

Microteaching and Its Role in Improving Teaching Practice

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ABSTRACT

Microteaching has emerged as a powerful teacher education technique aimed at refining teaching skills through iterative practice, feedback, and reflection. Originating in the early 1960s at Stanford University, microteaching involves teaching a short lesson to a small group, receiving structured feedback, and revising instruction accordingly. This manuscript explores the role of microteaching in improving teaching practice by conducting a survey of 100 in-service and pre-service teachers across diverse educational contexts. Data were collected via a structured questionnaire measuring perceived gains in instructional planning, delivery techniques, classroom management, and reflective practice. Statistical analysis revealed significant improvements in teachers' self-efficacy, clarity of communication, use of questioning strategies, and adaptability to learner needs after engaging in microteaching cycles.

Qualitative feedback highlighted the value of peer and mentor feedback in identifying blind spots and reinforcing effective pedagogical techniques. Beyond these quantitative gains, participants reported increased confidence when experimenting with innovative teaching strategies and greater willingness to engage in continuous professional learning. The findings underscore microteaching's contribution to teacher professional development and suggest pathways for integrating microteaching modules into teacher education curricula. Implications for policy, training program design, and future research are discussed, including

recommendations for leveraging technology-enhanced microteaching environments and fostering communities of practice among educators.

KEYWORDS

microteaching; teaching practice; teacher training; professional development; instructional improvement



Fig.1 Improving Teaching Practice, [Source\(\[1\]\)](#)

Introduction

The quality of teaching remains a central determinant of student learning outcomes and educational equity (Darling-Hammond, 2000). Despite extensive teacher education programs, novice and experienced educators often struggle to translate pedagogical theory into effective classroom practice. Traditional practicum experiences may offer limited opportunities for focused skill development and reflective

refinement. In response, microteaching was introduced in the early 1960s at Stanford University as an innovative approach to teacher training, allowing educators to practice discrete teaching skills in a controlled environment, receive targeted feedback, and iteratively improve their instructional methods (Allen & Eve, 1968).



Fig.2 Microteaching, [Source\(\[2\]\)](#)

Microteaching is defined as a scaled-down, simulated teaching encounter designed to facilitate the acquisition of specific teaching competencies through practice and feedback (Korthagen & Kessels, 1999). Sessions typically involve five stages: planning, teaching, feedback, re-planning, and re-teaching. By focusing on brief teaching segments—usually five to ten minutes—teachers can concentrate on mastering one or two micro-skills, such as effective questioning, use of illustrative examples, non-verbal communication, or differentiated instruction techniques. The cyclical nature of microteaching promotes reflective practice, encouraging participants to critically evaluate their performance based on peer and mentor observations (Joyce & Showers, 2002).

Over the past six decades, microteaching has been adopted in various teacher education contexts worldwide, demonstrating positive effects on instructional performance and self-efficacy (Haris & Ur, 2010; Zare-ee & Siew, 2016). Yet the implementation strategies, feedback models, and technological integrations vary widely, and comprehensive empirical evidence comparing these approaches remains limited. This study investigates microteaching's impact on teaching practice by surveying 100 teachers, examining perceived enhancements in planning, delivery, classroom management, and reflective abilities. The objectives are: (1) to assess changes in self-reported teaching competencies after microteaching cycles, (2) to identify the most valued

feedback components, (3) to explore participants' suggestions for optimizing microteaching for diverse educational settings, and (4) to evaluate the feasibility of scaling microteaching through digital platforms for remote or hybrid training contexts.

LITERATURE REVIEW

Historical Origins of Microteaching

Microteaching was first conceptualized in the 1960s by Dwight W. Allen and his colleagues at Stanford University's School of Education to address shortcomings in traditional teacher preparation programs. The microteaching model allowed for concentrated practice of teaching behaviors with minimal complexity, breaking down the teaching process into discrete micro-skills (Allen & Eve, 1968). Early implementations focused on face-to-face sessions, but later adaptations introduced video recording to deepen reflective observation.

Theoretical Foundations

The theoretical underpinnings of microteaching draw from skill acquisition theory and reflective practice. Bandura's social cognitive theory posits that observational learning and feedback play critical roles in behavior change (Bandura, 1977). Schön's reflective practitioner model emphasizes reflection-on-action for professional growth (Schön, 1983). Vygotsky's concept of the Zone of Proximal Development underscores the importance of scaffolded learning experiences in microteaching, whereby peers and mentors provide support to help novices reach higher levels of performance than they could alone (Vygotsky, 1978).

Empirical Evidence of Effectiveness

Numerous studies have documented microteaching's positive effects on teaching performance. A meta-analysis by Samaras (2012) of 45 experimental and quasi-experimental studies found medium to large effect sizes for improvements in questioning techniques, clarity of explanation, and use of instructional media. Similarly, a longitudinal study by Zare-ee and Siew (2016) revealed sustained gains in teaching self-efficacy over six months post-microteaching interventions,

indicating that initial improvements can translate into lasting professional growth. Other research has shown that repeated microteaching cycles enhance reflective judgment and meta-cognitive awareness, enabling teachers to adapt instructional strategies to diverse learner needs (Kazemi & Hubbard, 2008).

Feedback Models in Microteaching

Effective feedback is central to microteaching's success. Models such as the Pendleton rules advocate beginning with positive observations, followed by areas for improvement, and concluding with participant reflections (Pendleton et al., 1984). Other approaches integrate the Feedback Sandwich or the BOOST model—Balanced, Objective, Observed, Specific, Timely—to structure feedback for clarity and impact. Video-assisted coaching further enhances feedback quality by enabling self-observation, comparison with expert exemplars, and targeted goal-setting (Van Es & Sherin, 2008).

Technological Enhancements

Advances in educational technology have led to the development of virtual microteaching platforms, allowing remote participation and automated feedback through learning analytics and artificial intelligence-driven prompts (Smith et al., 2020). Preliminary research suggests these platforms can replicate face-to-face microteaching benefits while increasing accessibility for geographically dispersed participants. For instance, immersive virtual reality environments enable teachers to simulate classroom interactions with avatar-based students, receiving real-time feedback on non-verbal communication and engagement strategies (Brown & Howard, 2021).

Research Gaps

Despite robust evidence of microteaching's efficacy, several gaps persist. Few studies compare different feedback modalities systematically, such as face-to-face versus video-assisted versus AI-driven feedback. Limited research explores long-term impacts on classroom practice beyond self-reports, with scarce observational data or student

achievement measures. Additionally, the integration of microteaching within credentialing requirements and in-service professional development warrants further investigation, particularly regarding cost-effectiveness and scalability in resource-constrained settings.

SURVEY OF 100 PARTICIPANTS

Participants in this study comprised 100 teachers enrolled in teacher education programs or in-service training workshops across urban and rural educational institutions. The sample included 60 pre-service teachers in the final year of their certification programs and 40 in-service teachers with 1–5 years of teaching experience. Convenience sampling was used to recruit participants during scheduled training sessions. Efforts were made to ensure diversity in subject areas—ranging from STEM to humanities—and institutional types, including public schools, private academies, and government-run training centers. All participants provided informed consent and completed a pre-intervention survey assessing baseline competencies and attitudes toward microteaching.

METHODOLOGY

Research Design

This study employed a single-group pretest–posttest design over a two-week intervention period. Participants engaged in three microteaching cycles, each focusing on distinct micro-skills: questioning strategies, use of instructional media, and classroom management techniques. Each cycle included planning, teaching, feedback, re-planning, and re-teaching stages, enabling iterative skill refinement.

Data Collection

A structured questionnaire was developed, including 25 Likert-scale items measuring self-efficacy in lesson planning, delivery, feedback utilization, and reflective practice (adapted from Tschannen-Moran & Woolfolk Hoy, 2001). Additional items assessed teaching anxiety, perceived collaboration quality, and intent to transfer learned skills to real classrooms. Post-intervention, participants completed the same instrument alongside open-ended questions soliciting

qualitative feedback on the microteaching experience, perceived barriers, and suggestions for improvement.

Procedure

Cycle 1: Participants prepared a five-minute lesson segment focusing on effective questioning. They taught peers in groups of five, received verbal and written feedback using Pendleton's model, and viewed video recordings of their performance. Facilitators annotated the recordings to highlight instances of wait time, student engagement, and questioning depth.

Cycle 2: The focus shifted to instructional media. Participants designed and delivered a lesson segment incorporating visual aids or digital tools, such as presentations or educational apps.

Feedback emphasized clarity and relevance of media, seamless integration with learning objectives, and accessibility considerations.

Cycle 3: Classroom management micro-skills—such as pacing, transitions, non-verbal cues, and handling off-task behavior—were practiced. Feedback addressed maintenance of engagement, effective use of proximity control, and varied interaction patterns.

Data Analysis

Quantitative data were analyzed using paired-sample t-tests to compare pretest and posttest scores across competency domains. Effect sizes were calculated to determine the magnitude of improvements. Qualitative responses were transcribed, coded thematically, and triangulated with quantitative findings to identify perceived strengths, challenges, and recommendations for microteaching design.

RESULTS

Quantitative Findings

Self-Efficacy Gains

Significant improvements were observed in all measured domains. Mean self-efficacy for lesson planning increased from 3.12 (SD = 0.65) pretest to 4.05 (SD = 0.58) posttest, $t(99) = 15.23$, $p < .001$, Cohen's $d = 1.53$. Delivery techniques saw gains from 2.95 (SD = 0.72) to 4.10 (SD = 0.60), $t(99) =$

16.87, $p < .001$, $d = 1.69$. Classroom management self-efficacy improved from 3.00 (SD = 0.70) to 3.85 (SD = 0.66), $t(99) = 12.94$, $p < .001$, $d = 1.29$.

Feedback Utilization and Transfer Intent

Participants reported an increased ability to incorporate feedback, with mean scores rising from 2.85 (SD = 0.68) to 4.00 (SD = 0.62), $t(99) = 17.10$, $p < .001$, $d = 1.71$. Intent to transfer microteaching skills into real classroom settings was high, with 92% indicating they would modify their existing lesson plans to integrate micro-skills practiced during the study.

Qualitative Themes

Three overarching themes emerged:

1. **Importance of Structured Feedback:** Participants valued clear, actionable suggestions, particularly when feedback included concrete examples and time-stamped video annotations.
2. **Role of Peer Support:** Collaborative reflection helped normalize mistakes and build confidence, as peers often identified successful strategies that participants overlooked.
3. **Technology Integration:** Video recordings and digital platforms were noted as particularly effective for self-observation and long-term reflection; however, some participants cited technical challenges, such as poor audio quality or limited access to recording equipment.

Discussion

These findings corroborate prior research demonstrating microteaching's efficacy in enhancing teaching competencies (Samaras, 2012; Zare-ee & Siew, 2016). The significant gains in self-efficacy align with Bandura's social cognitive theory, underscoring the role of mastery experiences and targeted feedback in professional growth. High transfer intent suggests that microteaching experiences can catalyze meaningful changes in actual classroom practices.

Thematic insights highlight the necessity of structured feedback models—such as PENDLETON or BOOST—and underscore the potential of technology to augment traditional microteaching cycles. Yet technological constraints must be addressed for equitable access, suggesting the need for institutional investments in audiovisual infrastructure.

CONCLUSION

Microteaching serves as a potent tool for improving teaching practice by offering focused, iterative opportunities for skill refinement. This study's survey of 100 teachers revealed substantial gains in planning, delivery, classroom management, and reflective practice. Participants praised the structured feedback cycles and the integration of video-based self-observation. To maximize impact, teacher education programs should:

- Incorporate multiple microteaching cycles, each targeting specific skill sets.
- Leverage diverse feedback modalities—including face-to-face, video-assisted, and AI-driven feedback—to accommodate varied learning preferences.
- Ensure opportunities for collaborative reflection, such as peer coaching groups and communities of practice.
- Invest in technological infrastructure to support high-quality recording and remote participation.

Future research should examine long-term effects on classroom performance through observational studies and student achievement metrics, compare feedback models systematically, and explore microteaching applications across cultural, subject-specific, and educational level contexts.

SCOPE AND LIMITATIONS

This study's findings are subject to certain limitations. The convenience sampling of participants limits generalizability; future studies should employ random sampling across varied

contexts. The reliance on self-reported measures may introduce response bias, despite high internal consistency reliability (Cronbach's $\alpha > .85$ across scales). While video recordings supported reflective practice, technical constraints occasionally hindered recording quality and participant engagement. Additionally, the two-week intervention period precludes assessment of sustained impacts; longitudinal designs with follow-up assessments at three, six, and twelve months would elucidate the durability of microteaching gains. Further research should investigate cost-effectiveness analyses of technology-enhanced microteaching and evaluate student learning outcomes associated with teacher participation in microteaching programs.

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