum content to learners' real-life experiences significantly influenced engagement levels.

> "When learners connected what they were learning to real-life situations, it increased their motivation." (T002)

> "Performance went hand-in-hand with engagement levels in the classroom." (T001)

> "Assessment activities such as quizzes helped monitor engagement and progression." (T003)

Learners reinforced this perspective:

> "I understood better when the lesson was related to real life." (L003)

> "If the content made sense to my life, I became more interested." (L004)

> "Tests and quizzes helped me see if I was paying attention." (L010)

The findings suggest that meaningful and relevant content enhanced learner motivation, which in turn supported teachers' ability to deliver the curriculum effectively.

4.4 Theme 3: Use of technology and hands-on activities

Participants highlighted the role of technology and practical activities in promoting learner engagement.

> "Technology made lessons more interactive and visually appealing." (T002)

> "Learners understood better when they had options using technology." (T005)

> "Most learners were familiar with technology, which increased engagement." (T001)

Learners also supported this view:

> "Videos and presentations made the lesson easier to understand." (L001)

> "Using technology made learning more interesting." (L005)

> "I paid more attention when the teacher used multimedia." (L008)

These findings indicate that integrating technology and practical activities enhanced learner interest, participation, and comprehension, thereby improving curriculum delivery.

4.5 Theme 4: instructional strategies and teaching adaptation

Teachers reported that learner engagement influenced their choice of instructional strategies and teaching approaches.

> "When learners were not engaged, I changed my teaching strategy." (T001)

> "Hands-on activities encouraged active participation and critical thinking." (T002)

> "Learner-centred approaches increased engagement compared to traditional teaching." (T002)

> "Different teaching styles helped accommodate learners' needs." (T004)

Learners echoed this:

"When the teacher changed the way of teaching, I understood better." (L002)

"Interactive lessons made me want to participate more." (L007)

"If the teacher only talked, I lost interest quickly." (L009)

These findings demonstrate that teachers adapted their instructional methods in response to learner engagement levels, highlighting a dynamic relationship between engagement and curriculum delivery.

4.6 Theme 5: classroom environment and teacher–learner relationships

Participants identified the classroom environment and teacher–learner relationships as key factors influencing engagement.

> "Positive relationships led to better engagement in the classroom." (T001)

> "Engaged learners created a dynamic environment that motivated me as a teacher." (T002)

> "Seating arrangements and classroom setup influenced engagement." (T005)

Learners added:

> "I was not afraid to ask questions when the teacher was supportive." (L003)

> "A good relationship with the teacher made me more active in class." (L006)

> "When the classroom felt comfortable, I participated more." (L010)

These findings suggest that a supportive and inclusive classroom environment enhanced learner participation and contributed to more effective curriculum delivery.

4.7 Summary of findings

The findings demonstrated that learner engagement had a significant influence on teachers' delivery of the curriculum. High levels of engagement were associated with increased teacher motivation, adaptive teaching strategies, improved classroom interaction, and enhanced curriculum relevance. Conversely, low engagement limited instructional effectiveness and reduced opportunities for meaningful learning.

5 Discussion

This study examined the effects of learner engagement on teachers' delivery of the curriculum within a rural secondary school context in Limpopo Province. The findings revealed that learner engagement significantly influenced teachers' instructional practices, classroom dynamics, and curriculum implementation. This section discusses these findings in relation to existing literature and theoretical frameworks, while also considering areas of convergence and divergence.

5.1 Learner engagement as a driver of instructional adaptation

The findings indicated that learner engagement played a central role in shaping teachers' instructional strategies. Teachers reported that they adjusted their teaching approaches, including the use of group work, hands-on activities, and differentiated instruction, in response to varying levels of learner engagement. This aligns with existing research suggesting that learner-centred pedagogies promote active participation and enhance teaching effectiveness (Fredricks et al., 2018; Tomlinson, 2017).

From a theoretical perspective, this finding is consistent with Self-Determination Theory, which posits that learners are more engaged when their needs for autonomy, competence, and relatedness are met (Deci and Ryan, 2017). Teachers in this study appeared to respond to learners' engagement levels by adopting strategies that supported these psychological needs, thereby reinforcing engagement and improving curriculum delivery.

However, while the findings support the positive relationship between engagement and instructional adaptation, some studies suggest that adapting teaching strategies to maintain high engagement can increase teacher workload and cognitive demands, particularly in under-resourced contexts (Mercer, 2020). This indicates that while engagement promotes pedagogical flexibility, it may also place additional pressure on teachers.

5.2 Collaborative learning and socially constructed knowledge

The study found that peer interaction and collaborative learning significantly enhanced learner engagement and supported curriculum delivery. Teachers reported that group discussions, peer teaching, and cooperative learning facilitated deeper understanding and active participation among learners.

These findings strongly align with Social Constructivism, which emphasises that knowledge is constructed through social interaction and collaboration (Vygotsky, 1978). The use of collaborative learning strategies enabled learners to actively co-construct knowledge, thereby improving comprehension and engagement.

While most literature supports the effectiveness of collaborative learning, some scholars caution that group-based approaches may not always lead to equitable participation, as some learners may dominate while others remain passive (Johnson and Johnson, 2014a; Johnson and Johnson, 2014b). This suggests that the effectiveness of collaborative learning depends on how well it is structured and facilitated by the teacher.

5.3 Relevance of curriculum content and learner motivation

The findings highlighted that the perceived relevance of curriculum content to learners' real-life experiences significantly enhanced engagement. Learners reported increased motivation when they could connect classroom content to their everyday lives.

This supports previous research indicating that meaningful and contextually relevant learning experiences promote learner motivation and engagement (Kahu, 2013; Skinner and Rickert, 2021). When learners perceive the curriculum as relevant, they are more likely to participate actively and invest effort in their learning.

However, contrasting evidence suggests that relevance alone may not be sufficient to sustain engagement, particularly in contexts where structural challenges such as overcrowded classrooms and limited resources persist (Spaull, 2021). This highlights the importance of considering contextual constraints when implementing engagement strategies.

5.4 Technology integration and engagement

The study revealed that the integration of technology and multimedia resources enhanced learner engagement by making lessons more interactive and accessible. Teachers reported that technology supported differentiated instruction and catered to diverse learning styles.

These findings are consistent with research demonstrating that digital tools can enhance engagement by promoting interactivity, visualisation, and personalised learning experiences (Kay, 2020; Chen et al., 2018; Chen et al., 2020). Technology-enabled instruction allowed teachers to diversify their teaching approaches and maintain learner interest.

Nevertheless, some studies caution that the effectiveness of technology integration is contingent upon access to resources and teacher competence (Tarhini et al., 2021). In rural contexts such as Limpopo, limited infrastructure and inadequate training may hinder the effective use of technology, thereby reducing its potential impact on engagement.

5.5 Classroom environment and teacher–learner relationships

The findings underscored the importance of a positive classroom environment and supportive teacher–learner relationships in promoting engagement. Teachers indicated that when learners felt supported and respected, they were more likely to participate actively in classroom activities.

This aligns with research highlighting the role of teacher–learner relationships in fostering engagement, motivation, and academic success (Roorda et al., 2011; Wentzel, 2020). A supportive classroom climate creates a sense of belonging, which is essential for sustained engagement.

However, some literature suggests that maintaining positive relationships in large and under-resourced classrooms can be challenging, potentially limiting the extent to which teachers can individualise support (Hughes et al., 2019). This reinforces the need for systemic support to enhance classroom conditions.

5.6 Implications for rural schooling contexts

The findings of this study have important implications for rural schooling contexts. While learner engagement positively influenced teachers' delivery of the curriculum, its effectiveness was shaped by contextual factors such as resource availability, class size, and institutional support.

This suggests that improving learner engagement in rural schools requires a holistic approach that includes:

- teacher professional development
- provision of teaching resources
- support for learner-centred pedagogies

Without addressing these systemic constraints, the potential benefits of learner engagement may not be fully realised.

6 Recommendations

Based on the findings of this study, the following practical recommendations are proposed to improve learner engagement and enhance teachers' delivery of the curriculum, particularly in rural school contexts:

6.1 Strengthening teacher professional development

It is recommended that schools and education departments prioritise continuous professional development programmes that focus on learner-centred pedagogies, active learning strategies, and classroom engagement techniques. Teachers should be equipped with practical skills to adapt instructional methods in response to varying learner engagement levels.

6.2 Promoting learner-centred and differentiated instruction

Teachers should adopt differentiated instructional approaches that accommodate diverse learner needs, abilities, and learning styles. This includes the use of flexible teaching strategies, varied learning materials, and alternative assessment methods to ensure that all learners remain actively engaged in the learning process.

6.3 Integrating technology to support engagement

Schools should invest in accessible and contextually appropriate technological resources to support interactive teaching and learning. Teachers should be trained to integrate multimedia tools, digital platforms, and interactive resources effectively to enhance learner engagement, particularly in resource-constrained environments.

6.4 Enhancing curriculum relevance

Curriculum designers and teachers should ensure that learning content is relevant to learners' real-life experiences and socio-cultural contexts. Linking curriculum content to practical applications can increase learner motivation, participation, and overall engagement.

6.5 Creating supportive classroom environments

Teachers should foster inclusive, supportive, and learner-friendly classroom environments that encourage participation, collaboration, and open communication. Positive teacher–learner relationships should be prioritised to enhance learners' confidence and willingness to engage in classroom activities.

6.6 Strengthening assessment for engagement

It is recommended that teachers implement formative assessment practices that provide continuous feedback to learners. Regular feedback enables teachers to monitor engagement levels and adjust instructional strategies accordingly, thereby improving both engagement and curriculum delivery.

6.7 Policy and system-level support

Education authorities should provide systemic support to address structural challenges such as large class sizes, limited resources, and inadequate infrastructure in rural schools. Without addressing these contextual barriers, efforts to enhance learner engagement may have limited impact.

7 Conclusion

This study investigated the effects of learner engagement on teachers' delivery of the curriculum within a rural secondary school in Limpopo Province. The findings demonstrated that learner engagement plays a critical role in shaping teachers' instructional practices, classroom interactions, and overall curriculum implementation. When learners were actively engaged, teachers were more likely to adopt adaptive, learner-centred teaching strategies, incorporate collaborative learning approaches, and create interactive learning environments that enhanced understanding and participation.

The study further revealed that learner engagement contributed to improved teacher motivation, instructional creativity, and classroom management. Engaged learners facilitated meaningful teacher–learner interactions and supported the development of a positive classroom climate, which in turn strengthened curriculum delivery. However, the findings also indicated that the effectiveness of learner engagement is mediated by contextual challenges such as limited resources, time constraints, and diverse learner needs, particularly within rural schooling environments.

Importantly, the study highlights that learner engagement is not only an outcome of effective teaching but also a driver of pedagogical change. Teachers continuously responded to learners' levels of engagement by modifying their instructional approaches, demonstrating the dynamic and reciprocal relationship between learner engagement and curriculum delivery. These findings contribute to a more nuanced understanding of engagement as both a pedagogical tool and a contextual challenge within resource-constrained educational settings.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by University of Limpopo Research Ethics Committee. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

Author contributions

MS: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. PM: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

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References

Berger, P. L., and Luckmann, T. (1966). *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. Garden City, NY: Anchor Books.

Braun, V., and Clarke, V. (2013). *Successful Qualitative Research: A Practical Guide for Beginners*. London: SAGE Publications.

Burr, V. (2015). *Social Constructionism* (3rd ed.). Hove, East Sussex; New York, NY: Routledge.

Chen, J., Cheng, W., and Wang, C. (2020). Engaging students in online learning: the impact of feedback interventions on learner satisfaction and academic achievement. *Comput. Educ.* 144, 103693. doi: 10.1016/j.compedu.2019.103693

Chen, J., Wang, M., Kirschner, P. A., and Tsai, C.-C. (2018). The role of collaboration, computer use, learning environments, and supporting strategies in CSCL: a meta-analysis. *Rev. Educ. Res.* 88 (6), 799–843. doi: 10.3102/0034654318791584

Creswell, J. W., and Poth, C. N. (2018). *Qualitative Inquiry and Research Design: Choosing among Five Approaches*. 3rd ed. Los Angeles, CA: SAGE Publications.

Deci, E. L., and Ryan, R. M. (1985). *Intrinsic Motivation and Self-Determination in Human Behavior*. New York: Springer Science & Business Media. doi: 10.1007/978-1-4899-2271-7

Deci, E. L., and Ryan, R. M. (2017). Self-determination theory: a macrotheory of human motivation, development, and health. *Can. Psychol.* 49 (3), 182–195. doi: 10.1037/a0012801

Denzin, N. K., and Lincoln, Y. S. (2011). *The Sage Handbook of Qualitative Research*. 4th ed. Thousand Oaks, CA: SAGE Publications.

Finn, J. D., and Zimmer, K. S. (2012). "Student engagement: what is it? Why does it matter?," in *Handbook of Research on Student Engagement*, eds. S. L. Christenson, A. L. Reschly, and C. Wylie (New York, NY: Springer), 97–131.

Fredricks, J. A., and McColskey, W. (2018 reprint). The measurement of student engagement. In *Handbook of Research on Student Engagement*, eds S. L. Christenson et al. (Springer). doi: 10.1007/978-1-4614-2018-7_37

Guba, E. G., and Lincoln, Y. S. (2005). "Paradigmatic controversies and emerging confluences," in *The Sage Handbook of Qualitative Research*, 3rd edn. eds. N. K. Denzin, and Y. S. Lincoln Sage, 191–215.

Harrison, C., Lee, H., and Ha, M. (2017). The role of teacher communication and student engagement. *J. Sch. Psychol.* 61, 45–59.

Hattie, J., and Timperley, H. (2007). The power of feedback. *Rev. Educ. Res.* 77 (1), 81–112. doi: 10.3102/003465430298487

Hughes, E., Boulton, C. A., Kent, C., Smith, J. R., and Williams, H. T. P. (2019). Student engagement and wellbeing over time. *PLOS ONE*, 14 (11), e0225770. doi: 10.1371/journal.pone.0225770

Johnson, D. W., and Johnson, R. T. (2014a). *Active Learning: Cooperation in the College Classroom*. Edina, MN: Interaction Book Company.

Johnson, D. W., and Johnson, R. T. (2014b). Using technology to revolutionize cooperative learning: an opinion. *Front. Psychol.* 5:1156. doi: 10.3389/fpsyg.2014.01156

Kahu, E. R. (2013). Framing student engagement in higher education. *Stud. High. Educ.* 38 (5), 758–773. doi: 10.1080/03075079.2011.598505

Kay, R. H. (2020). Analysing the use of mathematics apps in elementary school classrooms. *Contemp. Educ. Res. J.* 10 (2), 68–78. doi: 10.18844/cerj.v10i2.4732

Kearney, M., and Haydn, T. (2018). Teacher engagement in curriculum decision-making. *Br. Educ. Res. J.* 44 (3), 451–474.

King, A. (1993). From sage on the stage to guide on the side. *Coll. Teach.* 41 (1), 30–35.

Maxwell, J. A. (2005). *Qualitative Research Design: An Interactive Approach*. Thousand Oaks, CA: SAGE Publications.

Mercer, S., and Dörnyei, Z. (2020). *Engaging Language Learners in Contemporary Classrooms*. Cambridge University Press. doi: 10.1017/9781009024563

Merriam, S. B. (2009). *Qualitative Research: A Guide to Design and Implementation*. San Francisco, CA: Jossey-Bass.

Mthethwa, L. C., and Ngwenya, T. (2022). Changing pedagogy in rural secondary schools through the technology, pedagogy, content, and spaces (TPeCS) knowledge framework. *S. Afr. J. Educ.* 43 (Supplement 1), Article 2413. doi: 10.15700/saje.v43ns1a2413

Palincsar, A. S. (1998). Social constructivist perspectives on teaching and learning. *Annu. Rev. Psychol.* 49, 345–375. doi: 10.1146/annurev.psych.49.1.345

Patton, M. Q. (2012). *Qualitative Research and Evaluation Methods*. 4th ed. Thousand Oaks, CA: SAGE Publications.

Prendergast, M., Oberhauser, A. M., and Odell, J. (2019). *Personalized Learning*. New York, NY: Routledge.

Quin, D. (2017). Longitudinal and contextual associations between teacher-student relationships and student engagement: a systematic review: a systematic review. *Rev. Educ. Res.* 87 (2), 345–387. doi: 10.3102/0034654316669434

Reeve, J., Matos, L., Herrera, D., and Claux, M. (2018). Students' agentic engagement predicts longitudinal increases in perceived autonomy-supportive teaching: The squeaky wheel gets the grease. *J. Exp. Educ.* 86 (4), 579–596. doi: 10.1080/00220973.2018.1448746

Roorda, D. L., Koomen, H. M., Spilt, J. L., and Oort, F. J. (2011). Teacher–student relationships and engagement. *Rev. Educ. Res.* 81 (4), 493–529. doi: 10.3102/0034654311421793

Silvero, A., and Shea, P. (2020). Enhancing learner engagement through multimodal communication strategies. In *Proceedings of the South Africa International Conference on Education (SAICEd), 20–21 October 2020: Rethinking teaching and learning in the 21st century*, eds M. Motseke, M. Chitiyo, U. I. Ogbonnaya, O. C. Dada, and G. Charles-Ogan (pp. 342–399). African Academic Research Forum. ISBN: 978-0-620-89546-0.

Skinner, E., and Rickert, N. P. (2021). Parent and teacher warm involvement and students' academic engagement: The mediating role of self-system processes. *Br. J. Educ. Psychol.* 92 (2), 667–687. doi: 10.1111/bjep.12470

Spaull, N. (2021). Child development in South Africa: Evidence from PIRLS 2021. *Presentation to the Parliament of South Africa, October 28, 2021*. Available online at: https://nicspaull.com

Tarhini, A., Alalwan, A. A., Cao, D., and Al-Qirim, N. (2021). Integrating emotional attachment, resource sharing, communication and collaboration into UTAUT2 to examine students' behavioural intention to adopt social media networks in education. *Int. J. Technol. Enhanced Learn.* 13 (1), 1–23. doi: 10.1504/ijtel.2021.111588

Taylor, N. (2021). The dream of Sisyphus: Mathematics education in South Africa. *S. Afr. J. Child. Educ.*11 (1), a911. doi: 10.4102/sajce.v11i1.911

Thanh, N. C., and Thanh, T. L. (2015). The interconnection between interpretivist paradigm and qualitative methods in education. *Am. J. Educ. Sci.* 1 (2), 24–29. Available online at: http://www.publicscienceframework.org/journal/paperInfo/ajes?paperId=672

Tomlinson, C. A. (2017). *How to Differentiate Instruction in Mixed-ability classrooms* (3rd ed.). Alexandria, VA: ASCD.

Trowler, V. (2010). *Student Engagement Literature Review*. York: Higher Education Academy.

Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.

Wentzel, K. R. (2020). *Motivating Students to Learn (4th ed.)*. New York: Routledge. doi: 10.4324/9780429027963

Willis, J. W. (2007). *Foundations of Qualitative Research: Interpretive and Critical Approaches*. Thousand Oaks, CA: Sage Publications.

Woolley, A. W. (2020). Engaging learners. *Curr. Dir. Psychol. Sci.* 29 (1), 50–55.

Yusuf, M. O., and Oladunjoye, O. A. (2018). Learner engagement predictors. *J. Soc. Sci.* 48 (3), 276–287.