VIDEO-ENHANCED MICROTEACHING: LEVERAGING PRE-RECORDED INSTRUCTIONAL RESOURCES TO STRENGTHEN PRE-SERVICE TEACHER COMPETENCE IN NIGERIA

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Abstract
This paper examines the potential of pre-recorded video resources to enhance microteaching competence among pre-service teachers in Nigeria. Microteaching remains a cornerstone of teacher education, offering structured opportunities for the rehearsal and refinement of pedagogical skills. However, traditional approaches are often constrained by limited contact hours, inconsistent feedback mechanisms, and restricted access to exemplary teaching models. Grounded in constructivist and cognitive multimedia learning theories, this paper explores how pre-recorded instructional videos which featuring expert demonstrations, peer-led sessions, and reflective commentaries can supplement conventional microteaching practices. Also, enabling repeated viewing, facilitating self-paced learning, and fostering critical reflection, such resources support the development of core teaching competencies including instructional planning, classroom communication, and professional self-awareness. Through a synthesis of current literature and theoretical insights, the paper proposes a conceptual framework for integrating video-based tools into teacher preparation programs. It concludes with key implications for curriculum designers, teacher educators, and policy actors, advocating for strategic investment in digital infrastructure and pedagogical training to fully harness the affordances of video-enhanced microteaching. It is recommended that teacher education institutions adopt a blended microteaching model that incorporates curated pre-recorded video content alongside live practice sessions to optimize training outcomes and promote reflective teaching practices.

Keywords: Microteaching, Pre-service Teachers, Pre-recorded Video, Teacher Education, Instructional Technology

Introduction

The global push toward improving the quality of education has placed teacher preparation at the forefront of educational reform, particularly in developing countries like Nigeria. At the heart of teacher education is microteaching, a pedagogical approach that offers structured, scaffolded practice opportunities for pre-service teachers to develop and refine essential teaching competencies (Maguire, 2023). Microteaching typically involves the design and delivery of short teaching segments, followed by feedback and reflection, thus promoting a deliberate focus on discrete teaching skills such as questioning, classroom management, lesson delivery, and communication. Despite its pedagogical strengths, microteaching in many Nigerian colleges of education and universities is often constrained by structural and operational limitations, including overcrowded classes, limited contact hours, insufficient feedback loops, and the absence of access to high-quality teaching models (Yusuf, & Ibrahim, 2024).

In response to these challenges, researchers and practitioners have begun to explore the use of pre-recorded video resources as a complementary tool to traditional microteaching. Pre-recorded instructional videos that featured e xpert demonstrations, peer-led teaching sessions,

and reflective narratives which offer an innovative means of enhancing teaching competence among pre-service teachers. These resources allow for repeated exposure to exemplary teaching, self-paced learning, and enhanced opportunities for reflection, thereby addressing the time and feedback limitations of traditional microteaching formats (Torres, 2024). Importantly, such resources can also bridge the gap between theory and classroom practice, providing visual and contextual models that enhance learning transfer and pedagogical reasoning (Phillips, H& Condy, 2023).

The integration of video resources in teacher education is grounded in sound theoretical principles. From the constructivist learning perspective (Vygotsky, 1978), learners actively construct knowledge through observation, interaction, and reflection. When pre-service teachers engage with teaching videos, they are not merely passive viewers but active interpreters who make meaning from practice examples, reflect on instructional choices, and adapt them to personal teaching contexts. Additionally, Mayer's (2021) updated Cognitive Theory of Multimedia Learning provides empirical grounding for the integration of visual and verbal modes in instructional design. According to this theory, video-based materials enhance learning by reducing cognitive overload, directing attention to key pedagogical moves, and supporting dual-channel processing.

Recent empirical evidence supports the effectiveness of video-enhanced learning in teacher education. For instance, Gachowski, (2025) found that pre-service teachers who engaged with curated teaching videos showed improved classroom performance, deeper reflection, and stronger instructional planning skills compared to their peers in traditional microteaching-only formats. Similarly, Schlosser, and Paetsch, (2023) demonstrated that the use of reflective video analysis improved teaching self-efficacy, particularly in lesson delivery and classroom questioning techniques. In Nigeria, where disparities in resource access and training quality persist, video-based tools represent a scalable solution that can democratize access to expert teaching models and create more equitable learning environments (Dahlan, *et al*., 2023).

Given these promising developments, this paper explores the conceptual roles of pre-recorded video resources in improving microteaching competence among Nigerian pre-service teachers. The paper synthesizes current literature, theoretical insights, and contextual challenges to propose a conceptual framework for integrating video-based strategies in teacher preparation programs. It further outlines practical implications for curriculum designers, teacher educators, and educational policymakers, recommending a blended microteaching model that leverages both live teaching practice and strategically curated video content. The ultimate aim is to offer a roadmap for optimizing microteaching outcomes and fostering reflective, adaptive, and competent educators for the 21st-century classroom.

Conceptual Framework

The conceptual model for this study illustrates the relationship between pre-recorded video Instruction, as the independent variables, and the acquisition of micro teaching competence such as Instructional planning, classroom communication, professional self-awareness as the dependent variables. The model posits that pre-recorded video resources received through self-paced, repeated learning and critical reflection enhances teaching competence among pre-service teachers.

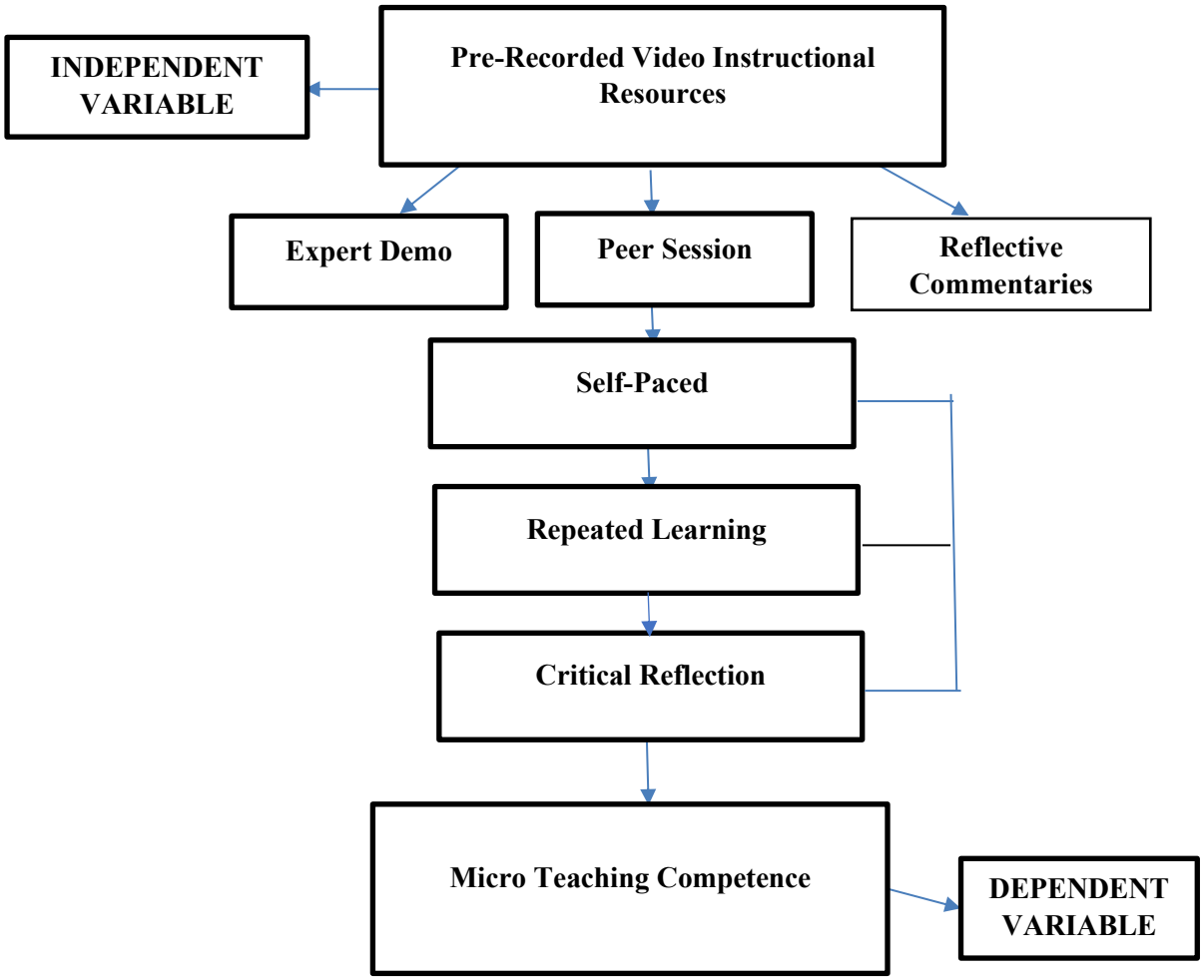

Fig 1: Conceptual Framework

Definitions of Terms

To fully understand the role of pre-recorded video resources in enhancing microteaching competence among pre-service teachers, it is essential to clarify the key concepts underpinning this study. These concepts include *microteaching*, *pre-recorded video resources*, *microteaching competence*, and the *blended microteaching model*. Defining these terms provides a clear framework for the discussion and guides the integration of theory and practice in the research.

Microteaching

Microteaching is a teacher training technique designed to develop and refine specific teaching skills in a controlled and simplified environment. It was first introduced in the 1960s at Stanford University as an innovative method for improving teacher preparation programs. The core idea of micro-teaching is to reduce classroom teaching by limiting the duration of the lesson, the number of students, and the scope of the content. It is a scaled-down teaching simulation designed to provide pre-service teachers with an opportunity to practice and refine specific teaching skills in a controlled, supportive environment (Zhang, *et al.,* 2024). Unlike full classroom teaching, microteaching typically involves teaching a brief lesson segment (usually 5–10 minutes) to a small group of peers or students, followed by feedback and reflection. It is widely acknowledged as an effective method for developing foundational teaching skills such as lesson planning, questioning techniques, classroom management, and verbal and non-verbal communication (Ogunleye & Adeoye, 2020). The microteaching cycle which includes plan, teach, observe, feedback, and re-teach—emphasizes iterative improvement and reflective

practice, which are vital for developing teaching proficiency.

Microteaching is a practice-oriented teacher training technique in which pre-service teachers deliver short, focused lessons to a small group of peers or learners so they can concentrate on specific instructional skills, receive structured feedback, reflect on their performance, and refine their pedagogical practices before engaging in full-scale classroom teaching. It simplifies the complexities of real classroom teaching by reducing lesson duration, class size, content scope, and enables guided feedback and intentional reflection on teaching behaviours.

Micro-teaching follows a structures cycle known as the micro teaching cycle. This process includes planning the lesson, teaching the lesson, observing performance, receiving feedback, and re-teaching the improved lesson (Alabi, 2023). One of the primary advantages of micro-teaching is that it builds confidence and professional competence among trainee teachers.

Pre-recorded Video Resources

Pre-recorded video resources refer to audiovisual materials created in advance that demonstrate teaching practices, pedagogical strategies, or instructional content relevant to teacher education. These videos can include expert teaching demonstrations, peer microteaching sessions, annotated lessons, and reflective commentaries that highlight effective instructional techniques or common challenges (Lewis, 2023). The use of such videos in teacher education facilitates self-paced learning, enabling pre-service teachers to watch, analyze, and reflect on teaching episodes multiple times, thereby deepening their understanding and self-awareness. Moreover, videos serve as concrete exemplars that help bridge the gap between theory and practice, especially in contexts where live demonstrations or diverse classroom experiences are limited (Yusuf *et al.*, 2021). From a pedagogical perspective, pre-recorded video resources promote learner autonomy by allowing individuals to control the pace and timing of their engagement. They can support differentiated instruction, as learners who require additional time to grasp complex concepts can revisit the material without the pressure often associated with live sessions. Furthermore, pre-recorded video ensure consistency in content delivery, which is particularly beneficial in large- scale courses or corporate training programs where standardized information dissemination is essential. Prerecorded video resources constitute a fundamental component of modern digital learning infrastructures especially in enhancing micro teaching competence.

Micro-teaching Competence

Microteaching competence encompasses the knowledge, skills, attitudes, and reflective capacities that pre-service teachers develop through engaging with microteaching activities. It includes the ability to effectively plan lessons, deliver instruction clearly, manage the classroom environment, use questioning techniques to stimulate student thinking, and engage in critical self-evaluation and peer feedback (Gambari *et al.,* 2022). Competence in microteaching is not merely about mastery of isolated teaching skills but also the integration of these skills into coherent and adaptive instructional practices. This competence is foundational for successful transition into real classroom teaching. It refers to a teacher's ability to effectively demonstrate specific teaching skills within a structured, short and focused teaching session known as micro-teaching. Micro-teaching competence therefore, represents the mastery of essential teaching skills demonstrated during such sessions. It emphasizes focused practice, immediate feedback, reflection, and re-teaching to improve instructional performance.

Microteaching competence includes several core teaching skills, first, lesson planning competence which involves the ability to set clear objectives, organize content logically, and select appropriate teaching aids. Second, presentation competence refers to clarity of explanation, appropriate voice modulation, effective questioning techniques and the use of

examples to enhance understanding. Third, classroom management which includes maintaining learner attention, managing time effectively and encouraging participation. Fourth, reinforcement skills involve providing constructive feedback and positive encouragement to learners. Lastly, evaluation competence refers to assessing whether learning objectives have been achieved withing short session. (Gambari *et al.,* 2022). The development of micro-teaching competence follows a cyclical process: planning, teaching, observing, receiving feedback, reflecting and re-teaching. This structured practice allows teachers to focus on one skill at a time, thereby reducing the complexity of full classroom teaching. Through repetition and feedbacks, teachers gradually build confidence, improve instructional clarity and enhance learner engagement. Micro-teaching competence can also be achieved with the integration of live sessions and pre-recorded video resources known as blended micro-teaching model.

Blended Micro-teaching Model

The blended microteaching model integrates traditional face-to-face microteaching sessions with digital enhancements, particularly the use of pre-recorded video resources (Obielodan & Adebayo, 2023). This model recognizes that while live microteaching offers immediate practice and feedback opportunities, video resources provide flexibility, repeated exposure, and richer reflection opportunities. Blended microteaching enables pre-service teachers to prepare better before live sessions by studying exemplar videos, engage in self-assessment through video review of their own teaching, and participate in asynchronous discussions about teaching practices. Such integration leverages the strengths of both approaches to optimize teacher preparation outcomes. This model is increasingly used in teacher education programs to enhance pedagogical competence while adapting to modern educational environments. Micro-teaching originally developed at Stanford University, focuses on the practice of specific teaching skills within a short, controlled session. In a blended micro-teaching model, this traditional structure is expanded by incorporating digital tools, pre-recorded video lessons, virtual classrooms learning management systems, and online feedback mechanisms (Lewis, 2023).

The blended micro teaching model offers several advantages. It increases flexibility, supports self-paced preparation, encourages digital literacy, and allows repeated review of teaching performances. It also expands leaning opportunities beyond the physical classroom. However, it requires reliable technological infrastructure, digital competence, and careful instructional design to ensure effective integration of online and offline components.

Theoretical Framework

The theoretical framework provides the foundation for understanding how pre-recorded video resources can enhance microteaching competence among pre-service teachers. This study is anchored primarily in two complementary theories: Constructivist Learning Theory and Cognitive Theory of Multimedia Learning. Together, these theories explain the cognitive and social processes through which pre-service teachers learn and internalize teaching competencies via video-enhanced microteaching.

Constructivist Learning Theory

Constructivism, rooted in the works of Vygotsky (1978) and Piaget (1954), posits that learners actively construct knowledge through experience, reflection, and social interaction. In this perspective, learning is not a passive absorption of information but a dynamic process where learners build understanding by linking new knowledge to prior cognitive structures and engaging with authentic tasks. Vygotsky's concept of the Zone of Proximal Development (ZPD) is particularly relevant in teacher education, emphasizing the importance of scaffolding and guided practice to help learners accomplish tasks slightly beyond their current capabilities (Vygotsky, 1978).

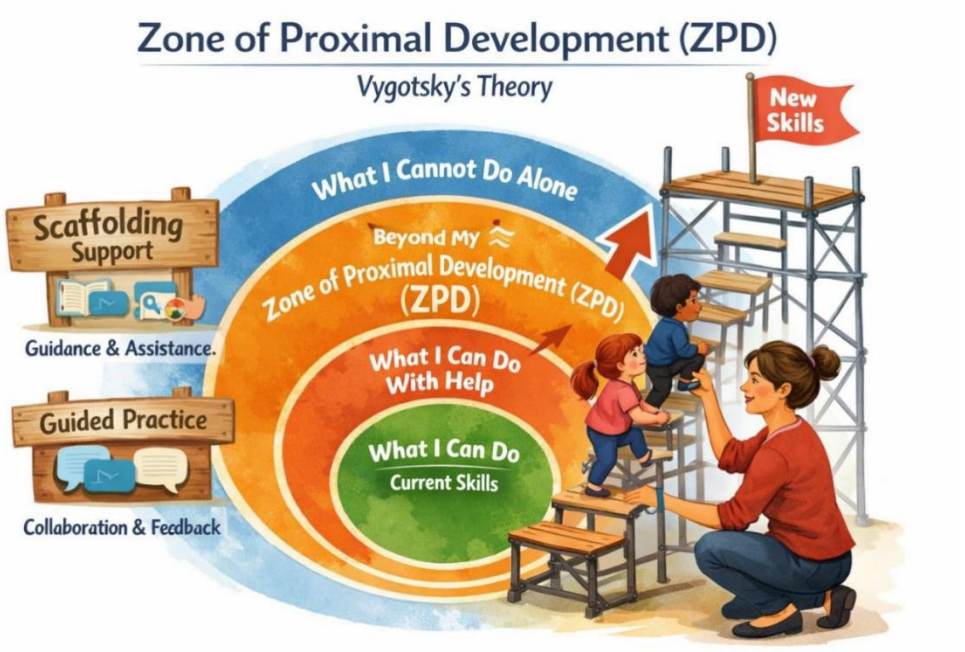

Fig 2: Zone of Proximal Development (ZPD)

In the context of microteaching, constructivism supports the use of pre-recorded video resources as tools that enable pre-service teachers to observe authentic teaching scenarios, reflect critically on pedagogical strategies, and engage in self-regulated learning. Videos provide rich contextualized content that learners can analyze repeatedly, thus promoting deeper conceptual understanding. Moreover, video-based peer discussions and reflections foster social interaction, enabling learners to co-construct knowledge collaboratively

Cognitive Theory of Multimedia Learning

Richard Mayer's Cognitive Theory of Multimedia Learning (CTML) (Mayer, 2021) provides a cognitive explanation for why video resources are effective in enhancing learning outcomes. Mayer argues that humans process information through two channels: the auditory/verbal channel and the visual/pictorial channel. Learning is maximized when these channels work together to build coherent mental representations. However, cognitive resources such as attention and working memory are limited, so instructional design must manage cognitive load to prevent overload.

Pre-recorded instructional videos, if well-designed, support dual-channel processing by combining verbal explanations with visual demonstrations, thus facilitating deeper learning. For pre-service teachers, seeing an expert model teaching strategies visually while simultaneously hearing explanations helps integrate procedural knowledge with conceptual understanding. The ability to pause, rewind, and reflect on video content further reduces cognitive load and encourages active engagement with the material (Mayer, 2021).

Moreover, CTML highlights several principles relevant to video use in microteaching: the modality principle (combining spoken words with visuals), the segmenting principle (breaking content into manageable chunks), and the reflection principle (encouraging learners to pause and think). These principles underpin effective video design that scaffolds pre-service teachers' acquisition of teaching competencies.

Integration of Theories in Video-Enhanced Microteaching

The combination of constructivist and multimedia learning theories offers a comprehensive

framework for the integration of pre-recorded video resources into microteaching. Constructivism emphasizes the learner's active role in constructing knowledge through reflection and social interaction, which is supported by video-based observation and collaborative analysis. CTML explains the cognitive mechanisms by which multimedia presentations in videos enhance understanding and retention of teaching skills.

This integrated theoretical perspective suggests that video-enhanced microteaching can promote meaningful learning by providing authentic teaching models (constructivism) and optimizing cognitive processing through multimedia design (CTML). Pre-service teachers can observe, analyze, and reflect on teaching episodes multiple times, internalize pedagogical strategies, and apply them in their own microteaching sessions. This approach encourages self-regulated learning, reflective practice, and iterative improvement, all crucial for developing microteaching competence.

Empirical Studies on Pre – recorded video instruction

Onal (2019) conducted a study on an exploratory study on pre-service teachers' reflective reports of their video-recorded microteaching. In this study, the participating pre-service teachers were asked to video- record their microteaching performances and watch their performances several times before they write a reflective report on their performance. The technique of content analysis was applied in the analysis process of the reflective reports and their perceptions as to their instructional skills have been identified. It has also been observed that, in comparison to traditional implementation of the microteaching technique, integration of smartphone video- recording technology into the microteaching technique yielded benefits particularly in terms of the feedback stage and improving pre-service teachers' reflective skills.

Vega *et al.* (2021) conducted a study to design and validate a model of teaching competencies in Virtual learning Environment, with the support of virtual laboratories, to ensure the quality of higher education during the covid-19 pandemic. A quantitative and correlational methodology was used in a case study. The research was divided into two methodological moments: the design of the model and its validation. The instruments used were a comparative analysis matrix and a Likert-type scale. 5 650 students and 41 teachers participated in the validation cap. The results highlight the need for teacher development, mainly in digital and research skills. One weakness of the study is the lack of weighting of the quality indicators. The proposed model represents an innovation in the definition of indicators, in the form of competencies, for the assurance of educational quality in Virtual learning Environment. It is concluded that the proposed model is pertinent for the assurance of educational quality in Virtual learning Environment

Bakri *et al.* (2022) investigated the learning level of students based on their perceptions. An online self-administered questionnaire was disseminated to students from three campuses of UiTM Sarawak. Data obtained from a sample of 1199 students was analyzed using descriptive statistics to measure students' perception of the method that they preferred. The results show that the mixed delivery method was the most preferred method among students for online learning, which accounted for 63.9%. This was followed by 28.7% of the students who preferred pre-recorded video lecture because it is more flexible and the remaining 7.4% of the students preferred live lecture because of the higher level of interactions and greater ability to concentrate. Live lecture and pre-recorded video were found to suit each other depending on students' time. These findings are beneficial to the learning institutions in providing better services to students through open and distance learning.

Lim *et al.* (2024) compared students' preferences for pre-recorded videos and live lectures, and to establish the relationship between these two types of online lectures on students' online

learning satisfaction and academic achievement during the pandemic. This study is quantitative in nature and involved 552 respondents who are undergraduate students from four faculties in one of the private universities in Malaysia. Structural Equation Modeling (SEM) was used to analyse the proposed hypotheses. The results show that the pre-recorded video lecture has a positive effect on students' online learning satisfaction in three faculties, i.e., Social Science, Business and Medical Science, whereas, in the faculty of Innovation and Technology, the live online lecture has a significant effect on their students' online learning satisfaction. However, students from all four faculties responded that both pre-recorded video lectures and live online lectures did not significantly improve their academic achievement. The findings of this study provide a guideline for academics in their online pedagogical consideration, especially in deciding the type of online lecture preferred by their students which has contributed to their online learning satisfaction, thus improving the overall quality of the online learning experience.

Components of Pre-recorded Video Resources

Pre-recorded video resources are multi-dimensional instructional tools that can significantly enhance microteaching by offering pre-service teachers' diverse ways to observe, analyze, and reflect on teaching practices. To maximize their impact on microteaching competence, these video resources typically comprise several key components. Understanding these components helps in designing, curating, and integrating video materials effectively within teacher education programs.

1. **Expert Demonstration Videos:** One of the most critical components of video-enhanced microteaching is the use of expert demonstration videos, which feature experienced educators delivering lessons while exemplifying effective pedagogical and classroom management practices. These videos provide pre-service teachers with concrete examples of instructional planning, question design, learner engagement techniques, and behavior management strategies, allowing them to observe not only what is taught but also how it is taught—including communication style, pacing, and responsiveness to student needs. Recent research indicates that videos showcasing expert teaching practices can enhance pre-service teachers' instructional reasoning and support the development of professional vision by making evidence-based teaching behaviors visible and accessible for analysis (Lewis, 2023). Expert demonstration videos thus serve as powerful reference models that guide learners' understanding of professional standards and effective teaching behaviors, bridging the gap between theoretical coursework and practical classroom application.

2. **Peer-led Microteaching Recordings:** Another vital component of video-enhanced microteaching is the inclusion of peer-led microteaching recordings—videos that capture pre-service teachers conducting their own instructional sessions. These peer recordings provide valuable opportunities for learners to critically examine their colleagues' pedagogical approaches while also reflecting on their own recorded performances. Engaging with peer videos encourages comparative reflection, strengthens analytical skills, and promotes collaborative learning within teacher preparation programmes. Recent research indicates that structured video-based peer analysis enhances reflective practice and supports the development of professional vision among pre-service teachers (Gaudin & Chaliès, 2022). Moreover, peer recordings create a safe environment in which pre-service teachers can identify common instructional challenges, explore alternative teaching strategies, and develop constructive feedback skills. This collaborative process contributes to deeper pedagogical understanding and fosters a culture of shared professional growth.

3. **Reflective Commentaries and Annotations:** Reflective commentaries and annotations embedded in or alongside the videos provide guided prompts,

explanations, and expert feedback to deepen understanding. These may include voiceovers highlighting key teaching moves, text overlays pointing out effective strategies, or video pauses encouraging viewers to reflect on specific teaching moments (Obielodan & Adebayo, 2023). This scaffolding supports learners in identifying pedagogical strengths and weaknesses and connects theoretical knowledge to practical applications.

4. **Self-Recording and Playback Opportunities:** A critical interactive component of video-enhanced microteaching is the opportunity for self-recording and playback. Many microteaching programmes incorporate video recordings of pre-service teachers' own instructional sessions, which they later review independently or collaboratively with supervisors and peers. This process of structured self-observation promotes metacognitive awareness by enabling pre-service teachers to critically examine their instructional decisions, identify areas requiring improvement, recognize effective strategies, and establish targeted goals for professional development. Recent research indicates that video-based self-reflection strengthens reflective practice, enhances professional vision, and supports the development of pedagogical reasoning in teacher education contexts (Gaudin & Chaliès, 2022; Admiraal *et al.*, 2023). Moreover, the ability to control video playback—pausing, rewinding, replaying, or using slow motion—facilitates detailed analysis of classroom interactions, teacher talk, non-verbal communication, and student responses in ways that are not possible during live observations. Such analytic flexibility deepens reflective engagement and contributes to sustained professional learning.

5. **Supplementary Instructional Materials:** Pre-recorded video resources are often supplemented with additional instructional materials such as lesson plans, teaching guides, rubrics, and discussion questions. These supplementary materials provide context and structure to the video content, guiding pre-service teachers on what to focus on and how to apply observed strategies (Mayer, 2021). They also facilitate more structured reflection sessions and group discussions, bridging the gap between video observation and classroom application.

6. **Technical Quality and Accessibility Features:** To be effective, pre-recorded video resources must have high technical quality, including clear audio, good lighting, and stable visuals, ensuring that instructional content is easily observable and comprehensible (Ogunlade, 2022). Additionally, accessibility features such as subtitles, transcripts, and language options enhance usability for diverse learners and support inclusive education practices. These features are especially important in resource-constrained settings where learners might have varying levels of digital literacy and access to technology.

Roles of Pre-recorded Videos in Enhancing Microteaching Competence

Pre-recorded video resources have become integral tools in teacher education, particularly for enhancing microteaching competence among pre-service teachers. Their multiple roles contribute to improving instructional skills, reflective practice, and professional growth. This section outlines the key functions and educational benefits of pre-recorded videos in the microteaching context.

i. **Facilitating Repeated Observation and Self-Paced Learning:** One of the primary roles of pre-recorded videos is enabling repeated viewing, allowing pre-service teachers to observe teaching demonstrations or their own lessons multiple times at their convenience. This flexibility supports self-paced learning, where learners can control the speed and frequency of engagement according to their individual needs (Mayer,

2021). Such repeated exposure aids in deeper comprehension of teaching techniques, classroom management strategies, and pedagogical nuances that may be missed during a single live observation.

ii. **Providing Access to Expert Models and Exemplary Teaching Practices:** Pre-recorded videos offer access to expert teaching models, demonstrating effective instructional strategies and classroom interactions that may not be readily available in every teacher education setting. Watching experts perform microteaching sessions allows pre-service teachers to internalize professional standards and adopt best practices (Lewis, 2023). This role is particularly crucial in contexts like Nigeria, where direct observation of experienced teachers may be limited by resource constraints and large class sizes (Ogunlade, 2022).

iii. **Enhancing Reflective Practice and Critical Analysis:** Videos serve as powerful tools for reflection by providing concrete evidence of actual teaching performance. When pre-service teachers watch recordings of their own or peers' microteaching sessions, they can engage in critical self-analysis, identify instructional strengths and areas that need improvement, and develop metacognitive skills that are essential for sustained professional growth. Recent research shows that video-supported reflection enables pre-service teachers to more accurately evaluate their teaching practices compared with relying solely on memory or immediate verbal feedback, leading to deeper insights into classroom interactions, instructional decisions, and personal pedagogical tendencies (Weber *et al.,* 2023).

iv. **Supporting Feedback and Collaborative Learning:** The use of pre-recorded videos facilitates richer feedback processes, both from instructors and peers. Recorded lessons can be reviewed asynchronously, allowing more detailed and thoughtful comments (Obielodan & Adebayo, 2023). Video-based peer review encourages collaborative learning, where pre-service teachers learn not only from their own videos but also from critiquing others' teaching practices, thus broadening their perspectives and pedagogical understanding.

v. **Bridging Theory and Practice: I**ntegrating theory with practical demonstration, pre-recorded videos help pre-service teachers bridge the gap between theoretical knowledge and classroom application. They illustrate how abstract pedagogical concepts are enacted in real teaching scenarios, making learning more concrete and applicable (Gambari *et al*., 2022). This role enhances the relevance and retention of teacher education content.

vi. **Promoting Confidence and Reducing Anxiety:** Microteaching can be anxiety-provoking for pre-service teachers due to performance pressure and fear of judgment from peers and instructors. Pre-recorded videos help mitigate this anxiety by allowing learners to practice and review their teaching in a less intimidating and more controlled environment. When pre-service teachers can revisit and refine their recorded lessons independently, they often feel more comfortable experimenting with teaching strategies, building confidence gradually, and reducing performance stress before live classroom or peer presentations (Alamri & Alfayez, 2023).

Implications for Stakeholders

The integration of pre-recorded video resources in microteaching has important implications for all stakeholders in teacher education. Curriculum designers must revise and structure programs to incorporate blended learning approaches, ensuring that video content aligns with

learning outcomes and includes assessment criteria that recognize reflective analysis as a core competency (Yusuf *et al.*, 2021). Teacher educators play a pivotal role in guiding pre-service teachers' engagement with video materials, requiring new competencies in digital content creation, video-based feedback, and facilitation of peer discussion sessions (Obielodan & Adebayo, 2023). For pre-service teachers, access to videos enhances autonomy and flexibility, enabling repeated observation of teaching models and self-practice, which promotes self-regulated learning, reflection, and professional growth (Mayer, 2021). Educational policymakers are responsible for creating enabling environments by investing in digital infrastructure, supporting professional development for educators, and enacting policies that sustain technology-enhanced learning initiatives (Ogunlade, 2022). Finally, institutional administrators must prioritize resources for video technologies, provide technical and ethical oversight, and foster a culture of innovation and responsible video use (Wu & Liu, 2021). Collectively, these efforts ensure that video-enhanced microteaching contributes effectively to developing competent, reflective, and digitally literate teachers.

Recommendations

i. Teacher education institutions should integrate pre-recorded video resources into microteaching programs to provide pre-service teachers with opportunities for repeated observation and self-paced learning.
ii. Curriculum designers should revise microteaching curricula to include guidelines and assessment criteria that emphasize the use of video-based teaching and reflection.
iii. Teacher educators should receive training on how to create, use, and provide feedback on video resources effectively to support pre-service teachers' learning.
iv. Pre-service teachers should be encouraged to actively engage with video recordings, both of expert demonstrations and their own teaching, to improve reflective skills and instructional competence.
v. Educational policymakers and institutional administrators should invest in digital infrastructure such as reliable internet, video recording equipment, and technical support to facilitate the use of video resources.
vi. Institutions should promote a culture of collaboration and peer feedback by organizing video-based discussion sessions where pre-service teachers can share insights and learn from one another.

Conclusion

Pre-recorded video resources play a vital role in improving microteaching competence among pre-service teachers by allowing them to observe expert teaching, reflect on their own practice, and learn at their own pace. When effectively integrated into teacher education programs, these videos help bridge the gap between theory and practice, enhance reflective skills, and build confidence. For maximum impact, there must be support from curriculum designers, educators, and policymakers to provide the necessary infrastructure and training. Overall, video-enhanced microteaching offers a promising approach to preparing skilled and reflective teachers for the future.

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