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Shared Virtual Reality as a tool for enhancing inclusive practice in initial teacher education

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Virtual Reality (VR) is gaining recognition as a valuable tool in initial teacher education (ITE), particularly for supporting classroom practices. This study explores how synchronous, shared VR experiences, using 360-degree video of real classrooms, may help pre-service teachers identify, evaluate, and plan for inclusivity. Master of Teaching students engaged in pre- and post-surveys, combining Likert-scale and open-text responses, to assess the impact of VR-enhanced learning. Results suggest that VR can effectively complement traditional placements by offering access to diverse teaching styles and classroom dynamics that are not always observable in live settings. The ability to revisit and collaboratively analyse key teaching moments supports deeper professional reflection. Positioned within a reflective, scaffolded framework, VR offers a practical extension to real-world experiences, enhancing teacher preparation for inclusive education. This study contributes to growing research on the role of immersive technologies in teacher training and highlights VR's potential to support more equitable and student-centred learning environments.

Keywords: virtual reality, inclusive education, teacher training, immersive learning, initial teacher education

Introduction

Virtual Reality (VR) is emerging as a powerful tool in teacher education, offering immersive and authentic learning experiences that can address gaps in traditional practicum placements, particularly around inclusive education. Simultaneously, education systems worldwide, including UNESCO (2020), stress the importance of inclusivity, many pre-service teachers feel unprepared to meet the needs of diverse learners due to inconsistent exposure to inclusive practice. VR may provide access to real teaching moments through 360-degree video, supporting deep observation and critical reflection on differentiated instruction and classroom inclusion.

This study explores how synchronous, shared VR experiences can support collaborative reflection and professional noticing in teacher education, especially in the context of inclusive practice. Unlike prior uses of VR focused on content delivery, this research investigates how immersive, real-time environments can foster nuanced understanding and peer dialogue. Grounded in the belief that meaningful learning involves authentic observation and guided reflection, the study asks how shared VR might influence pre-service teachers' ability to identify and evaluate inclusive pedagogical practices (Australian Government, 2023).

Literature Review

Inclusive Education and the Challenges of Teacher Preparation

Inclusive education, centred on equitable access for all learners, has become a global educational priority. However, teacher preparation for inclusive classrooms remains inconsistent. According to UNESCO (2020), 25% of teachers across 48 countries felt inadequately trained to support diverse student needs. In Australia, despite inclusive education being embedded in policy, many teachers express uncertainty about its practical implementation (Mavropoulou et al., 2021). Initial teacher education (ITE) programs often emphasise theory or rely on variable school placements, limiting authentic exposure to inclusive practices (Commonwealth of Australia, 2016). These inconsistencies can leave pre-service teachers underprepared to support students with disabilities or from culturally and linguistically diverse backgrounds. As systemic barriers, not student deficits,

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drive marginalisation (UNESCO, 2020), ITE must provide opportunities to observe and practise inclusive pedagogy—an area where Virtual Reality (VR) offers significant promise.

Virtual Reality as an Emerging Tool in ITE

VR is gaining traction in teacher education for its ability to simulate authentic, complex classroom environments. Technologies like SimSchool and TeachLivE offer interactive simulations, while newer tools using 360-degree video allow observation of real teaching contexts (Azukas & Gibson, 2024). VR has been applied to help pre-service teachers understand special needs, such as dyslexia (Passig, 2011) and autism (Zhang et al., 2022), supporting empathy and responsiveness (Billingsley & Scheuermann, 2014). The technology enables deep professional noticing, interpreting subtle pedagogical moments related to differentiation and student engagement (Zolfaghari et al., 2020). However, many VR uses appear to be individual, with limited exploration of collaborative, synchronous use that fosters shared reflection, which suggest a promising yet under-researched avenue.

Linking Virtual Reality and Learning Theory in Teacher Education

The pedagogical value of shared VR is best understood through learning theories. Kolb's (1984) experiential learning cycle aligns with VR's immersive experiences, enabling pre-service teachers to reflect critically on real classroom events and apply insights to future practice. Situated cognition (Brown et al., 1989) further supports VR's relevance, positioning learning as context-bound and participatory. VR in this framing enables learners to "inhabit" classroom dynamics, fostering empathetic and adaptive pedagogical reasoning. Additionally, Schön's (1992) reflective practice model may underscore how VR's replayability supports reflection-in-action and on-action, encouraging deeper review and professional insight. Collectively, these frameworks position VR not as a technological novelty but as a meaningful pedagogical tool for inclusive teacher education.

VR, Professional Noticing, and Inclusive Pedagogy

Professional noticing, which can be defined as the ability to interpret key classroom interactions (Sherin & van Es, 2021), is vital for inclusive teaching but can be difficult to identify and cultivate in traditional placements. Virtual Reality may enable repeated, multi-perspective observation and deliberate reflections on nuanced aspects of teaching. When used in structured, synchronous environments, VR seems to support dialogic reflection and feedback cycles similar to clinical coaching models (Vince Garland et al., 2016), promoting pedagogical judgement and adaptive expertise. Yet, research largely overlooks the potential of collaborative, shared, real-time VR for fostering reflective practice in inclusive education. Existing studies often prioritise emotional or technical outcomes over interpretive learning (Teo, 2019). This study addresses that gap by examining how shared VR experiences influence pre-service teachers' identification and evaluation of inclusive practices, contributing to broader efforts to integrate immersive technology into teacher development for improved inclusive pedagogical outcomes.

Methodology

Research Aim and Question

This study investigated the use of synchronous Virtual Reality (VR) in initial teacher education to support the development of inclusive classroom practices. The VR model involved 360-degree video recordings of real classrooms, viewed collaboratively and synchronously through VR headsets during on-campus classes. These shared, immersive sessions were designed to complement traditional placement experiences by offering structured opportunities for guided observation and reflection on inclusive classrooms and practices.

To guide the study, a central research question was developed to explore the potential of this VR approach in supporting teacher learning and professional reflection:

In what ways might synchronous, shared VR experiences influence how pre-service teachers identify and evaluate inclusive classroom practices?

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The question responds to growing calls for more practice-focused approaches in teacher education (Australian Government, 2023), particularly for supporting inclusion in complex classroom settings. The study was exploratory in nature and did not aim to measure long-term teaching outcomes but rather investigated how pre-service teachers engaged with inclusive practices during and immediately following the VR experience.

Research Design

This study followed a mixed-methods design, combining qualitative and quantitative data from a survey to enable a more nuanced understanding of pre-service teachers' engagement with the VR experience. The study aimed to explore participants' interactions with the immersive and collaborative nature of the workshops. This approach was considered suitable for examining this relatively underexplored educational tool within the complex context of inclusive teacher education.

Participants

Participants in this study were 122 students enrolled in the Master of Teaching program at a university in Australia, either in their second or final year of their course. All had previously completed two school placements, providing them with practical classroom experience and enabling them to engage more directly with the inclusive teaching elements featured in the VR workshops.

Research Procedure

This study used shared VR workshops to immerse pre-service teachers in inclusive classroom scenarios while collecting data on their learning experiences. Each workshop featured 360-degree high school classroom videos, viewed synchronously using Oculus Rift headsets and Showtime VR software (2022), allowing participants to pause, replay, and discuss specific teaching moments. Facilitated group discussions focused on classroom nuances—tone, student engagement, differentiation—and were embedded in two core Master's program subjects. Across six 60–90-minute sessions, participants worked in pairs and explored multiple classroom perspectives guided by academic facilitators.

Before and after the workshops, participants completed surveys measuring confidence and recognition of inclusive practices, informed by Ma and Cavanagh's (2019) self-efficacy framework. Open-ended items gathered reflections on learning and comparisons to in-school observations. High response rates were achieved.

Table 1: Survey Response Summary

Survey Type	Total Responses	Usable Responses
Pre-survey	110	108
Post-survey	117	115

Survey Instruments

The pre- and post-workshop surveys included:

- Confidence Scale: Evaluated ability to apply inclusive strategies.
- Inclusion Recognition Measure: Identified key inclusive teaching features.
- Experience Survey: Gathered feedback on the VR sessions.

The pre-survey also covered demographics and attitudes; the post-survey captured shifts in perception and qualitative reflections.

Data Analysis

Mixed methods were used for data analysis. Quantitative data were analysed descriptively to assess changes in confidence and awareness of inclusive practices (Ma & Cavanagh, 2019). Qualitative data underwent grounded theory analysis (Corbin & Strauss, 1990), involving open, axial, and selective coding (Strauss &

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Corbin, 1997). Themes centred on how VR features—pausing, replaying, shifting perspective—supported reflective observation, how perceptions of their teaching abilities changed over time and other emergent themes relevant to the research question (Zolfaghari et al., 2020). Iterative discussions ensured consistency, with findings linked to reflective teaching theory (Schön, 1992) and inclusive pedagogy (Florian & Spratt, 2013). This combined analysis highlighted how shared VR experiences enhanced participants' confidence, critical thinking, and ability to notice inclusive teaching strategies.

Findings

Quantitative Responses

This study examined pre-service teachers' perceptions before and after engaging with a shared Virtual Reality (VR) classroom observation experience. Quantitative data was drawn from 108 usable pre-surveys and 115 usable post-surveys. While a surface reading might suggest diminished confidence post-VR experiences, a deeper interpretation indicates that this decline may reflect a heightened critical awareness of the complexities involved in observing and implementing inclusive classroom practices. For beginning teachers, such increased awareness could be beneficial, as it may suggest increased self-reflection and a more accurate appraisal of their current abilities, potentially supporting the development of professional growth and inclusive teaching effectiveness.

The data presented in the surveys covered several core domains related to observational skills, perceptions of VR as a teaching tool, and the identification of inclusive classroom practices. A comparative analysis of pre- and post-survey responses provides a detailed look at how these experiences shaped participants' self-perceptions and preferences over time.

Confidence in Observation Skills

Participants' confidence in their ability to observe and interpret classroom dynamics showed a marked decrease across all measured domains following the VR experience. Prior to engaging with VR, 69.4% of respondents reported full confidence in recognising quality teaching, but this number fell significantly to 17.4% after the experience (Figure 1). Similarly, confidence in understanding lesson structures dropped from 58.3% to 7.0%, while confidence in identifying student engagement declined from 59.3% to 18.3%.

These figures suggest that participants may have reassessed their observational capabilities after encountering the detailed, immersive classroom scenarios provided by VR. The decline in agreement was accompanied by an increase in moderate agreement and even disagreement, a shift which may reflect a greater awareness of the complexities involved in classroom observations and how we analyse classroom practices.

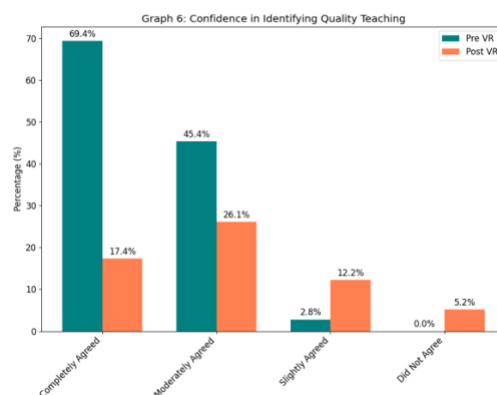


Figure 1: Confidence in Identifying 'Quality Teaching' Pre and Post the VR Experience

Comparative Value of VR vs. Real-World Observation

When asked about the importance of different approaches to classroom observations (traditional placements vs VR), participants expressed a strong initial preference for real-world experiences. In the pre-survey, 90.7%

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of respondents rated in-person classroom observations as either "Extremely Important" or "Very Important." This preference remained dominant after the VR sessions. However, the proportion of participants who rated VR as moderately important increased from 2.8% to 13% post-experience.

These changes suggest a broadening of perspectives among participants regarding the role VR might play in teacher education. Although the post-survey results still reflect a clear preference for traditional methods, the increased recognition of VR's utility in specific observational contexts demonstrates a positive shift in participant attitudes towards using VR.

Insights into Inclusive Practices

Participants' confidence in their ability to identify inclusive practices and recognise differentiated instruction also declined following the VR experience. Prior to the sessions, 57.4% of respondents completely agreed that they could identify these aspects in a classroom setting. After completing the VR sessions, only 16.5% maintained this level of confidence, and 6.1% of participants explicitly disagreed with the statement (Figure 2).

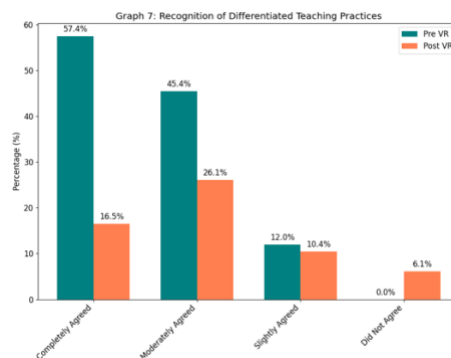


Figure 2: Ability to Recognise Differentiated Teaching Practices

Similarly, confidence in recognising student inclusion dropped from 57% to 15.7%, with 7.0% indicating disagreement in the post-survey. This redistribution of responses across the scale, from full agreement toward moderate agreement or disagreement, suggests that VR scenarios may have presented more complex or less easily interpreted examples of inclusive teaching, prompting participants to reassess their ability to identify inclusive practices in the classroom.

Qualitative Findings: Insights from Participant Reflections

In addition to survey data, qualitative responses provided insights into how pre-service teachers engaged with the Virtual Reality (VR) workshops and how these experiences influenced their understanding of inclusive classroom practices. Analysis of open-text responses using grounded theory methods ([Strauss & Corbin, 1997](#)) revealed three interconnected themes: professional noticing and reflection, awareness of inclusive (and exclusionary) dynamics, and technical affordances and limitations.

This analysis approach involved a systematic, three-phase coding process (open, axial, and selective coding) to identify key ideas, group them into conceptual categories, and refine them into central themes aligned with the study's research question.

This process enabled a deeper understanding of how participants made sense of their VR experiences, particularly in relation to identifying, evaluating, and planning for inclusive teaching practices. The following section presents the key qualitative findings that emerged from this analysis.

Professional Noticing & Reflection

In the qualitative data, participants consistently noted that VR enabled deeper, more deliberate observation than was typically possible during in-person placements. Many described the ability to "pause," "rewind," and observe from a "whole classroom view" as crucial to developing an analytic stance. The immersive, multi-

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directional nature of VR supported broader awareness of both student behaviour and teacher movement, meaning they reflected not only on what happened but why it mattered.

“It allowed for a more analytic lens in the classroom—you can rewind and analyse something multiple times.”
“Being a fly on the wall makes you notice more holistic aspects of teaching and learning.”

This capacity to slow down and revisit key teaching moments helped participants move beyond surface-level interpretations and engage more critically with the relational and structural elements of classroom life.

Awareness of Inclusive (and Exclusionary) Dynamics

Several responses highlighted how the VR environment sharpened participants’ awareness of inclusion and inclusive teaching practices. Specific examples included gender-based seating arrangements, students seated away from others in the room, and the organisation of furniture in the classroom. These observations often led to critical reflections on how subtle physical or social cues could either support or hinder student participation.

“There is a clear gender gap in many classrooms, and it can change its dynamic.”
“I’ve found that there are students who are isolated at the other end of the classroom—we should be actively encouraging their participation.”

These insights suggest that VR not only replicates classroom experience but can amplify participants’ capacity to identify inequities that may otherwise be overlooked in real-time observation.

Discussion

This study set out to explore how shared, synchronous Virtual Reality (VR) experiences might support pre-service teachers in identifying and evaluating inclusive classroom practices. The model used here, 360-degree video footage of real classrooms viewed synchronously through VR in a shared setting, provided participants with a unique opportunity to engage with authentic teaching moments in a collaborative context. Unlike live observations, where the presence of visitors may disrupt normal classroom activity, this approach enabled a more consistent and repeatable observation experience. While VR did not increase confidence across measured domains, the findings suggest it did prompt deeper reflection and a more critical appraisal of inclusive teaching practices.

Of interest in this study is that participants reported a marked decrease in confidence related to recognising student engagement, identifying inclusive teaching strategies, and interpreting lesson structure. Rather than indicating a negative outcome, however, this shift may reflect a more realistic understanding of the complexities involved in inclusive practices. Dalgarno and Lee (2011) argue that immersive technologies can unsettle existing assumptions, encouraging users to question what they believe they know. Similarly, Florian and Spratt (2013) contend that inclusive teaching requires a deep engagement with subtle pedagogical choices that may not be readily visible without focused, expert observation. In this context, reduced confidence may be interpreted not as failure of the study but as an important step toward professional insight and growth.

Participants also reconsidered the relative value of observational tools. Although real-world placements remained the preferred method of learning, a contention this study did not seek to refute, a large number of participants acknowledged the potential of VR, particularly its ability to enable repeatable, targeted observations without the constraints of time, space, or classroom dynamics (Vu & Fisher, 2021; Zolfaghari et al., 2020). This growing appreciation suggests that pre-service teachers are open to multimodal learning approaches to supplement traditional practicum experiences.

The reflective design of the VR workshops played a central role in shaping these outcomes. Facilitated discussions, guided observation points, and opportunities for peer dialogue contributed to an active learning

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environment where students were encouraged to analyse, question, and interpret rather than simply watch. This aligns with Florian and Spratt's (2013) emphasis on inclusive pedagogy as an iterative, relational practice, one that emerges through engagement and inquiry rather than from the rote application of strategies. The ability to observe the same classroom moment, repeatedly from different perspectives, such as that of the teacher or students, further enriched this process by challenging fixed or surface-level interpretations of what was happening (or not) in the classroom.

The academic teacher's role in the VR workshops appeared crucial, not only in managing the session logistics, but also in shaping how pre-service teachers interpreted what they saw and, crucially, how they learned from it. In many ways, the academic functioned as what Vygotsky describes as the "more knowledgeable other" (Chaiklin, 2003): someone who supports learners to move beyond their current level of independent capability by guiding them through their Zone of Proximal Development (ZPD). While students may have been familiar with broad concepts such as differentiation or classroom management from lectures or readings, recognising these in the fast-moving, nuanced context of a real classroom, and when viewed in immersive VR, was not always straightforward. The facilitator helped to bridge this gap. For example, during one session, the 360-degree video was paused in the VR headsets after students watched a teacher quietly redirect a child who had become disengaged. Many students had not noticed the interaction at all. The academic drew attention to the teacher's tone, body language, and positioning in the classroom, prompting discussion about how subtle acts of inclusion often go unrecognised unless deliberately observed. This wasn't about pointing out "right answers" but about helping student teachers learn where to look, what to notice, and why it mattered.

The facilitator's input often came in open-ended questions, "What do you think the teacher is responding to here?" or "How might this approach look different with a student who speaks English as an additional language?", that nudged students to reconsider their assumptions. In doing so, the academic created space for collaborative sense-making, where students could bring their own experiences into dialogue with what was being observed. The VR setting enabled repeated viewing, but it was the academic's questioning and framing that transformed those moments into learning opportunities. Without that scaffolding, students may have simply watched the footage without developing a deeper understanding of the inclusive practices unfolding in front of them. For many, this guided process helped move from a general sense that inclusion is important to a more refined understanding of what it can look like in practice, and why small decisions by teachers can have significant impacts on student experience. The potential of the shared VR workshops seems to reside in this interplay between immersive technology, expert facilitation, and group dialogue.

This raises a broader point about the limitations of using VR in isolation. While the technology allows for immersive, repeatable observation, it does not automatically lead to deep learning. Simply placing student teachers in a headset and exposing them to classroom footage is unlikely to be effective on its own. Learning to interpret the complexity of inclusive practice requires structure, dialogue, and the kind of reflective framing that only experienced educators can provide. Without this, students may either misread what they are seeing or fail to recognise important dynamics altogether. There are echoes here of what Kruger and Dunning (1999) identified in their research on self-assessment and competence: that those with the least expertise are often least able to judge their own limitations. In the context of teacher education, this means that novice observers may feel confident in their interpretations, even when their understandings are partial or incorrect. Guided reflection, prompted by academic expertise, can help address this gap, making visible what might otherwise go unnoticed and helping students build the professional judgement they will need in real classrooms. These observations raise important questions for further study: What kinds of pedagogical design best move students closer to expert practice?

A small number of participants (n=3) also raised concerns about physical discomfort and difficulty navigating the VR environment. These issues, which are well documented in the literature (Makransky et al., 2017, 2021), were generally associated with the use of head-mounted displays. In response, these students were given the option to access the 360-degree video content on a laptop, scrolling around the 360-degree video using a mouse or trackpad. While this alternative was made available to support comfort and accessibility, we did not investigate whether there were differences in experience or learning between headset users and those using screens. This is an area that warrants further exploration, particularly as institutions consider broader implementation of VR-supported learning activities.

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Participants' confidence in identifying student engagement dropped notably after the VR workshops, from 59.3 per cent before the sessions to 18.3 per cent afterwards. While a small number of participants reported increased confidence, the broader trend raises questions about how 'student engagement' is interpreted and understood in initial teacher education. It may be that the VR sessions reinforced the known gap between how engagement is described in coursework and how it actually plays out in real classrooms, particularly those characterised by diversity in learning needs, language, and behaviour.

When engagement is viewed primarily through the lens of obvious participation or verbal contribution, more subtle, perhaps culturally-informed, forms, such as focused listening, non-verbal responsiveness, or strategic withdrawal, may be missed or misinterpreted (Bond et al., 2021; Fredricks et al., 2004). The ability to pause and replay VR footage appeared to make these less obvious forms more apparent. Several participants noted that they initially missed key student behaviours, only recognising them on subsequent viewings or during group discussion. In this sense, the VR format provided an opportunity not just for repeated observation, but for rethinking what student engagement might look like in practice.

These findings suggest that immersive VR could help challenge simplistic or narrow assumptions about engagement. However, they also reinforce the importance of structured facilitation by experts. In many cases, it was the academic teacher who drew attention to overlooked cues, asked clarifying questions, or provided alternative interpretations. This underlines the idea that while VR offers access to rich classroom data, it is the guided analysis, rather than the technology alone, that enables deeper pedagogical insight (Florian & Spratt, 2013; Theelen et al., 2022).

There are also some implications for program design. The integration of VR into coursework on inclusive education, classroom management, and differentiation may create opportunities for students to observe theory in action. When these experiences are embedded within structured, scaffolded learning sequences, they may provide a coherent bridge between university-based learning and school-based practice. Unlike in traditional placements, where the quality and content of observational opportunities can be highly variable, this type of VR learning experience may enable institutions to standardise exposure to key teaching practices while still encouraging critical engagement.

At a systems level, the findings point to the potential of VR to address persistent equity issues in school placements. Many pre-service teachers do not have access to high-quality inclusive settings during their practicum, which can limit their preparedness to teach diverse learners (Stites et al., 2018). By using VR to showcase a variety of inclusive practices in real classroom contexts, initial teacher education programs can ensure that all students have the opportunity to engage meaningfully with the principles and realities of inclusive education. This approach also aligns with national policy priorities around producing "classroom-ready" graduates who are equipped to support the full range of learners (Australian Government, 2023).

Limitations & Future Research

While the initial findings are encouraging, they should be considered within the scope of the study's design and context. The data presented here are based on short-term responses to a single semester of VR-integrated workshops. As such, they provide insight into immediate perceptions and reflective shifts, but do not speak to the longer-term impact of these experiences on practicum performance or early-career teaching. Follow-up studies, including longitudinal designs, would be needed to understand whether the shifts in self-awareness and professional noticing reported by participants translate into sustained changes in practice.

The participant group, while relatively large, was drawn from a single university and included only Master of Teaching students, who had completed prior placements. These characteristics may limit the generalisability of findings to other ITE contexts, such as undergraduate education degrees, where cohorts often include younger students with less exposure to out-of-schooling life experiences. Exploring how different program structures and learner profiles interact with immersive learning tools would offer valuable insights.

There is also considerable scope to investigate how particular groups of learners engage with VR. For instance, international students, students from diverse cultural backgrounds, or those with limited prior classroom experience may respond differently to immersive environments, particularly in terms of comfort, interpretation, and perceived relevance. Similarly, students who access VR content via a laptop or desktop

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may experience the learning process differently from those using head-mounted displays. Comparative studies on these modes of access could help clarify how best to design flexible, inclusive VR-based learning experiences to meet the needs of all pre-service teachers.

As immersive technologies continue to evolve, new opportunities are emerging to enhance their use in teacher education. Features such as embedded prompts, voice narration, and AI-supported feedback may further support professional reflection and responsiveness, but careful pedagogical design will be essential. Rather than treating VR as a standalone innovation, future research could focus on integrating these tools into reflective, scaffolded learning environments that support critical engagement with classroom practice.

Taken together, these findings contribute to a growing body of work exploring how shared VR experiences can supplement traditional teacher education. While VR does not replicate the full complexity of live teaching, it offers a structured and repeatable context for reflective observation, particularly valuable when supported by experienced academic facilitators. When embedded into coursework on inclusion, behaviour, and classroom practice, VR seems to serve as a powerful complement to school placements, helping bridge gaps between theory and practice and supporting the development of professional judgement. Further research is needed, however, to understand how this model translates into sustained changes in teaching practice. The evidence presented here suggests that shared, scaffolded VR experiences may hold real value in preparing future teachers to engage with the realities of inclusive education.

Conclusion

This study examined how shared, synchronous VR experiences using 360-degree classroom footage support pre-service teachers in understanding inclusive practices. By combining immersive observation with guided group reflection, the VR workshops enabled critical engagement with authentic teaching moments. Though participants reported decreased confidence in identifying inclusive strategies post-workshop, this was interpreted as a sign of the development of deeper, more critical awareness.

Participants saw VR not as a substitute but as a valuable supplement to traditional placements, appreciating its ability to expose them to diverse classrooms and enable reflective discussion. Crucially, the academic facilitator played a key role in helping learners interpret classroom complexities, supporting development within their Zone of Proximal Development (Chaiklin, 2003). While the study yielded promising insights, it highlights the need for further research into long-term impacts, learner variability, facilitation strategies, and the influence of VR access modes. Thoughtfully implemented, VR can enhance teacher education by expanding access to high-quality observation and fostering deeper professional reflection.

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