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Refining preservice teachers' vocabulary instruction through coaching and reflection using mixed reality simulations

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Background: Effective vocabulary instruction underpins learners' oral and reading comprehension; however, persistent comprehension difficulties in South African schools linked to limited vocabulary teaching highlight the need to strengthen preservice teachers' instructional capacity.

Objectives: This study examined how engagement in iterative cycles of practice, supported by coaching and reflection within mixed reality simulation (MRS) microlessons, enhances preservice teachers' isiZulu vocabulary instruction in the Foundation Phase.

Method: A qualitative interpretive case study design was used, drawing on lesson observations, coaching and reflection sessions, and focus group interviews. The study involved 19 second-year university students in Johannesburg preparing to teach isiZulu Home Language reading in Foundation Phase classrooms.

Results: Preservice teachers initially struggled with appropriate word selection, systematic instruction, and the provision of learner-friendly definitions, resulting in fragmented explanations and limited learner understanding.

Conclusion: Engagement in MRS microlessons, coaching, and reflection discussions improved participants' ability to select, explicitly teach, and clearly explain vocabulary, thereby enhancing learners' contextual understanding.

Contribution: The findings of this study show that integrating MRS microlessons, coaching, and reflection discussions strengthens preservice teachers' vocabulary instruction and supports their preparation to address comprehension challenges in South African classrooms through simulated practice, feedback, and reflective approaches that transform teaching practices into effective and inclusive ones.

Keywords: mixed reality simulation; vocabulary instruction; deliberate practice; Foundation Phase; isiZulu.

Introduction

Vocabulary is one of the five essential components of effective reading instruction (Learning Point Associates 2004) and a crucial aspect of oral and written language comprehension (Durgunoğlu et al. 2021). Developing readers rely on the pronunciation and meaning of words in their oral vocabulary to recognise and comprehend written words (Gough & Tunmer 1986; Kambach & Mesmer 2024; Learning Point Associate 2004).

Vocabulary plays a critical role in reading comprehension, as familiarity with word meanings is essential for interpreting and understanding written text (Eray 2017). When learners are more familiar with the meanings of oral vocabulary, they are more likely to understand what they read (Manihuruk 2020). The reader's level of vocabulary knowledge determines the reader's reading comprehension performance in that language (Sidek & Rahim 2015).

Despite the importance of vocabulary knowledge, studies have shown that many learners continue to experience substantial gaps in their vocabulary development (Ayana, Mereba & Alemu 2024). Learners from lower socio-economic backgrounds tend to enter school with a more limited vocabulary than their peers from higher socio-economic backgrounds

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(Pretorius & Stoffelsma 2017) 'a disparity often attributed to limited access to resources that support language growth. Sibanda (2014) argues that English First Additional Language learners face challenges with vocabulary acquisition due to contextual environments that inadequately foster language development. Vocabulary deficits, which are a significant barrier to reading comprehension, often hinder learners' ability to make sense of texts (Howie et al. 2017; Pretorius & Spaull 2016). Research by Kiliç (2019), Mbhele (2019), Vundla (2020), Mamabolo (2022), and Simelane (2022) further indicates that teachers frequently overlook vocabulary instruction, despite its centrality to reading comprehension and language proficiency, thereby contributing to learners' weak vocabulary knowledge.

Similarly, Khan and Krishnasamy (2024) and Kiliç (2019) note that classroom instruction often provides limited opportunities for the practical application of vocabulary and often neglects explicit vocabulary instruction. Some educators view vocabulary instruction as particularly demanding and thus devote minimal time to it, despite its critical role in language development (En-Nda & Koumachi 2022).

The lack of systematic vocabulary instruction in schools underscores the need to reconsider how preservice teachers (PSTs) are trained to teach vocabulary and prepared for the actual classroom. Teacher education institutions (TEIs) commonly use microlessons to develop student teachers' instructional skills, which are short, structured lessons intended to help students practise teaching (Richard 2021). A student teacher prepares a short lesson and presents it to 3–4 peers posing as learners; the lesson is recorded for the mentor to review and provide feedback (Ping 2013). However, traditional microlessons, like any other phenomenon, have limitations. One of these limitations is the lack of authenticity and intentional feedback. In the researcher's view, this is because students often prioritise completing the session over engaging in meaningful reflection and providing constructive, critical feedback to their peers, thereby undermining the development of their reflective and evaluative skills. In a similar vein, He and Yan (2011), Ye, Fan and Wang (2025), and Inyang (2022) argue that the artificial nature of students' feedback fails to capture the dynamic and unpredictable realities of classrooms, leaving PSTs underprepared for behavioural and instructional challenges. Though microlessons provide valuable practice, they might have some limitations for effective instruction.

To address these limitations, this study explores the potential of mixed reality simulation (MRS) microlessons as an innovative approach to improving and refining PSTs' vocabulary instruction.

Mixed reality simulation integrates physical and digital environments to create immersive teaching contexts that enhance authenticity and engagement. In platforms such as TLE TeachLivE™, PSTs interact with student avatars controlled by trained simulation specialists, who provide real-time responses to simulate authentic classroom dynamics (Gravett et al. 2023; Hudson et al. 2019; Dieker et al. 2014). Unlike traditional microlessons, MRS affords PSTs the opportunity to engage in multiple cycles of repeated teaching, thereby allowing them to deliberately practise essential instructional skills in realistic scenarios (Van der Merwe et al. 2024). These sessions also incorporate structured coaching and reflection, which foster professional growth through targeted feedback and peer collaboration (Mraz et al. 2016). The coaches' observations of PSTs' instructional practices provide critical insights and constructive feedback, which participants can apply in subsequent teaching cycles (Harris & Newcomb 2024).

Several recent studies have examined the use of MRS to support PSTs' professional learning. In the United States, research has demonstrated the effectiveness of platforms such as TeachLive in developing instructional and classroom management skills (Dieker et al. 2014, 2023), while more recent studies have explored PSTs' perceptions of classroom-based MRS (Freeman & Lee 2024) and the use of MRS to promote equitable opportunities to respond in classrooms (Anderson & Calandra 2025). In Australia, studies have focused on the use of MRS to prepare PSTs for inclusive classroom management and to practise de-escalation skills in safe, supported environments (Cumming, Lee & Hoenig 2025).

Within the South African context, growing research has investigated the value of MRS for PST education. Studies have examined MRS as a tool to support practice-based learning (Gravett et al. 2023), to elicit learners' prior knowledge during instruction (Nel & Marais 2023), and to enhance reading literacy teaching within initial teacher education programmes (Nel, Dieker & Marais 2024). Additional postgraduate studies have explored how MRS combined with coaching supports the development of core teaching practices, such as questioning (Bremner 2024; Tshabalala 2024), the experiences of teacher educators as coaches (Van der Merwe et al. 2024) as well as simulation specialists maintaining fidelity in MRS environments (Mello & Van der Merwe 2026).

Despite this growing body of research, existing studies have predominantly focused on general pedagogical skills, classroom management, or English-medium literacy instruction. There remains a notable gap in research examining the use of MRS and coaching to prepare PSTs to teach African language content, particularly vocabulary instruction in the Foundation Phase. This study addresses this gap by investigating how MRS microlessons and coaching refine PSTs' isiZulu vocabulary instruction in Grade 3 classrooms. In doing so, the study provides empirically grounded insights into how to plan and structure an effective vocabulary instruction lesson, which will add to the body of literature on African language literacy and how TEIs can combine MRS and coaching to advance PSTs' vocabulary practices and prepare them for the actual

classroom. It will also broaden MRS research to include discipline and language-specific instructional development beyond English.

This study was grounded in two complementary theoretical frameworks: Deliberate Practice (Ericsson 2008) and Explicit Vocabulary Instruction (Beck, McKeown & Kucan 2013). Deliberate Practice is defined as structured, learner-focused training that targets challenging aspects of a task through repeated practice, optimal planning, and immediate feedback (Dill 2019; Moulaert et al. 2004). It emphasises purposeful engagement with clearly defined sub-skills, enabling students to refine performance through iterative cycles of practice and reflection. In this study, PSTs participated in two cycles of presenting a vocabulary lesson in a simulated environment, allowing students to rehearse and improve their instructional strategies. Explicit Vocabulary Instruction advocates systematic, intentional, and robust vocabulary instruction, ensuring that learners receive rich, in-depth information about words (Beck, McKeown & Kucan 2002). This approach includes the pre-selection of high-value Tier 2 words[1], the provision of clear definitions, the exploration of word relationships, such as morphology and synonyms, and guided practice accompanied by feedback (Young-Davy 2014).

Together, these frameworks offer a dual lens for professional development: (1) Deliberate Practice facilitates repeated, feedback-driven teaching cycles; while (2) Explicit Vocabulary Instruction ensures depth and intentionality in vocabulary learning. This integration supports the development of metalinguistic skills and enhances PSTs' capacity to deliver effective vocabulary instruction.

The two frameworks underpinning this study operated synergistically to strengthen PSTs' vocabulary instruction through MRS microlessons, coaching, and structured reflection sessions. This bifocal lens facilitated engagement in two cycles of intentional practice aimed at refining a specific instructional skill: vocabulary teaching within a controlled, feedback-rich environment.

Deliberate Practice emphasises purposeful engagement in repeated, targeted activities to develop teaching competencies, while Explicit Vocabulary Instruction provides a systematic approach for teaching words with precision and depth, focusing on metalinguistic awareness and successful word learning.

Building on these complementary frameworks, the intervention provided PSTs with opportunities to rehearse and improve their vocabulary instruction through two iterative lesson presentation cycles. Each cycle required participants to prepare and deliver lessons that incorporated explicit strategies for teaching high-value words, supported by feedback and reflection. An identified area for improvement was the development of vocabulary instruction, which informed the design of this targeted professional development initiative. Through repeated practice and guided coaching, PSTs refined their instructional techniques and enhanced their capacity to teach vocabulary effectively.

The study, therefore, aimed to investigate the impact of MRS, supplemented by coaching sessions, on equipping PSTs with instructional skills to effectively teach vocabulary to their students. It sought to answer the research question: How effective are MRS microlessons, when combined with coaching, in developing PSTs' vocabulary instruction in the Foundation Phase? The objective of this study was to examine the extent to which MRS microlessons, supported by coaching, enhance PSTs' ability to implement effective isiZulu vocabulary instruction in the Foundation Phase. To achieve this aim, the study drew on Beck et al.'s (2002) framework for Explicit Vocabulary Instruction and Ericsson's (2008) Deliberate Practice framework. These frameworks are particularly relevant, as Deliberate Practice emphasises purposeful engagement in multiple activities to develop teaching skills, while Explicit Vocabulary Instruction focuses on teaching each word explicitly and systematically. Together, they provide a theoretical lens for understanding how MRS microlessons coupled with coaching can refine PSTs' vocabulary instruction.

Research methods and design

This article has studied an interpretivist research paradigm, which recognises that reality and knowledge are socially constructed through individuals' interactions and subjective interpretations of their experiences (Kumatongo & Muzata 2021; Omodan 2022). It aims to understand how the participants being studied view the phenomena being observed and their interpretations and understandings of the world they live in (Kivunja & Kuyini 2017). An interpretivist research design was appropriate for this study as it sought to gain an in-depth understanding of PSTs' experiences and meaning-making processes within MRS contexts. The study focused on observing PSTs' engagement during MRS microlessons, coaching interactions, and reflective sessions, and on exploring how PSTs interpreted their participation in these learning experiences. In addition, a qualitative case study design was employed to enable an in-depth, contextualised exploration of a bounded group of participants within a specific community or setting (Schoch 2020). In the field of education, case study research enables close engagement with participants, facilitating rich descriptions of complex educational phenomena (Muzari et al. 2022). In this study, a case study design was suitable, as the research sought to investigate a group of second-year Bachelor of Education (Bed, Foundation Phase) PSTs at a university in Johannesburg who were studying isiZulu as a Home Language. The design was well-suited for examining their development of vocabulary instruction strategies through participation in MRS microlessons, coaching, and reflection.

1.High frequency academic words that are used are across the subjects.

A qualitative approach was adopted to foreground participants' perspectives, meanings, and lived experiences within their natural learning context (Busetto, Wick & Gumbinger 2020). This approach enabled the researcher to generate detailed insights into how MRS microlessons supported PSTs' development of vocabulary instruction for teaching isiZulu vocabulary in the Foundation Phase, without seeking statistical generalisation (Hazari 2024).

The participants (n = 19) comprised purposively selected second-year Foundation Phase PSTs specialising in isiZulu as a Home Language. These were all second-year students doing isiZulu as a Home Language. The participants were selected for three key reasons aligned with the aims of the study. First, given that the purpose of the study was to investigate the impact of MRS, supplemented by coaching sessions, on PSTs' development of vocabulary instructional skills, it was essential to select participants who were enrolled for isiZulu Home Language. Secondly, as the study specifically focused on vocabulary instruction within an isiZulu context, it was therefore relevant to identify BEd students specialising in isiZulu Home Language. Lastly, the study sought to provide PSTs with opportunities to develop and practise vocabulary teaching skills in preparation for real classroom contexts. Second-year BEd students were purposefully selected because, within their programme, they are enrolled in an isiZulu Methodology module during their second year of study. This module provided an appropriate and authentic context for implementing the intervention, as the MRS-based microlessons formed part of the students' practical assessment tasks which were conducted within the premises of the institution, during which they practised teaching isiZulu vocabulary. This alignment enabled the researcher to meaningfully assess the intervention's effectiveness within an existing curricular structure.

Data were generated through MRS lesson presentations, coaching and reflection sessions, and focus group interviews. All microlessons and coaching and reflection sessions discussions were video-recorded and focused group interviews were audio recorded to allow for detailed analysis. Data collection focused on examining instructional practices, engagement during coaching and reflection, and how participants incorporated feedback from the first cycle into subsequent teaching. Following the two cycles, focus group interviews were conducted to explore shared experiences of MRS microlessons and participants' perceptions of the value of coaching and reflection in shaping their instructional practices. The researcher was not actively involved in the data collection process during cycles 1 and 2. During the MRS micro-lesson presentations and the coaching and reflection sessions, during this process of data collection, the researcher's role was limited to observation. The researcher took an active role only during the focus group interviews, serving as the interviewer. Figure 1 shows a chart indicating and detailing the MRS microlesson cycles and the coaching sessions.

Data were analysed using a thematic analysis, which is effective for identifying patterns of meaning across qualitative datasets (Braun & Clarke 2006; Finlay 2021). An inductive data analysis approach was used to analyse data, which included generating codes and themes from the existing data (Braun & Clarke 2006). It is a detailed process of analysing data that includes a thorough reading of the data, identifying codes, analysing and comparing codes to generate categories, and analysing categories to generate themes (Thomas 2006). Below is a detailed process of analysing data that was followed in the current research.

Data analysis process

Transcription of data

For ease of data analysis, the video-recorded MRS microlessons, coaching and reflection sessions, and the audio-recorded focus group interviews were transcribed into Microsoft Word documents. To ensure participant anonymity, a coding system was used across all transcriptions. In the lesson presentation transcripts, the code PST1L referred to Preservice Teacher 1 Lesson. For the coaching and reflection session transcripts, the code C&R GR1 (PST1) was used, referring to Coaching and Reflection Group 1 (Preservice Teacher 1). In the focus group interview transcripts, participants were identified using the code FG1R1 (Q1), referring to Focus Group 1, Respondent 1, Question 1.

Observation notes

In relation to the MRS microlesson presentations, the researcher revisited the lessons from cycle 1 and compared them with the feedback discussions. She then examined the lesson presentations in cycle 2 in comparison with those from cycle 1, as well as the coaching and reflection discussions that took place. While watching these presentations, the researcher took notes comparing the PSTs' lesson presentations between cycle 1 and cycle 2.

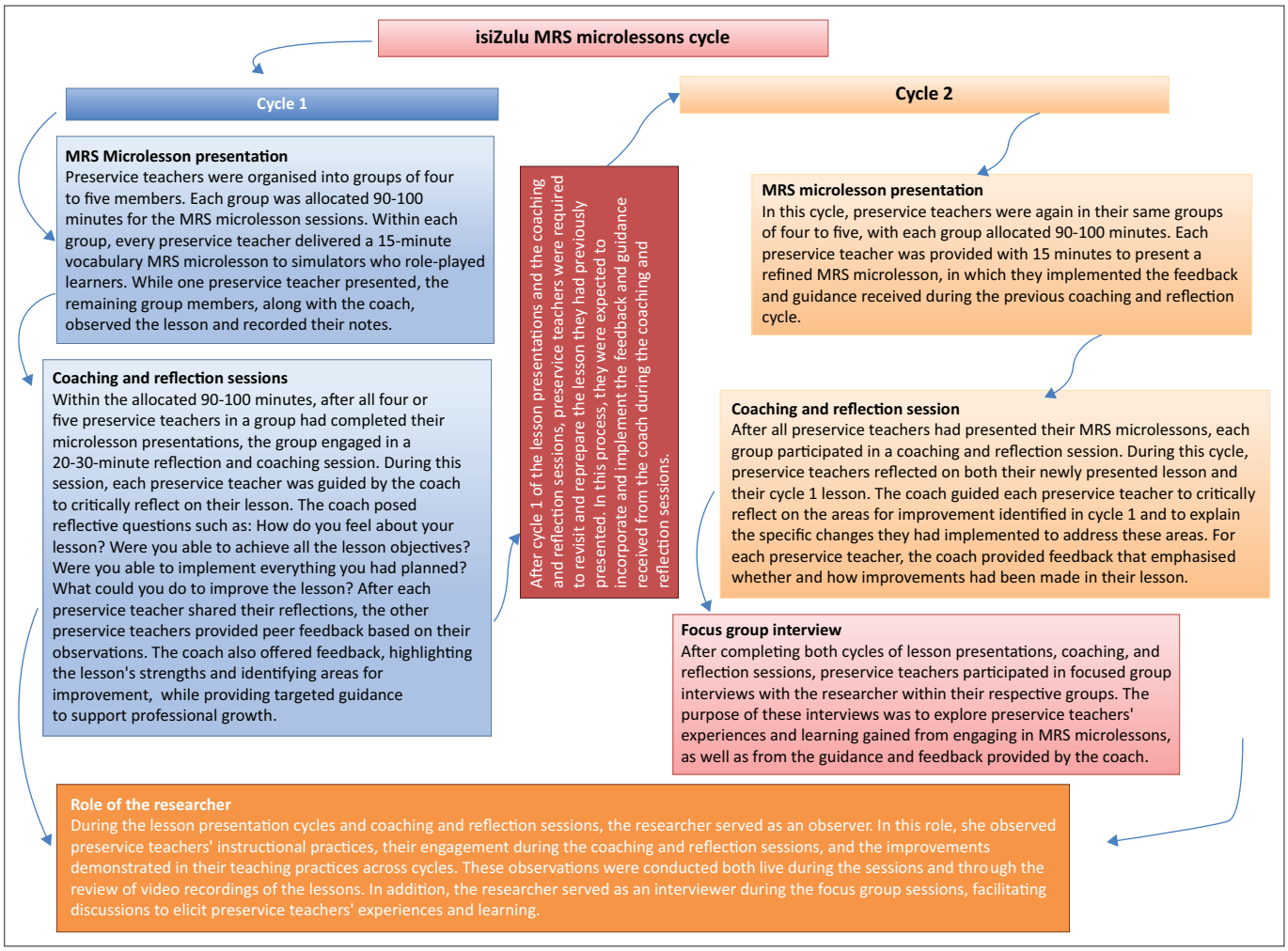
Coding

In relation to the coaching and reflection sessions and the focus group interview sessions that were transcribed into Word documents, the researcher read the transcriptions multiple times, analysing them to identify codes. Figure 2 and Figure 3 show coding samples for the coaching and reflection sessions and interview discussions.

Figure 2 and Figure 3 illustrate a sample of coded interview transcripts and coaching and reflection transcripts, where different colours indicate different codes and the corresponding codes are listed on the right of the highlighted text.

Categorisation

After a thorough analysis and identification of codes, the researcher combined the codes generated from both datasets (interviews and coaching and reflection sessions). The relationships among the codes were examined, and codes addressing similar concerns were grouped into categories (see Figure 4). The following section illustrates how the transition from coding to categorisation was undertaken.



MRS, mixed reality simulation.

FIGURE 1: Mixed reality simulation microlesson cycle.

Development of themes

After a thorough analysis and comparison of the categories, the researcher grouped categories addressing similar concerns to generate broader themes. The example in Figure 5 illustrates how categories were grouped to formulate overarching themes.

Writing up

Following the development of themes, the researcher proceeded to the write-up phase, which involved a detailed presentation and discussion of each theme.

Triangulation across multiple data sources enhanced the trustworthiness of the findings. The findings reported in this article form part of a doctoral study. Prior to data collection, ethical clearance was obtained from the institution's faculty ethics committee in accordance with the Declaration of Helsinki, and the researcher is registered as a PhD student at the institution. The researcher subsequently met with the students selected as participants to explain the purpose and nature of the study, emphasising that participation posed no risk or harm. Participants were informed that their participation was voluntary and that they could withdraw from the study at any stage without penalty. It was further clarified that no financial compensation would be provided for participation. However, participants were informed that their involvement would contribute not only to addressing the research questions but also to the development and improvement of their vocabulary instruction practices.

Ethical considerations

Ethical clearance to conduct this study was obtained from the Faculty of Education Research Ethics Committee at the University of Johannesburg (No. SEM 1-2024-053).

Findings

Theme 1: Coaching through mixed reality simulation reveals preservice teachers' limited awareness in selecting instructionally appropriate vocabulary

During the first cycle of the MRS microlessons, the researcher observed PSTs presenting their lessons in the simulation environment. The observations revealed that many PSTs struggled to identify vocabulary that learners were likely to find challenging. Rather than selecting instructionally appropriate or conceptually demanding

words, several of them chose high-frequency words that young learners were likely to understand already. The field notes presented in Box 1 illustrate some of the high-frequency words that PSTs selected and taught as if they were difficult.

During coaching and reflection sessions, the coach observed and addressed instances of inadequate word selection, emphasising the need for PSTs to prioritise words that pose genuine learning challenges for learners, rather than opting for familiar or simplistic vocabulary. The following excerpts illustrate the coach's guiding comments:

> 'Zama ukuthi wenze amagama amasha abangawazi ukuze kubekhona abakufundisa because if ufundisa anagama abawziyo then akukho okusha abakufundile esifundweni sakho.' ['Try to select new words that they don't know so that they have something to learn, because if you teach them words they know, then they won't learn anything new in your lesson.'] (C&R, GR2, PST2)

> 'Usebenzise amagama ajwayelekile abafundi okungenzeka ukuthi bayawazi; zama ukuthi uwashintshe amagama akho kube amagama abafundi abangawazi.' ['You used common words that students may know; try to change your words to words that students may not know.'] (C&R, GR3, PST2)

> 'You are teaching new vocabulary. Do not choose words that we use every day.' (C&R, GR4)

In the second iteration of their teaching practice, PSTs exhibited improved discernment in vocabulary selection, although time constraints precluded some from completing their lessons. Notably, those who completed their lessons tended to substitute familiar words with more advanced, less familiar alternatives.

The examples in Box 2 are from the researcher's observation notes and illustrate the words chosen by PSTs in place of more common vocabulary.

This improvement was also acknowledged by the PSTs themselves in the coaching and reflection sessions. Next follows some of the PSTs' remarks:

> 'Uthe ngishintshe amagama cause it's not difficult words ngashintsha two ngifake anhlanhlatheke and amafosi.' ['You said I should change the words because they're not difficult words, so I changed two and put in anhlanhlatheke and amafosi.'] (C&R, GR2, PST2)

> 'Last week, angenzanga difficult words; this time ngikwenzile.' ['Last week I didn't do difficult words; this time I did.'] (C&R, GR3, PST3)

This learning was further reinforced during the focus group discussions, where PSTs acknowledged that, initially, they were unaware of the need to select vocabulary that learners

Respondent 1: I think it was useful because I improved from my first cycle, I was nervous, did not follow my plan. I was not used to the tool, it was my first time using it. So it helped me because in the second cycle besengingconyana because I was able to cover everything and like I said *bengingakhoni ukubanaka bonke and abanye bebelala so ku cycle 2 ngibanake bonke ngamanika I attention abayidingayo*.	Improvement through practice Improved practice Improved learner engagement
Respondent 2: My first cycle was not that bad because I was not able to follow my plan as I was very nervous. There was a time where I asked learners their vocabulary words but did not explain them, the coach made me aware of it and I fixed it for my second cycle I also did not discuss the words in detail like *ukuthi igama limeleni azange ngikuchaze*, but was able to fix that for my second cycle. So my second cycle is better.	Missed instructional opportunity Reflective learning through coaching Insufficient use of metalinguistic skills Improved practice

FIGURE 2: Interview coded transcriptions.

introduction iyasiza kubody and it links to it. I think ukhethe kahle amagama, uwachazile ukuthi asho ukuthini, wabanika ithuba lokuthi ba engage nawe bakhe imisho yabo, wabanika amasenonyms of those as well. But trya ukubuza ukuth amagama lawa asebenza kahle emushweni like for an example ukucashelana isenzo emshweni you need to provide that information. I like ukuthi ubafundisisle ukuphimisa amagama wawasebenzisa ngamalunga that was good. Ubheke izinto ezenzakalayo ekilasini cos uJacob ufake amaheasets eclasini and you did not notice that. uJayla ulalile but I think umbuze umbuzo	**Coach**: I think you did well, there is so much improvement looking at your lessons in cycle 1 but you know there is always a room for improvement. I think for today all of you tried to engage with your learners better. **COACH AND PST 1**: Youmesson was very good and you did well you worked on everything that said you need to work on. You started your lesson by showing them pictures and asking them to predict the word. I like ukuthi usebenzise imisho from the story for I context, and everyone was able to see ukuthi igama lisho ukuthini based on the context and you were also able to see ukuthi bazwile. Engagement was good ubabuze imibuze ekahle. Work on time and if the learners do not know the answer try to scaffold them	CL1: Explicit instruction CL2: Visible improvement within cycles CL2: Improved learner engagement CL2: Successful feedback implementation CL1: Syntactic awareness CL2: Contextualized instruction CL1: Phonological awareness CL1: Observe classroom behaviour CL2: Good engagement CL2: Collaborative learning

PST, preservice teacher.

FIGURE 3: Coaching and reflection coded transcription.

might find challenging to understand. They reflected that their earlier choices focused on familiar or high-frequency words rather than words requiring explicit instruction. The next excerpts illustrate comments made by PSTs during the interview discussion:

> 'Mina, I didn't know *ukuthi,* I just picked *amagama* at random. I didn't know *ukuthi kumele kube amagama abangawa* understand.' ['I didn't know, I just picked words at random. I didn't know they had to be words that they do not understand.'] (FG1R1, Q3)

> '*Bekumele ngikhethe amagama* that the learners are not familiar with.' ['I had to choose words that the learners are not familiar with.'] (FG1R2, Q3)

Codes	Categories
Learner-centred definitions Insufficient definitions Sufficient definition and scaffolding sufficient definitions Insufficient definitions Provide multiple meanings of a word Sufficient definitions	Learner-centred or sufficient definitions
Choose difficult words Choose unfamiliar words Word selection depth Choose unfamiliar words Choose unfamiliar words Improved word choice Select unfamiliar words Thorough word choice Choosing words superficially	Word selection awareness

FIGURE 4: An example of codes addressing similar concerns grouped into categories.

Categories	Themes
Visual instruction Learner cantered instruction Learner-centered or sufficient definitions Collaborative and learner assisted learning	MRS microlessons and coaching sessions sharpened preservice teachers' structured and learner-centred vocabulary instruction
Word selection awareness Responding to and implementing feedback Adaptive practice Instructional growth Instructional improvement within cycles	Coaching through MRS reveals preservice teachers' limited awareness in selecting instructionally appropriate avocabulary.

MRS, mixed reality simulation.

FIGURE 5: Depiction of how themes were generated.

BOX 1: Fieldnotes of preservice teachers illustrating high-frequency words taught.

PST9L taught the word *emhlanganweni* [in the meeting], which learners may be familiar with.
PST2L taught the word *kusetshenziswe* [it was used], which may be known by the learners.
PST15 taught the word *ngibhocobele* [I am bored], which learners may be familiar with.

PST, preservice teacher.

BOX 2: Examples from the researcher's observation notes demonstrating the words used by preservice teachers instead of more prevalent language.

PST9L substituted the word *emhlanganweni* [in the meetings] with the word *ukubhasobha* [guard, be aware].
PST15 substituted the word *ngibhocobele* [I am bored] with the word *ezithukuse* [be awake].

PST, preservice teacher.

During the initial MRS microlesson cycle, PSTs exhibited limited awareness of selecting vocabulary that posed genuine learning challenges for learners, frequently opting for familiar words. However, in the second cycle, most PSTs demonstrated improved vocabulary selection, substituting familiar words with more challenging alternatives, indicative of their increased awareness and intentional application of feedback in their teaching practice.

Theme 2: MRS microlessons and coaching sessions sharpened preservice teachers' structured and learner-centred vocabulary instruction

In the first teaching cycle, some PSTs adopted a fragmented approach to vocabulary instruction, presenting information about the target words in disconnected steps. For instance, several PSTs first provided definitions for all five words, then returned to demonstrate how each word could be used in context, and only thereafter offered example sentences. This segmented approach prevented learners from receiving a comprehensive understanding of each word before moving on to the next. The extracts in Box 3 from the researcher's observation notes illustrate this pattern.

This practice was further highlighted by the coach, who indicated that PSTs should not present the content of each word in separate chunks as is evident in the following comments:

> '*Uma ufundisa igama, yenza konke ofisa ukukwenza ulidiscusse uqede ngaphambi kokundlulela egameni elilandelayo ngoba if wenza* bits by bits *undulela kwelinye uconfuser abafundi*.' ['When teaching a word, do everything you want to do to discuss it and finish it before moving on to the next word, because if you do it bit by bit and move on to another word, you confuse the students.']. (C&R, GR2, COACH)

> 'Teach a word in chunks by chunks. *Ungalindi ukuthi uze ufundise wonke amagama*.' ['Teach a word in chunks by chunks. Don't wait until you have taught all the words.'] (C&R, GR3, COACH)

In their second cycle of teaching, PSTs indicated a better understanding of teaching each word systematically by presenting the content of each word before moving on to the next. This improvement was evident in the way PSTs (PST8L, PST9L, PST12L and PST13L) presented their lessons. They taught each word systematically, presenting all information about the word before moving on.

Preservice teachers also acknowledged this improvement in their coaching and reflection discussions as demonstrated in their remarks:

> 'You said when I teach *angifundise igama ngiliqede before ngiya kwelinye,* which I did.' ['You said that when I teach, I should finish teaching one word completely before moving on to the next one, which I did.'] (C&R, GR2, PST8)

> '*Okunye, you said I must not teach each word in separate chunks, ngikwazile ukukwenza lokho*.' ['Another thing, you said I must not teach each word in separate chunks, and I was able to do that.'] (C&R, GR2, PST8)

'I liked that *ukuthi wenze igama ngokuphelele*.' ['I liked that you taught each word completely.'] (C&R, GR2, COACH-PST4)

This improvement was further acknowledged by a PST in the focus group discussion:

'I think *amagama nawo kumele abe amagama abangawazi*.' ['I think the words also need to be words that they do not understand.'] (FG3, R3, Q3)

Secondly, in the initial cycle of MRS microlesson implementation, PSTs demonstrated limited ability to provide learner-centred definitions. Their explanations were often superficial and lacked clarity, potentially hindering learner comprehension. Box 4 presents examples from the researcher's notes during study observations, which illustrate how some PSTs defined certain words.

This finding was further identified by the coach, who then made PSTs aware that they needed to provide learner-friendly definitions. Guiding comments made by the coach include:

'*Amadefinitions akho ebekahle*, but try *ukuthi u-* explain more.' ['Your definitions were good, but try to explain them in more detail to the learners.'] (C&R, GR3, COACH-PST2)

'Definitions were fair, but you could have explained the words further to the learners.' (C&R, GR3, COACH-PST3)

'Your definitions were insufficient; just try explaining more to the learners.' (C&R, GR3, COACH-PST5)

During focus group discussions, PSTs revealed that they were initially unaware of the importance of providing detailed vocabulary explanations to enhance learner understanding as is evident in the following comments:

'Nakimi, it's the same thing. I did not know *ukuthi* when teaching vocabulary, you have to be in detail *uchaze* in detail, and whatnot [*sic*], *ngifunde lokho*.' ['For me, it was the same. I didn't know that when teaching vocabulary, you have to explain words in detail.'] (FG1, R2, Q3)

'I also did not discuss the words in detail, like *ukuthi igama limeleni azange ngikuchaze*.' ['I also did not discuss the words in detail, such as what the word means. I did not explain that in detail.'] (FG1, R2, Q5)

BOX 3: Extracts from the researcher's observation notes to illustrate the segmented approach of preservice teachers.

PST8 began by showing learners pictures representing the five words she had selected. She then asked learners to define each object shown in the pictures. After the definitions, she prompted learners to provide synonyms for each of the five words, working through them sequentially. Once learners had shared synonyms, she asked them to identify the origin of each word, again moving from the first to the last.
PST9 started the lesson by reading aloud the five words she had identified as difficult. She then defined each word in sequence, from the first to the fifth. After providing the definitions, she demonstrated how the words could be used in context by creating her own example sentences for each one. She concluded the activity by asking learners to construct their own sentences using each of the target words.
PST12 also began her lesson by reading aloud the five words she had selected as difficult. She proceeded to define each word in order, from the first to the fifth. After offering the definitions, she modelled sentence construction by creating example sentences that incorporated each word. To consolidate learning, she ended the activity by asking learners to create their own sentences using the five target words.

PST, preservice teacher.

'*Ekuqaleni kufirst* cycle *yami bengingakwazi ukuthi ngithi* go deeper *ngichaze igama*.' ['At the beginning, in my first cycle, I didn't know how to go deeper and explain the word.'] (FG1, R3, Q6)

In the second cycle of MRS microlesson implementation, PSTs demonstrated notable improvement in the quality of their vocabulary definitions. This progress was evident in their lesson presentations, where definitions became more detailed and learner-centred. Box 5 shows examples of how PSTs amended their definitions.

In addition, coaching and reflection sessions highlighted this shift, and coaches acknowledged the enhanced clarity and relevance of the vocabulary explanations as the following comments illustrate:

'Otherwise, your definitions were sufficient.' (C&R, GR3, COACH-PST5)

'*Kula magama owakhethile you asked for the definitions, provided sufficient definitions, and wabakhombisa izithombe*.' ['For these words you chose, you asked for the definitions, provided sufficient definitions, and showed them pictures.'] (C&R, GR2, COACH)

'Your definitions were sufficient and learner-centred.' (C&R, GR3, COACH-PST)

Focus group discussions further confirmed this development, as PSTs articulated a deeper understanding of the importance of providing comprehensive, accessible definitions to support learner comprehension as evident in the following examples:

'*Amameaning akhona* cause you can teach a word *omunye umntwana acabange elinye igama so kumele uwafundise kahle*.' ['The meanings of the words, because you can teach a word and another child will think of another word, so you have to teach them well.'] (FG2, R1, Q3)

'*Ngifunde ukuthi kumele senze ama* definitions and examples that they can relate to.' ['I learned that we need to provide definitions and examples that they can relate to.'] (FG2, R3, Q3)

'*Ngifunde ukuthi umfundi ngamunye kufanele ngimchazele kanjani ngendlela yakhe ukuze a-andastende*.' ['I learned how to explain to each student in a way that they can each understand.'] (FG3, R2, Q2)

The findings presented indicate that PSTs initially lacked a structured approach to vocabulary instruction, often presenting word meanings in fragmented segments and offering superficial definitions.

However, in their second cycle, PSTs demonstrated improved ability to teach vocabulary holistically, integrating meaning, context, and usage, and provided clearer, more accessible

BOX 4: Examples from researcher's observation notes to illustrate preservice teachers' definitions of certain words.

PST10L defined the word *Ukukhononda* as *ukukhuluma okungakuphathi kahle* [Saying what does not sit well with you].
PST12 defines the word *ibhibhi* as *into efakwa ingane uma idla ukuze ingancoli* [Something the child puts on when eating to avoid getting dirty].
PST19 explains the word *shwathi* as *umsindo owenziwa into uma umuntu enyikaza* [The sound you hear when something moves].

PST, preservice teacher.

definitions. This progression was consistently evident across lesson presentations, coaching and reflection sessions, and focus group discussions, highlighting the value of sustained practice and feedback in enhancing instructional competence.

Discussion

The findings in this study revealed that PSTs often struggled to identify domain-specific terminology or novel lexical items; thus focusing on selecting high-frequency or commonly known words rather than conceptually demanding or domain-specific terms. This finding is concerning as it suggests a misalignment between PSTs' practices and established principles of effective vocabulary instruction. Effective vocabulary instruction requires a careful identification of conceptually demanding or unfamiliar words that can enhance comprehension and develop learners' vocabulary, rather than selecting words that learners readily understand (Spencer et al. 2012; Young-Davy 2014). For a vocabulary lesson to be effective, it requires a deliberate selection of targeted vocabulary, thereby facilitating a focused, explicit pedagogical approach likely to yield substantial improvements in learning outcomes (Young-Davy 2014). The PSTs' poor selection of novel lexical terms suggests that they lacked the necessary content knowledge to select relevant, high-utility words for instruction and may not fully appreciate the importance of explicit vocabulary instruction. According to Beck et al. (2013), effective vocabulary instruction depends on teachers' ability to differentiate between high-utility and low-utility words, and poor word choices indicate limited knowledge of how words function within texts and across disciplines. Hiebert (2005) adds that the ability to choose novel lexical terms requires sufficient content knowledge. A lack of content knowledge to choose novel lexical words combined with limited pedagogical awareness can lead PSTs to present vocabulary instruction that lacks depth and rigor, resulting in superficial vocabulary instruction.

Vocabulary instruction can become superficial when words are taught without adequate attention to meaning, usage, and context (Lilienthal 2009). Beck et al. (2013) and Graves (2006) show that when familiar words are incorrectly treated as new vocabulary, learners miss opportunities to acquire deeper, more generative word knowledge, thereby limiting conceptual growth. These findings underscored the need for targeted support and training in vocabulary instruction for PSTs. Coaching through MRS played a crucial role in addressing this gap. Following engagement in MRS, coupled with coaching and reflective discussion, PSTs demonstrated marked improvement in identifying instructionally important vocabulary, shifting from high-frequency, commonly known words to those central to story comprehension. This shift illustrates how structured, practice-based learning opportunities can refine PSTs' instructional decision-making. This progress resulted from deliberately engaging in two cycles of practice, intentional reflection, targeted feedback, and guided practice, which strengthened instructional reasoning and enhanced teaching effectiveness (Taras & Everett 2017). It also reflects a more sophisticated application of pedagogical content knowledge, supporting professional growth (Mathew, Mathew & Peechattu 2017).

BOX 5: Examples of amended definitions.

PST10 defines the word *ukukhononda* as *uma ungaphathekile kahle bese ukhuluma ngalokho okungakuphethe kahle uyakhononda* [If something does not sit well with you and then you keep speaking about it, you end up complaining].
PST12 defines the word ibhibhi as into *efakwa ingane entanyeni ukuze ingancoli uma idla* [Something the child puts on the neck when eating to avoid getting dirty].
PST19 explains the word *shwathi liyisenzukuthi elichaza umsindo othile lapho umuntu enyakaza* [It is an ideophone indicating the sound that you hear when something moves].

PST, preservice teacher.

Secondly, PSTs often presented vocabulary in disconnected segments, offering definitions first, then contexts, and finally examples. They struggled to present words holistically, which disrupted learners' comprehension, as they found it difficult to follow fragmented information and integrate meaning. This finding is concerning because it highlights a lack of instructional coherence, which is essential for effective vocabulary learning. Successful vocabulary instruction requires a systematic and coherent instructional sequence (Vaughn & Fletcher 2021). Learners understand words better when the instruction is organised so that meanings, contextual information, and examples are presented cohesively (Barends & Reddy 2024; Stone & Urquhart 2008). This pattern demonstrates that PSTs were unaware of the impact of segmented instruction on learners' ability to construct meaning, focusing primarily on delivering information rather than monitoring comprehension. This reflects a limited understanding of robust vocabulary pedagogy, which emphasises the integration of definitions, contexts, examples, and usage (Beck et al. 2013; Hiebert & Kamil 2005). Such practice may also stem from an insufficiently integrated knowledge base needed to sequence and connect information effectively (Shulman 1987). The fragmented approach disrupts learners' ability to integrate word components, resulting in incomplete and superficial learning (Beck et al. 2013; Carrier 2013; Decraene et al. 2023). When information is fragmented, learners tend to memorise rather than develop durable word knowledge (Graves 2006; Kucan 2013).

In addition, the PSTs often provided definitions that were superficial or overly complex, limiting comprehension. This finding was also concerning, as providing learner-friendly definitions in accessible language is critical for conveying the core meaning of each word (Beck et al. 2013). Word learning involves deep conceptual connections rather than mere exposure to definitions (Stahl & Nagy 2007). Their struggle to deliver learner-centred definitions stemmed from a lack of understanding and awareness of these principles, resulting in superficial content. Novice teachers often plan and teach teacher-centred lessons that prioritise content coverage over meaningful learning due to poor awareness of the importance of learner-centred lessons (Donkoh & Amoakwah 2024;

Du Plessis 2020; Muganga & Ssenkusu 2019). Teacher-centred definitions can limit learning because learners may not fully grasp the meanings of words, negatively impacting their comprehension. When definitions are not learner-friendly, comprehension gains are reduced, transfer to new contexts is limited, and instructional quality declines (Kennedy et al. 2018; Lilienthal 2009; McKeown 2019). These findings also underscored the importance of comprehensive training for developing PSTs' awareness of structured, systematic, and learner-centred vocabulary instruction.

After engaging in two cycles of MRS microlessons and explicit guidance from the coach, PSTs learned to present each word holistically, providing sufficient meaning, learner-centred explanations, contextualisation, and examples before moving on, reflecting Graves's (2006) recommendation for integrating vocabulary instruction. This shift illustrates the value of scaffolded, practice-based learning opportunities in developing coherent and learner-centred instructional approaches. Structured practice with guided coaching and reflection further enhanced PSTs' ability to deliver learner-centred, purposeful instruction, aligning with best practices in teacher preparation (Nel & Marais 2023; Suphasri & Chinokul 2021; Van der Merwe et al. 2024).

The improvement in PSTs' vocabulary instruction occurred through purposeful engagement in structured MRS microlessons supported by targeted instructional coaching. This improvement can be explained by multiple scaffolded opportunities to practise vocabulary instruction in an authentic yet controlled MRS environment, where real-time simulator responses, immediate post-lesson reflection, and focused feedback made instructional gaps visible and prompted timely pedagogical adjustments. Through iterative, student-centred practice addressing the most challenging elements of vocabulary instruction, combined with structured reflection and immediate, targeted feedback, PSTs refined their instructional decisions across cycles. This process aligns with the principles of Deliberate Practice, which emphasise goal-oriented practice supported by feedback and guided reflection (Dill 2019; Moulaert et al. 2004). Across two MRS microlesson cycles, PSTs identified areas for improvement and, with scaffolded coaching support, developed more intentional and effective approaches to vocabulary instruction.

As a result, their teaching increasingly reflected the principles of Explicit Vocabulary Instruction, characterised by systematic and intentional practices that promote robust word learning and deeper learner understanding (Beck et al. 2002).

Conclusion

This study explored how MRS, coupled with coaching sessions, can support PSTs in developing effective vocabulary instruction. The findings revealed that through multiple cycles of intentional, structured, and feedback-driven engagement with the coach during MRS micro-lessons, PSTs demonstrated substantial professional growth in their instructional practice. Specifically, they progressed to selecting instructionally meaningful words central to comprehension, presenting vocabulary information holistically and systematically, and crafting learner-centred, accessible definitions. These results indicate that repetitive, intentional practice, reflective engagement, and focused coaching within MRS environments are effective in strengthening PSTs' pedagogical decision-making and vocabulary-teaching competencies in the Foundation Phase. Despite these contributions, the study has certain limitations. The sample comprised 19 PSTs from a single university in Johannesburg, limiting the generalisability of the findings. In addition, the study focused exclusively on isiZulu vocabulary lessons, and the findings may therefore not be directly transferable to other languages or instructional contexts.

Nevertheless, this study makes a meaningful contribution to the existing literature by providing empirical evidence that repeated engagement in simulated teaching environments, combined with targeted instructional coaching, can refine PSTs' vocabulary instruction practices and overall classroom teaching readiness. Furthermore, the study contributes to scholarship on explicit vocabulary instruction by demonstrating how robust vocabulary lessons for Grade 3 learners can be systematically designed through intentional planning, practice, reflection, and coaching within MRS contexts, and by illustrating a structured approach to effective isiZulu vocabulary instruction.

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