Research on teaching efficacy of pre-service teacher during practice teaching

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Abstract: Practice teaching represents authentic experiential learning and culminating experience to better prepare the prospective teachers for actual teaching experience. This study examines the changes in pre-service teachers' teaching self-efficacy during a practice teaching course. A mixed-methods approach was employed, involving pre- and post-course surveys to assess self-efficacy levels and qualitative interviews to capture participants' reflections on their experiences. Qualitative data further underscore the importance of practical experience, peer interactions, and mentor support in enhancing self-efficacy. These results highlight the significance of practice teaching courses in shaping pre-service teachers' confidence and have implications for curriculum design and teacher preparation programs.

Key words: practice teaching; pre-service teacher; teaching self-efficacy

1 Introduction

Practice teaching is a critical component of prospective teachers' training [1]. From the activities offered by universities, pre-service teachers gain insights that help them to assess their progress or learning. Additionally, from the experiences that they get inside and outside the campus, they are able to acquire the ability to identify their needs, weaknesses, and strengths in academic and non-academic programs [4].

Teachers' teaching anxiety and teaching self-efficacy are considered affective attributes of teachers that influence teachers' teaching practice. It is in this context that this study was conducted. The problems encountered by pre-service teachers and their proposed solutions during the practice teaching course may give the teacher preparation programs ideas for seeking a more effective integration of theory and practice. This is for the fact that the future of teacher education is inextricably interwoven with the performance of pre-service teachers.

To summarize, rich theoretical and empirical studies on teaching efficacy have been conducted both at home and abroad, but the research on combining qualitative and quantitative methods to explore the changes in teaching efficacy of pre-service teachers before and after internship needs to be deepened. The combination of the two can complement each other to reflect the longitudinal changes in the sense of teaching efficacy in a more comprehensive way.

2 Conceptual framework

Self-efficacy is a concept from Bandura's social-cognitive theory of behavioural change [3], which is defined as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances". Teaching self-efficacy "refers to teachers' beliefs that they can bring about desirable changes in pupils'

behaviour and achievement" [5]. In other words, teaching self-efficacy conceptualizes a teacher's beliefs in his or her own ability to plan, organize and carry out activities, which are required to attain educational goals [10].

Several studies have documented the effects of internship programs on teacher self-efficacy. For example, Helfeldt et al. studied how internship programs in urban schools in the United States could enhance the early career retention rate [6]. Their findings indicated that the internships not only improved the retention ratio but also enhanced teacher self-efficacy. Internship programs also provide opportunities for pre-service teachers to construct new ways of teaching and learning through interacting with students and other teachers [2]. They are also considered as the most critical factor in the development of teaching skills and responsiveness as teachers. As pre-service teachers develop their reflective and problem-solving skills, they gain insights from other teachers, which help them to become responsive teachers. Consequently, they grow in their understanding of theory and practice while building caring relationships with students by understanding students' needs, interests and motivations. The study of Klassen and Chiu indicated that pre-service teacher's teaching self-efficacy is positively associated with classroom management, instructional strategies, occupational commitment and is negatively associated with classroom stress, overall stress and intention to quit [8]. They further suggested that teacher education should aim to develop pre-service teacher's teaching self-efficacy for classroom management, which could reduce the influence of stress on occupational commitment.

3 Methodology

Research design: This study employed a mixed-methods research design to comprehensively explore changes in pre-service teachers' teaching self-efficacy during the practice teaching course. By integrating quantitative and qualitative approaches, we aimed to triangulate findings and provide a more holistic understanding of the phenomenon.

Participants: The participants of this study were pre-service teachers enrolled in a practice teaching course at a reputable normal university. A purposive sampling technique was used to select participants who had completed their practice teaching course and had consented to be part of the study. The final sample consisted of 3 pre-service teachers, representing diverse backgrounds and subject specialties.

Quantitative data collection: To assess teaching self-efficacy, participants completed a pre-course and post-course survey. The survey utilized a modified version of the teaching self-efficacy scale (TSES) developed by Tschannen-Moran and Woolfolk Hoy [11]. Considering the L2 learning context, one item (teachers' ability to encourage English use among students) was added by them. So there were 21 items in total and all items were in terms of "I believe I can do" in order to measure one's judgment of the capability to accomplish certain tasks. A six-point Likert scale with response descriptors was used: 1 indicating "cannot do it at all" and 6 indicating "highly certain can do". Thus higher scores on the questionnaire meant stronger teacher self-efficacy.

Table 1. Distribution of the three dimensions of the teacher self-efficacy questionnaire

Dimension	Item
Efficacy for Instructional Strategies	10,13,15,18,21,24,27,30
Efficacy for Student Engagement	12,14,17,20,23,25,28
Efficacy for Classroom Management	11,16,19,22,26,29

Based on the literature review, pre-service English teachers' self-efficacy in present study was multidimensional, which consisted of instructional strategies, student engagement, and classroom management.

Qualitative data collection: In order to have a comprehensive understanding about the contributing factors on the change in pre-service teacher's teaching self-efficacy, a semi-structured interview was held. Three participants were

purposefully selected to provide diverse perspectives. The interviews aimed to delve deeper into the experiences that influenced changes in teaching self-efficacy. The interview guide was developed based on themes derived from the literature and initial survey results. Interviews were audio-recorded and transcribed verbatim for analysis.

4 Results and discussion

4.1 Results

Quantitative results: Table 2 presents the level of teaching self-efficacy of the pre-service teachers in terms of instructional strategies, student engagement and classroom management. With an overall mean of 4.68, the pre-service teachers have a high level of teaching self-efficacy. Based on the results, the participating pre-service teachers have a high comprehensive level.

Table 2. Descriptive statistics of the teacher self-efficacy questionnaire (TSEQ)

Dimension	Item	Mean	Interpretation
Efficacy for Instructional Strategies	10,13,15,18,21,24,27,30	4.79	High
Efficacy for Student Engagement	12,14,17,20,23,25,28	4.62	High
Efficacy for Classroom Management	11,16,19,22,26,29	4.61	High
Overall		4.68	High

Note. Scale: 1.00-2.00: Very Low; 2.00−3.00: Low; 3.00−4.00: Moderate; 4.00−5.00: High; 5.00−6.00: Very High.

Qualitative results: The thematic analysis of the interview data provided deeper insights into the factors underlying the observed changes in teaching self-efficacy. Three prominent themes emerged from the qualitative analysis:

1) Experiential learning and skill development: Participants highlighted the transformative impact of practical classroom experiences on their confidence. Engaging with real students, managing diverse learning styles, and adapting to unexpected situations were cited as pivotal moments that led to a heightened sense of competence.

Teacher A: After a semester of internship, I am more confident to become an English teacher. During the internship, I completed 16 hours of teaching design independently, and under the guidance and leadership of my supervising teacher, I completed a whole unit teaching, and personally tried listening, reading, literacy, grammar and masterpiece reading classes.

2) Peer interactions and collaborative learning: Peer interactions played a significant role in shaping participants' teaching self-efficacy. Collaborative discussions, sharing strategies, and mutual support created an environment that encouraged experimentation and growth. The exchange of ideas with peers alleviated self-doubt and contributed to a shared belief in their collective abilities.

Teacher B: Through teachers observing and learning from each other, as well as the guidance from teachers, I personally feel that I have learned more standards and entry points for discussion in the above aspects.

3) Mentorship and guidance: Mentor teachers' guidance and constructive feedback were instrumental in boosting participants' self-efficacy. Participants expressed that mentor teachers' encouragement, personalized suggestions, and mentorship facilitated their growth as educators. The mentor-mentee relationship provided reassurance and a safe space to learn from mistakes.

Teacher C: My mentor once told me that students chose the answers they did and reacted the way they did because of what they saw and thought, and all the teacher had to do was to find out what the students was confused about and help them to understand it. I found the whole teaching environment to be very organic and organized. Teachers of all subjects have weekly meetings on lesson plans, and students attend occasional subject lectures as well as relaxation activities. Probably the most helpful thing for me was the open classroom presentations that took place at my placement school.

4) Personal traits: Moreover, pre-service English teachers' teaching self-efficacy is influenced by personal traits. Interviews indicate that participants who are outgoing and optimistic are more prone to believe their capability in teaching. For example, they are full of confidence in establishing good relationships with students and creating virtuous learning atmosphere. As interviewee B referred:

Teacher B: I am less confident in regulating the classroom atmosphere. Because of my personality, I find it difficult to be very active, but I know that a teacher's fullness of emotion and active state can influence the students to participate in the class, so I feel frustrated in this aspect.

To sum up, from interviewees' perspective, extrovert personality tends to benefit vibrant teaching atmosphere and build close teacher-student relationships. While the introverted personality may not be very helpful for teaching.

5) Integration of findings: The integration of quantitative and qualitative findings revealed a comprehensive understanding of how pre-service teachers' teaching self-efficacy changes during the practice teaching course. The quantitative increase in self-efficacy scores aligns with qualitative accounts of experiential learning, peer interactions, mentorship and personal traits as key drivers of this change.

4.2 Discussion

Change in teaching self-efficacy: The findings of this study provide compelling evidence of a significant increase in pre-service teachers' teaching self-efficacy scores after engaging in a practice teaching course. The quantitative data indicate a substantial rise in self-efficacy beliefs, aligning with qualitative insights into the transformative nature of practical classroom experiences. These results corroborate previous research, suggesting that real-world teaching exposure positively influences teaching self-efficacy [9].

Experiential learning and confidence building: The qualitative findings underscore the role of experiential learning in shaping pre-service teachers' self-efficacy. Engaging with the complex actual classrooms enables them to translate theoretical knowledge into practical skills. Overcoming challenges, such as adapting to diverse student needs, classroom management, and addressing unexpected situations, fosters a sense of accomplishment and competence. This aligns with Bandura's social cognitive theory, which posits that mastery experiences significantly impact self-efficacy beliefs [3].

Mentorship and guidance: The pivotal role of mentor teachers in boosting pre-service teachers' self-efficacy cannot be ignored. Mentorship, characterized by personalized feedback, tailored guidance, and emotional support, provided a scaffold for growth. The mentor-mentee relationship created an environment where constructive feedback was perceived as developmental rather than evaluative, thus enhancing self-efficacy. This aligns with research indicating that supportive mentorship positively affects pre-service teachers' development [7].

Implications for teacher education programs: The findings of this study have important implications for teacher preparation programs. Incorporating practical teaching experiences, structured peer interactions, and meaningful mentorship can be instrumental in fostering the development of pre-service teachers' teaching self-efficacy. Educators and institutions should consider providing opportunities for authentic classroom engagement, collaborative learning spaces, and mentorship structures that promote both skill development and self-efficacy enhancement.

5 Conclusion

This study has delved into the dynamics of pre-service teachers' teaching self-efficacy during a practice teaching course, shedding light on the transformative journey from theory to practice. Through the integration of quantitative and qualitative approaches, the findings underscore the pivotal role of practical experiences, peer interactions, and mentorship in shaping pre-service teachers' confidence in their instructional capabilities.

The implications of this study extend to the realm of teacher preparation programs. Educators and institutions are encouraged to consider the design and structure of practice teaching experiences, collaborative learning spaces, and mentorship initiatives. By cultivating environments that mirror authentic teaching settings, fostering peer interactions, and providing meaningful mentor support, teacher preparation programs can better equip pre-service teachers for their future roles.

While this study contributes significant insights, it is important to acknowledge its limitations, including the sample size and context-specific nature of the practice teaching course. Nevertheless, the convergence of quantitative and qualitative findings provides a robust understanding of the factors influencing teaching self-efficacy changes.

In conclusion, this study not only enriches our understanding of how pre-service teachers' teaching self-efficacy develops during a practice teaching course but also emphasizes the transformative potential of experiential learning, peer interactions, and mentorship. As the field of education continues to evolve, these findings offer valuable guidance for shaping effective teacher preparation programs that empower pre-service teachers with the confidence and competence needed for success in their future classrooms.

Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

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