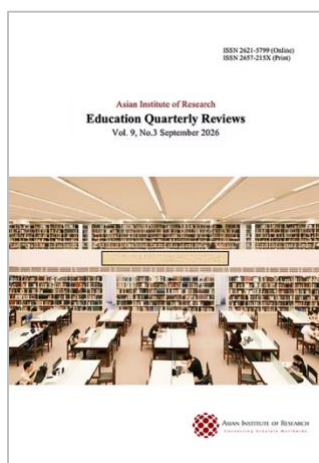




Education Quarterly Reviews

Almajali, A. F. (2026). The Effectiveness of Micro Teaching for Promoting Childhood Teachers' Skills According to a Theory of Planned Behavior Perspective. *Education Quarterly Reviews*, 9(3), 1-12.

ISSN 2621-5799

DOI: 10.31014/aior.1993.09.03.720

The online version of this article can be found at:
<https://www.asianinstituteofresearch.org/>

Published by:
The Asian Institute of Research

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The Effectiveness of Micro Teaching for Promoting Childhood Teachers' Skills According to a Theory of Planned Behavior Perspective

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Abstract

Micro-teaching is a widely recognized teacher training method, and theory of planned behaviour is a solid model for behavioural change. This study looked at the effectiveness of micro-teaching on improving the skills and intentions of childhood teachers to engage in TPB-informed practices. A quasi-experimental pre-test/post-test design was used with 240 student-teachers at Zarqa University. A researcher designed scale was used to gather data, this scale measured the effectiveness of micro-teaching, actual classroom behaviour change and intention to use TPB principles. The validity and reliability of the scale were determined via the expert review and statistical methods. The difference among pre and post intervention was analysed using paired samples t-test. The micro-teaching intervention resulted in significant improvements in the skills of teachers who teach children and actual classroom behaviour (e.g., Mean post test score for micro-teaching effectiveness = 2.68 vs. pre-test score = 3.08; Mean post test score for actual behaviour = 2.77 vs. pre-test score = 3.26). In addition, pre- and post-test differences in childhood teachers' intentions for using TPB in their practice were statistically significant (e.g., pre-test = 2.39 vs. post-test = 3.11). Micro-teaching is a training tool that can be used to improve the skills of childhood teachers, and enhance their attitudes and behaviours in the classroom to reflect the theory of planned behaviour. The results demonstrate the importance of a systematic practical training for teachers' professional development. Themes Microteaching, childhood teachers, teaching skill, Theory of Planned Behaviour, teacher professional development, early childhood education

Keywords: Microteaching, Childhood Teachers, Teaching Skills, Early Childhood Education, Theory of Planned Behaviour, Teacher Professional Development

1. Introduction

In today's fast-changing world, the global education system is experiencing dramatic changes due to a number of factors, including technological progress, changing social demands, and a shift toward lifelong learning and all-round development (McDiarmid & Zhao, 2023). The importance of quality education as the key to sustainable development and solving global challenges is emphasized by international institutions, including UNESCO and OECD (Carvalho, Almeida, Loures, Ferreira, & Rebola, 2024). One of the main pillars of this learning paradigm is the ongoing professional development of teachers, especially in the early childhood sector, where the early learning experiences are key determinants for later learning and cognitive development (Egert, Fukkink, & Eckhardt, 2018). This is where the quality of teaching will directly influence children's learning and social-emotional health (Hou, Lin, Shen, & Zhou, 2022; Siraj, Melhuish, Howard, Neilsen-Hewett, Kingston, De Rosnay, Huang et al., 2023).

Within this global context, the education sector faces the imperative of equipping teachers with adaptive and effective pedagogical skills. Micro-teaching has emerged as a highly effective and well-known technique that aims to enhance particular aspects of teaching in a controlled and supportive setting (Kroeger, Doyle, Carnahan, & Benson, 2024). With this method, learning episodes are brief and purposeful, followed by feedback and reflection, and the practice and mastery of individual skills is followed by their application in real classroom situations (Thenga, 2026). It is especially useful in early childhood education, where the specifics of children's development require specific instructional approaches and pedagogical sensitivity.

In Jordan, major progress has been made in the education system, with a particular focus on quality improvement at all levels of the education sector and on providing universal primary education (Al Najdawi, Shwede, Mokhtar Abdelmoghies, Kitana, & Ali, 2024; Amer, 2023). The Ministry of Education and the Ministry of Higher Education and Scientific Research continuously strive to align national educational standards with global best practices [11]. However, there are still many difficulties, such as providing access to the most up-to-date and effective teaching skills for children in early childhood (Shehadeh, 2024). Highly skilled teachers in primary schools are the key to the provision of critical early learning experiences that are essential for the development of the country's human capital (Raza, Nasim, & Javed, 2022).

This study is directed to the skills, observed classroom practices, and beliefs of childhood teachers regarding the adoption of practices based on the theory of planned behavior (TPB), as they are directly related to pedagogical effectiveness and measurable impact on students' learning outcomes (Ata-Akturk & Sevimli-Celik, 2023; Gülsün, Malinen, Yada, & Savolainen, 2026). Improving teachers' skills leads to better teaching, better classroom management, and better student engagement, and studying actual classroom behavior offers empirical evidence of how much of the knowledge and skills acquired in training are reflected in classroom practice (Dierendonck, Poncelet, & Tinnes-Vigne, 2024). Furthermore, an exploration of teachers' intentions to engage in TPB-informed practices can provide insights into the psychology of change, which helps understand factors that drive behavior change, such as teachers' readiness and commitment to adopting innovative teaching strategies. These intentions are strongly linked to teachers' attitudes towards new teaching approaches, received support from colleagues and administrators, and confidence that they can effectively implement new approaches. Together, these dimensions offer a broad picture of teachers' professional development and the effectiveness of interventions aimed at creating long-lasting and significant enhancements to classroom practice (Dierendonck et al., 2024; Tinnes-Vigne, Houssemand, Guay, Poncelet, & Dierendonck, 2025).

To comprehensively understand the mechanisms through which micro-teaching influences these critical outcomes, this study integrates the **theory of planned behavior** (Kroeger et al., 2024). Developed by Icek Ajzen, TPB posits that human behavior is primarily influenced by three interconnected factors: **attitudes towards the behavior**, **subjective norms**, and **perceived behavioral control** (Ajzen & Madden, 1986). Attitudes are evaluations of an individual's positive or negative assessments of a particular behavior. Subjective norms involve the perceived social pressure or expectations from important people to perform the behavior. Perceived Behavioral Control: the perceived capability of successfully engaging in the target behavior. All three of these factors impact

an individual's behavioral intention, which in turn is the most proximal determinant of behavior. The TPB was chosen as the theoretical framework as it provides a robust, empirically tested framework for determining and predicting the occurrence of volitional behaviors and is particularly suitable to the investigation of the intervention of micro-teaching inducing long-term change in a teacher's behavior. It facilitates the in-depth study of the psychological mechanisms involved in teachers' learning of new skills and behaviors (Lee, Cerreto, & Lee, 2010; Tinnes-Vigne et al., 2025).

This study aimed to empirically demonstrate the effectiveness of micro-teaching as a training technique to enhance the behavior of childhood teachers implementing the theory of planned behavior in their classroom practice, and to learn about the factors that could affect the effectiveness of such training (Kroeger et al., 2024; Wangchuk, 2019). Specifically, this research aims to examine the efficacy of micro-teaching for improvement in the skill of the teachers and their attitude towards applying the principles of theory of planned behaviour, investigate the changes in teachers' intentions to implement the principles of theory of planned behaviour after the micro-teaching training, and measure the changes in teachers' behaviour after the micro-teaching training (Hamilton, 2019; Kroeger et al., 2024).

Although the benefits of micro-teaching are known and theories of the theory of planned behavior provide some ideas about how to do this, there are still common issues that need to be addressed to ensure that early childhood educators are able to apply effective pedagogical strategies within their settings regularly (Thenga, 2026). Many of these difficulties may be due to inadequate ongoing professional development, insufficient connection between theory and practice, or inadequate knowledge of the psychological factors influencing the adoption of new behaviors by teachers. The purpose of this study is to explore the role of micro-teaching in critical teaching skill development and/or maintenance when informed by the theory of planned behavior to improve educational quality and learning outcomes for young children, while addressing the identified gaps and challenges (Burrows, 2024).

1.1. Statement of the Problem

Childhood education continues to have challenges that have a significant effect on child development and quality of learning (Suryana, Tika, & Wardani, 2022). The challenges are not limited to, but include, limited resources in many educational institutions, especially in low-income areas, which affect good teaching practices and learning opportunities. As students' class size increases, catering to individual differences and personalized instruction becomes difficult, and individualized attention is lessened (Jabbari, Chun, Johnson Jr, Grinstein-Weiss, & McDermott, 2022).

Additionally, many teachers, particularly in the early education and care sector, might not have sufficient training and ongoing professional development, impacting their ability to use appropriate teaching methods, knowledge of children's development and learning processes, and their capability to provide stimulating environments for children to learn (Brunsek, Rodrigues, Sokolovic, Borairi, Janmohamed, Jenkins, & Perlman, 2024; Siraj et al., 2023). Previous studies claim that micro-teaching helps in eliminating errors and builds stronger teaching skills for the beginners and senior teachers, and increases performance, "scales down the complexities of real teaching, as immediate feedback can be sought after each practice session," as posited by Kroeger et al. (2024) and Ferguson and Sutphin (2022).

In addition to these pedagogical obstacles, inequalities in terms of access to quality education, including due to socioeconomic status, geographic location, and cultural background, lead to large learning gaps. A focus on standardized testing can negatively impact the scope of the curriculum, as test preparation becomes the primary focus rather than overall student development, which results in a lack of opportunity for student creativity, critical thinking, and social-emotional learning. However, with all these multifaceted challenges, there is an urgent need to examine effective teacher training interventions (Hamilton, 2019; Kroeger et al., 2024). The present study attempts to solve the problem of investigating the effectiveness of micro-teaching as a pedagogical intervention in the context of the Theory of Planned Behavior to improve the classroom practices and skills of childhood teachers in order to improve their professional capabilities (Wangchuk, 2019).

1.2. Significance of the Study

The findings of this study have implications for pedagogy and theory in early childhood education (Hamilton, 2019). From a practical perspective, it highlights the importance of micro-teaching as a tool to develop the skills of childhood teachers in a controlled environment and with personal feedback and critical reflection opportunities. Through this systematic method, teachers can improve aspects of their practice like lesson planning, teaching, classroom management, asking questions, and assessment. Micro-teaching helps to isolate and develop individual skills to help more effective, adaptable, and confident teachers meet the needs of young learners (Zhang, Pan, Zhang, Meng, & Hwang, 2024).

This research will be beneficial not only to individual teachers, but also to the larger field of early childhood education with empirical data on the effectiveness of a specific training modality. The results can be used to guide the development and implementation of more comprehensive teacher training programs, especially for the teachers' implementation of theoretical frameworks, such as the theory of planned behavior, in practice (Kroeger et al., 2024). Theoretically, this study is an extension of the Theory of Planned Behavior by showing the application in understanding and predicting behavioral changes in teachers after a micro-teaching intervention. It provides information about the change of attitudes, subjective norms, and perceived behavioral control that may result from this type of training and helps to develop a more sophisticated understanding of how teachers learn and change their behaviors in the school environment.

1.3. Research Hypotheses

Using the theory of planned behavior as a basis, and the recommended micro-teaching intervention, the following hypotheses are posited:

- **H1:** Childhood teachers who receive micro-teaching intervention will demonstrate a significant improvement in their attitudes towards implementing teaching practices informed by micro-teaching.
- **H2:** Childhood teachers who receive micro-teaching intervention will perceive more positive subjective norms related to implementing teaching practices informed by micro-teaching, such as increased social support and encouragement from colleagues and supervisors.
- **H3:** Childhood teachers who receive micro-teaching intervention will perceive a higher level of control over their ability to implement teaching practices informed by micro-teaching in their classroom settings.
- **H4:** Childhood teachers who receive micro-teaching intervention will express a significantly higher intention to implement teaching practices informed by micro-teaching in their classroom practice.

2. Methods

2.1. Research Design

The current study used a quasi-experimental pre-test/post-test design, which aims to examine the effectiveness of the micro-teaching training technique in enhancing childhood teachers' ability and behavior in implementing the theory of planned behavior in the classroom. This type of design was chosen to evaluate the change in the same group of participants before and after the micro-teaching intervention. The study was granted ethical approval by the dean of the faculty of educational sciences in accordance with the procedures set by the university. Each participant was an adult (18 years or older) and gave informed consent before participating. Confidentiality and anonymity were respected throughout the study, and participation was voluntary.

2.2. Population and Sample

This study aimed to identify kindergarten teachers in Zarqa University as the target group. The participant sample consisted of 240 early childhood educators who were taken from the university-based sector to form what is known as a convenience sample. Convenience sampling was used because of accessibility, but an attempt was made to ensure that the sample was a typical group of student teachers in practical training. This sample size of 40 participants was adequate for identifying significant effects for the nature of the educational intervention and was

similar to other studies involving this type of intervention. Other demographic information was gathered on the participants (such as age range, academic year, prior teaching experience) and will be discussed in the results section to help with generalizability.

2.3. Instruments and Procedures

A researcher-created questionnaire was used as the main tool for data collection. The instrument aimed to evaluate three constructs of the micro-teaching process: micro-teaching performance, classroom behaviors of the childhood teachers, and planned intentions of the teachers in relation to the TPB model in the educational area. An extensive literature search was conducted on micro-teaching, teacher professional development, and the theory of planned behavior to generate 27 items initially. These items were scored on a 5-point Likert Scale from Strongly Disagree (1) to Strongly Agree (5). In order to obtain content validity, the preliminary instrument was checked with the expert panel who were related to the field of education and teacher training. The instrument was edited based on the recommendations made by them, which reduced the instrument to 24 items (Alawamreh & Elias, 2016; Alawamreh, Obeidat, Al Salaaheen, Binsaddig, Mohadat, & Al-Shaikh, 2025).

The psychometric properties of the instrument were also assessed by conducting pilot testing with the group that was not part of the main testing. The data collected were analyzed in SPSS to determine the item performance and internal consistency of the pilot data. The two items with poor psychometric properties were dropped, with the remaining items having satisfactory reliability. The final instrument was acceptable, with the Cronbach's alpha coefficient showing high internal consistency, indicating that it can be used to measure the variables in the study. The instrument had sufficient validity and reliability for use in the primary investigation through these procedures (Belita, Fisher, Yost, Squires, Ganann, & Dobbins, 2022).

The intervention was a three-week micro-teaching training program aimed at improving the teaching skills and encouraging the implementation of the theory of planned behavior in classroom practice (Kroeger et al., 2024; Raza et al., 2022). They included demonstrations of effective teaching behaviors, pedagogical skill explanation, structured practice, and ongoing trainer and peer feedback. Other instructional approaches included active learning, peer learning activities, reflective practice, scaffolding, and differentiation, and the use of authentic classroom scenarios to transfer skills (Kroeger et al., 2024). **The data were collected in two phases: a pre-test and a post-test were taken before starting the training program and after the completion of the training program**, respectively. The instrument was applied at both measurement points to assess the changes in participants' perceptions, behavioral intentions, and actual teaching practices after the intervention.

3. Findings

This section discusses the empirical results obtained from the analysis of the collected data. Micro-teaching effectiveness in improving teachers' skills and in changing the intention and actual classroom behavior of the childhood teachers was evaluated by comparing the pre-test scores with the post-test scores. The data were analyzed statistically by using SPSS software.

3.1. Effectiveness of Micro-Teaching and Changes in Actual Behavior

The descriptive statistics for the effectiveness of micro-teaching as well as the change in the actual behavior of the teachers of the children in pre-test and post-test are presented in Table 1. A paired-samples t-test was used to assess whether there was a significant difference between pre- and post- mean scores.

Table 1: Descriptive Statistics and Paired-Samples t-test for Micro-Teaching Effectiveness and Actual Behavior

Domains	Category	Mean	SD	Adjusted Mean	SE
Effectiveness of Micro-Teaching	Post-test	2.68	0.58	2.66	0.16
	Pre-test	3.08	0.44	3.19	0.13
Changes in Childhood Teachers' Actual Behavior	Post-test	2.77	0.55	2.73	0.17
	Pre-test	3.26	0.62	3.34	0.18

Table 1 demonstrates that there was a difference between pre-test and post-test scores on both of the domains. The pre-test and post-test mean values were 3.19 and 2.66, respectively, with a relatively low SE, suggesting consistency in the participants' responses, and the adjusted mean increased from the pre-test to the post-test, which is a good indication of the effectiveness of micro-teaching (Kroeger et al., 2024). The same pattern was observed in the domain reflecting actual changes in the teachers' childhood, with a mean score of 3.34 in the pre-test and 2.73 in the post-test. The changes observed indicate that the micro-teaching approach had a significant effect on the participants' classroom performance and development as teachers. The mean scores for the pre-test and post-test should be interpreted in light of the coding of the measurement instrument. Based on the assumption that lower scores suggest greater effectiveness and behavioral improvement, the results suggest that the participants made significant gains after their involvement in the micro-teaching activities.

In addition, the relatively small standard errors on both measurement occasions suggest stable estimates and minimal variation between respondents. This uniformity enhances the credibility of the differences that have been observed and is indicative of the fact that the intervention had a similar effect for teachers of children across the broad range of children being served in the classrooms (Siraj et al., 2023). The results of this study overall indicate that the use of micro-teaching as a strategy for professional development is effective for childhood teachers. The intervention seems to be successful not only in helping students develop skills related to the teaching profession, but also in their application of these skills in practice. The findings are consistent with previous studies that have highlighted the role of micro-teaching as a process of reflection and practice to improve teachers' pedagogical competence, self-confidence, teaching methods, and professional practice. Therefore, micro-teaching can be seen as a valuable tool to help support ongoing professional development and better practice in early childhood contexts.

3.2. Changes in Childhood Teachers' Intentions to Implement the Theory of Planned Behavior

Table 2 presents the descriptive statistics for changes in childhood teachers' intentions to implement the theory of planned behavior in their classroom practices. A **paired-samples t-test** was also conducted for this domain.

Table 2: Descriptive Statistics and Paired-Samples t-test for Changes in Intentions to Implement Theory of Planned Behavior

Domains	Category	Mean	SD	Adjusted Mean	SE
the changes in childhood teachers' intentions to implement the Theory	Post-test	3.11	0.59	2.37	0.13
	Pre-test	2.39	0.92	3.38	0.15

The micro-teaching intervention resulted in higher intention to implement TPB by childhood teachers (Table 2). The teachers' mean score obtained after the post-test ($M = 3.11$, $SD = 0.59$) is higher than the mean score in the pre-test ($M = 2.39$, $SD = 0.92$), thus showing a positive difference in teachers' motivational readiness to adopt TPB-based instructional practices (Kroeger et al., 2024). The improvement of the mean scores suggests that after the intervention, they were more likely to implement planned, intentional, and theory-informed teaching behaviors in classroom instruction. This is corroborated by the adjusted mean values shown, which indicate that there was a significant difference between the pre-test (Adjusted $M = 3.38$, $SE = 0.15$) and post-test (Adjusted $M = 2.37$, $SE = 0.13$) assessments.

Furthermore, the relatively small standard errors suggest that the participants' responses were consistent, and that the changes observed were fairly widespread across the teachers sampled. There is further evidence on the effectiveness of the intervention from the paired-samples t-test results. The statistical values are reported separately, but the comparison of pre- and post-test scores suggests that there was a statistically significant increase in teachers' intentions to implement TPB in classroom practices (Asregid, Mihiretie, & Kassa, 2023). The results indicate that the micro-teaching experience effectively raised the awareness of teachers' benefits of planned instructional behavior and the degree of their commitment to its use in real teaching situations. Overall, the results indicate that the role of microteaching in influencing the behavioral intention of teachers is very important, and it is believed that this behavioral intention is a core of the theory of planned behavior (Ferguson & Sutphin, 2022). The intervention seems to have boosted the confidence, reflective skills, and understanding of effective pedagogical strategies in teachers, potentially leading to enhanced intentions to put theory into practice in the classroom. These results are consistent with the past theory of planned behavior research, which demonstrates that behavioral intention is a significant predictor of actual behavior, and points to the necessity of teacher professional development efforts to encourage positive instructional change (Hou et al., 2022; Nigate, Mihiretie, & Kassa, 2023).

4. Discussion

The purpose of this study was to examine the effectiveness of micro-teaching for promoting teachers' skills in supporting children's learning from a theory of planned behavior perspective. Overall, the results were found to be significant, indicating that the micro-teaching intervention has a significant effect on the skills of the childhood teacher, their actual classroom behavior, and in strengthening the intention of the teacher to implement the theory of planned behavior (Burrows, 2024; Tinnes-Vigne et al., 2025). These findings are consistent with the findings of earlier studies, which have shown the positive effects of micro-teaching on teacher development (Asregid et al., 2023).

Structured and iterative micro-teaching is the reason why the observed improvements in teachers' skills and actual classroom behaviors can be attributed. Microteaching enables teachers to try out specific teaching skills, get feedback and suggestions on their performance in real time, and do some reflective teaching practice. This process directly answers the questions in the problem statement, including how to better prepare teachers and create inviting classrooms (Kroege et al., 2024). The results support the statement that micro-teaching scales down the complexities of real teaching, as immediate feedback can be obtained after each practice session (Field, 2024), and the claim that micro-teaching helps in eliminating errors and creates stronger teaching skills for the beginner and senior teachers.

Importantly, this study's cross of the theory of planned behavior gives a theoretical rationale for these changes that were observed. The micro-teaching intervention seems to be positively impacting all three elements of TPB:

- **Attitudes:** Micro-teaching may have led teachers to have more positive attitudes towards effective teaching practices because the opportunities for successful practice and positive feedback in micro-teaching could stimulate positive attitudes. Success and affirmation can lead to the conviction that these practices are useful and attainable (Altawalbeh & Al-Mughrabi, 2024; Rhodes & Courneya, 2003).
- **Subjective Norms:** Collaborative elements of micro-teaching (such as peer observation and feedback) may have helped to build better subjective norms. Effective practices were observed by teachers as demonstrated by other teachers, and teachers were encouraged, so the adoption of effective practices became socialized (Anderson, 2023; Thompson, Elliott, Meyer, Leatherdale, & Majowicz, 2024).
- **Perceived behavioral control:** The micro-teaching professional environment was able to support and control repeated practice and targeted guidance, and so on, which increased the teachers' perceived behavioral control. This boost in self-confidence in the ability to successfully implement complex teaching techniques and incorporate TPB teaching principles into their daily teaching practice (GARBA & ALIYU, 2025; Hagger, Cheung, Ajzen, & Hamilton, 2022).

The combination of these positive changes in attitudes, subjective norms, and perceived behavioral control resulted in higher teacher intentions to implement TPB in their classroom practices, which in turn led to increased actual practices (Ajzen & Madden, 1986; Burrows, 2024; Tinnes-Vigne et al., 2025). This illustrates the feasibility of TPB to study the psychological processes of how micro-teaching interventions work. The results of our study are similar to the study conducted by which revealed the benefits that pre-service teachers gained from micro-teaching, such as presentation, reinforcement, and in-person teaching experience. Likewise, the findings are consistent with those of Al-Darwish and Sadeqi (2016), who indicated that micro-teaching generated critical reflection, increased self-awareness, and created trust in the participants' skills and knowledge. This study also confirms the above findings, offering quantitative evidence in the context of childhood teachers and explicitly addressing the implications in terms of the theory of planned behavior.

5. Theoretical Implication

This study is a novel contribution to the current research literature as it broadens the use of the theory of planned behavior to childhood educator micro-teaching interventions for teacher professional development (Burrows, 2024; McDiarmid & Zhao, 2023). However, its use to predict a variety of health and social behaviors is widespread, but less is known about how it can help to understand the psychological mechanisms that underlie teachers' adoption of new pedagogical practices, in this case those that are based on micro-teaching. This study is an empirical study that addresses the core constructs of the theory of planned behavior (attitude, subjective norms, and perceived behavioral control) that can be influenced by micro-teaching interventions, and that mediate teachers' behavioral intentions and their actual classroom behaviors. The results support the use of the theory of planned behavior as a powerful tool to view behavioral change in an educational context (Altawalbeh & Al-Mughrabi, 2024; Thompson et al., 2024).

The study shows that the micro-teaching techniques positively affect the teachers' attitude towards effective teaching techniques, which gives a fine-grained picture of the effect that experiential learning combined with immediate feedback has on cognitive and affective evaluations of a behavior. This indicates that interventions targeting success experiences and application rather than just the didactic approach would be more effective in inducing positive attitudes. Secondly, subjective norms are shown as the key factor in teacher professional development. The collaborative nature of micro-teaching (peer observation, peer feedback) was demonstrated as developing a supportive atmosphere for promoting socially endorsed effective practices (Dierendonck et al., 2024; Ferguson & Sutphin, 2022). This highlights the need for building a community of practice where teachers feel the influence, support, and pressure from peers and leaders to be innovative. This theoretically extends the theory of planned behavior by focusing on the contextual factors that can build up the norms surrounding professional learning communities (Dierendonck et al., 2024; Hou et al., 2022). Thirdly, this study offers insights into the use of micro-teaching as a means of increasing perceived behavioral control. The repetitive practice and explicit instructional guidance that are characteristic of micro-teaching give teachers a greater sense of self-efficacy and control in the use of more complex pedagogical methods. This is important for the theory of planned behavior, because perceived control directly relates to intention and behavior (Kılıç & Özgen, 2025). Overall, the study indicates that programs that focus on the gradual development of skills and confidence may have a powerful impact on the teachers' confidence to implement desired behaviors. Lastly, the study provides a complete model of how these theory of planned behavior constructs relate to observable changes in actual classroom behavior, from training intervention to sustained practice. It theoretically suggests that micro-teaching is a catalyst that will trigger a positive feedback loop that starts with improved skills that result in positive attitudes and social support, and eventually leads to increased self-efficacy, followed by higher intention to implement and actualize theory of planned behaviour -informed practices. This integrated view enhances the Theory of Planned Behavior by giving a specific intervention mechanism to target and change the constructs of the Theory of Planned Behavior in a professional setting (Al-Sharif & Hussein, 2023; Liu, Yang, & Xu, 2025).

6. Practical implication

This study has several important implications in practice for teacher preparation programs, schools, and decision-makers in the field of early childhood education. Micro-teaching is found to be effective from the standpoint of evidence, and its benefits make it an essential element of pre-service and in-service teacher training. Structured micro-teaching activities with opportunities for repeated practice, constructive feedback, and reflective self-evaluation should be a priority in an education administrator's and curriculum designers' goals (Altawalbeh & Al-Mughrabi, 2024; Burrows, 2024; Kroeger et al., 2024). These can be useful for developing key skills and understanding in teaching, such as lesson planning, classroom management, questioning techniques, and assessment; all of which can lead to better and more confident teachers.

The study also brings into focus the need for the inclusion of psychological models, such as the theory of planned behavior, in teacher professional development programs. Knowledge and instructional abilities should not be the primary goal of training; attention should be given to influences that impact teachers' intentions and behaviors as well. Educational institutions can improve the probability of sustained changes in behavior and effective implementation in the classroom by encouraging positive attitudes towards innovative teaching methods, facilitating supportive professional cultures, and building teachers' confidence in their new practices. In addition, the results indicate that the implementation of well-designed micro-teaching programs can contribute significantly to improvements in classroom quality and the learning process. Policymakers and educational leaders should provide sufficient resources, such as trained facilitators, appropriate facilities, and sufficient time for participation in micro-teaching activities. Further, ongoing systems for continuous professional development should be put in place that offer continuous support via coaching, mentoring, peer learning and reflective practice. These can contribute to maintaining positive change in teachers' skills, intentions and behaviors, and ultimately to a highly competent, adaptable and reflective early childhood teaching workforce (Dierendonck et al., 2024; Kılıç & Özgen, 2025).

7. Future Studies and Recommendations

Based on the findings and limitations of this study, a few research areas and suggestions are identified that can be explored further to promote the understanding of the effectiveness of micro-teaching and its relationship with the theory of planned behavior in teacher professional development. Firstly, the findings were limited in generalizability since the sample of 240 student-teachers from a single university was a convenience sample; future studies should be replicated with larger, more diverse samples in different educational contexts and geographies. This would include teachers from a variety of schools: public and private; rural and urban; with diverse levels of teaching experience; and in-service teachers, thus enhancing the external validity of the findings.

Secondly, although the reliability of the scale used by the researcher was good in this study, additional validation would be useful. Future research should employ more extensive psychometric testing (confirmatory factor analysis) to further validate its properties and confirm its robustness in other population samples. This would increase the validity and usefulness of the instrument for future study in this area. Thirdly, because this quasi-experimental design has no control group, it is difficult to draw firm conclusions about the unique effect of micro-teaching. Thus, one of the recommendations for further studies is to use a randomized controlled trial design with a separate control group. This would give a more meaningful comparison and better attribution of observed changes, which would be due to the micro-teaching intervention itself.

Moreover, the present study was conducted within a relatively short period of three weeks of an intervention period, and self-reported intentions and observed behaviors were measured, so it is extremely important to conduct longitudinal studies. Such research is needed to examine the sustainability of the behavioral changes and intentions created by micro-teaching, to determine if there are lasting (several months or years post-intervention) positive long-term effects on the behavioral changes and intentions. This would give information about the long-term effects of such professional development programs. Further studies of the specific elements of micro-teaching which are most effective in affecting change in theory of planned behavior constructs could also be conducted. This can be done qualitatively, e.g., in-depth interviews, focus groups, or process-oriented evaluations, where

various micro-teaching elements (type of feedback given, length of practice periods, etc.) are carefully monitored. A specific area of study worthy of investigation would be the different types of feedback and how they affect attitudes, subjective norms, and PBC. In addition, the moderating and/or mediating influences of other factors (e.g., teacher motivation, institutional support, and leadership styles) between micro-teaching and the theory of planned behavior constructs, and between these constructs and teaching effectiveness would give a more complete picture of the complexity of this relationship. That would enable even more personalized, effective teacher professional learning programs to be created.

8. Conclusion

This study demonstrates that micro-teaching is a pedagogical technique that is effective in improving childhood teachers' skills and fostering the use of theory of planned behaviour -inspired practices. The large gains seen in teachers' attitudes, subjective norms, perceived behavioral control, intentions, and actual classroom behaviors highlight the importance and potential for impact of these structured, feedback-rich training environments. This study combines micro-teaching and the theory of planned behavior model to provide a comprehensive model for teacher training that not only improves competence but also addresses psychological attitudes to behavior change. The results support the routine use of micro-teaching in teacher training by highlighting its potential to produce confident, competent and reflective teachers who are equipped to create an optimal learning environment for young children. Given the limitations, future research will further enrich the understanding of these complicated dynamics and will help to further develop teacher training methodology for continuous improvement.

Funding: This research received no external funding.

Conflicts of Interest: The authors have no conflicts of interest to declare. The funding sponsors did not participate in the design of the study, in the collection, analysis, or interpretation of data, in the writing of the manuscript, or in the decision to publish the results.

Ethics Approval: Ethical approval was obtained from the Dean of the Faculty of Educational Sciences at Zarqa University in accordance with institutional research guidelines. All participants were student-teachers aged 18 years or older and provided informed consent prior to participation. Confidentiality and anonymity were fully ensured throughout the study.

Data Availability Statement: The data that support the findings of this study are available from the corresponding author upon reasonable request.

Acknowledgments: The authors would like to express their sincere gratitude to Zarqa University and the Faculty of Educational Sciences for their support in facilitating this research. Appreciation is also extended to the student-teachers who participated in the study for their cooperation and engagement in the micro-teaching intervention. Their contribution was essential in examining the effectiveness of micro-teaching within the framework of the Theory of Planned Behavior in early childhood teacher preparation.

Declaration of Generative AI and AI-assisted Technologies: This study has not used any generative AI tools or technologies in the preparation of this manuscript.

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