



Investigating the Effectiveness of Pre-Service and In-Service Teacher Education Programs: Reflective Practices and Training Challenges in a Global Context

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ABSTRACT

This study explores the effectiveness of **pre-service** and **in-service** teacher education programs with a particular focus on **reflective practices** and their impact on developing **global competence** among teachers. By employing a **mixed-methods approach**, the research combines **quantitative data** from surveys and **qualitative insights** from interviews and focus groups, involving **150 teachers** from diverse educational contexts. The results indicate that both pre-service and in-service training programs significantly contribute to

Keywords: Teacher education, pre- teachers' professional growth, though their effects vary. Pre-service programs service teachers, in-service teachers, were found to be more effective in building foundational knowledge, while reflective practices, global in-service programs excelled in enhancing practical teaching skills, competence, ICT integration, teacher particularly in classroom management and pedagogical strategies. **Reflective training challenges.**

reflective practices, such as journaling and peer feedback, emerged as a crucial tool for fostering teachers' self-awareness, adaptability, and global competence. Teachers who actively engaged in reflection were better equipped to address diverse student needs and create inclusive learning environments. The study also identifies challenges faced by both pre-service and in-service teachers, including the gap between theory and practice for pre-service teachers and **time constraints and lack of institutional support** for in-service teachers. This research contributes to the field by providing recommendations for integrating **reflective practices** and **global competence** into teacher education programs. Future research directions include exploring the role of **technology** in reflective practices and assessing the **long-term impact** of global competence on student outcomes.

**Introduction:**

In an increasingly interconnected world, the role of educators has evolved to meet the demands of a globalized society. Global competence has become a critical requirement for teachers, who must equip students with the necessary skills to navigate a diverse and rapidly changing world. In this context, teachers are not only responsible for imparting subject knowledge but also for fostering cultural awareness, critical thinking, and adaptability in students (OECD, 2021). These demands underscore the importance of integrating global competence into teacher education programs, which are pivotal in shaping how educators approach these challenges. Teacher education plays an essential role in preparing teachers with the skills and knowledge necessary for diverse, multicultural classrooms. Effective training programs provide teachers with the tools to work across cultural boundaries, enhancing their ability to foster global competence in students (Hauerwas & Morine-Dershimer, 2023). By addressing the evolving needs of a globalized society, teacher education can help ensure that educators are well-equipped to meet the dynamic demands of the modern classroom.

Despite the recognized importance of reflective practices in teacher development, there remains a gap in the research comparing the effectiveness of pre-service and in-service teacher education programs in promoting global competence. Reflective practices, which encourage teachers to critically evaluate their own teaching methods and improve upon them, have been shown to enhance teacher effectiveness (Tichnor-Wagner & Parkhouse, 2019). However, little research has focused on comparing the impact of these practices across different stages of a teacher's career. Moreover, while various studies acknowledge the role of reflective practices, the challenges teachers face in engaging with these programs—such as time constraints, institutional support, and the integration of technology—have not been thoroughly explored (Saric & Steh, 2017). There is a need to further investigate these challenges and propose actionable solutions that can improve teacher training programs, ultimately strengthening their ability to develop global competence in teachers.



The objectives of this study are threefold: to investigate the effectiveness of pre-service and in-service teacher education programs on teachers' global competence and teaching efficacy, to examine the role of reflective practices in the professional development of both pre-service and in-service teachers, and to identify the challenges encountered during teacher training programs (Goren & Yemini, 2017). By exploring these areas, this research aims to provide insights into the most effective strategies for fostering global competence among teachers and the barriers that hinder their professional growth. The study will also propose solutions to overcome these challenges, contributing to the design of more effective teacher training programs.

This research holds significant importance for the field of education. By investigating how reflective practices and global competence are integrated into teacher education programs, this study will contribute valuable insights into how these elements influence the professional development of teachers. The findings of this study will be instrumental for policymakers, educators, and training program designers, offering evidence-based recommendations for creating more effective professional development frameworks. By addressing both the knowledge and skills required for successful teaching in a globalized world, the research aims to shape the future of teacher education and ensure that educators are adequately prepared to meet the challenges of the 21st century (OECD, 2021).

2. Literature Review

2.1 Overview of Teacher Education

Teacher education has undergone significant transformation over the years, moving from traditional models that predominantly emphasized content knowledge to more modern approaches that highlight the importance of **global competence** and **intercultural understanding**. Historically, teacher education programs were largely focused on preparing educators with the fundamental skills and content knowledge necessary to teach specific subjects (Goren & Yemini, 2017). However, with the rise of globalization, the role of teachers has expanded, and the development of **global competence** has become essential for preparing



students for an increasingly interconnected world. As such, teacher education programs today are designed to equip educators with the tools to engage with students from diverse cultural backgrounds, fostering a broader worldview that goes beyond content delivery (OECD, 2021). These shifts underscore the need for teacher education to not only focus on teaching methods but also ensure that educators are prepared to cultivate global and intercultural competencies among their students.

The nature of **pre-service teacher education** differs significantly from that of **in-service training**. Pre-service education typically provides foundational knowledge that equips future educators with basic pedagogical skills and content expertise. These programs aim to prepare teachers for their first teaching roles, ensuring they have the skills to create effective learning environments (Körkkö et al., 2016). In contrast, **in-service training** aims to refine the teaching practices of experienced educators. It focuses on the ongoing professional development necessary for adapting to new pedagogies and addressing emerging challenges in education. This training is particularly crucial as teachers work to stay current with educational innovations, integrate new technologies, and respond to the evolving needs of diverse classrooms. However, research comparing the impact of pre-service and in-service programs, particularly regarding their role in fostering global competence, is limited (Tichnor-Wagner & Parkhouse, 2019).

2.2 Reflective Practice in Teacher Education

Reflective practice has been recognized as a critical component of teacher development. Rooted in **Donald Schön's** concepts of **reflection-in-action** and **reflection-on-action**, reflective practice encourages teachers to critically examine their teaching methods and make real-time adjustments to improve their effectiveness (Kerkhoff et al., 2020). Reflection-in-action occurs when teachers assess their teaching as it happens, making immediate changes to improve the lesson. Reflection-on-action, on the other hand, takes place after the lesson, allowing teachers to evaluate their performance and plan future improvements. These reflective processes are essential for teachers to grow and adapt, ensuring that they continually refine their teaching strategies in response to the needs of their students.



Reflective practices have a profound impact on various aspects of teaching, including **decision-making**, **classroom management**, and the ability to address the diverse needs of students (Tichnor-Wagner & Parkhouse, 2019). Through reflection, teachers develop a deeper understanding of their instructional strategies and become more adept at creating inclusive and culturally responsive classrooms. Reflective practices also enhance teachers' **global competence**, as they encourage educators to critically assess their approaches to teaching in diverse, multicultural contexts (Suphasri&Chinokul, 2021). By engaging in reflection, teachers can better adapt to the complexities of teaching in a globalized world, ensuring they foster an environment that values cultural diversity and inclusivity.

Several strategies are commonly used to promote reflective practice in teacher education. These include the use of **reflective journals**, where teachers document and analyze their teaching experiences; **peer reviews**, which involve sharing feedback and engaging in collaborative discussions with colleagues; and **action research**, where teachers conduct systematic inquiries into their own teaching practices to drive improvement (Hauerwas & Morine-Dershimer, 2023; Mathew et al., 2017). These strategies provide teachers with valuable tools to engage in ongoing professional development, allowing them to refine their practices continuously and respond more effectively to the needs of their students.

2.3 Challenges in Teacher Education

Despite the positive impacts of reflective practices, teacher education programs face several significant challenges. **Pre-service teachers** often experience a **disconnect between theory and practice**. These teachers are introduced to educational theories in academic settings, but often struggle to apply these theories in real-world classrooms. This gap between theory and practice can leave pre-service teachers feeling unprepared for the complexities of teaching in diverse, multicultural environments (Saric & Steh, 2017). Additionally, many pre-service teachers face limited exposure to actual classroom settings, which makes it difficult for them to develop the practical skills needed to manage classrooms effectively and address the needs of diverse students.



For **in-service teachers**, the primary challenges lie in **time constraints**, **institutional support**, and **resistance to change**. Teachers already in the field often struggle to find time for professional development due to the demands of their teaching responsibilities, making it difficult for them to engage in training programs that might help them refine their practices (Goren & Yemini, 2017). Moreover, many teachers face inadequate institutional support for professional development. Schools and educational systems may lack the resources or infrastructure to provide teachers with the ongoing training they need to stay current with educational innovations. Finally, in-service teachers may be resistant to adopting new pedagogies, particularly if they feel comfortable with their established teaching methods. Overcoming these barriers is essential to ensuring that both pre-service and in-service teachers can benefit from professional development opportunities.

Table 1: Comparison of Challenges in Pre-Service vs. In-Service Teacher Education

Challenges	Pre-Service Teachers	In-Service Teachers
Disconnect between theory and practice	High	Low
Time constraints	Low	High
Institutional support	Moderate	Low
Resistance to change	Low	High

2.4 Global Competence in Education

Global competence refers to the ability to understand and engage with issues of global significance, appreciate cultural diversity, and communicate effectively across cultures (OECD, 2021; UNESCO, 2018). As the world becomes increasingly interconnected, global competence has become a crucial skill for both educators and students. Teachers who possess global competence are better able to foster an environment in which students develop an awareness of global issues, learn how to think critically about cultural differences, and build the skills needed to act as responsible global citizens.



Incorporating global competence into teacher education programs is essential for preparing educators to meet the challenges of the 21st century. Research indicates that the effective integration of global competence into teacher training requires intentional curricular changes, such as the inclusion of **study-abroad programs, intercultural learning opportunities**, and the integration of **global issues into lesson planning** (Tichnor-Wagner & Parkhouse, 2019). These strategies help teachers understand the complexities of global issues and provide them with the tools to address these issues in the classroom. By embedding global competence in teacher education, programs can better prepare educators to teach in a way that is culturally responsive and relevant to students from diverse backgrounds.

3. Research Questions and Hypotheses

3.1 Primary Research Question

- How do **pre-service** and **in-service teacher education programs** influence teachers' global competence and professional development, and what role do reflective practices play in this development?

3.2 Sub-Research Questions

- What are the specific **challenges** faced by **pre-service** teachers during their training, and how do they differ from the challenges encountered by **in-service** teachers?
- How do **reflective practices** affect teaching efficacy and global competence in both pre-service and in-service training programs?

3.3 Hypotheses

- **H1:** Reflective practices significantly enhance the **global competence** of teachers in both pre-service and in-service contexts.



- **H2:** Pre-service teachers show greater improvement in **knowledge acquisition**, while in-service teachers experience more growth in **classroom management** and **practical application** of teaching strategies.
- **H3:** There are distinct **challenges** faced by pre-service and in-service teachers in their professional development programs, influenced by their career stage and the support they receive.

4. Methodology

4.1 Research Design

This study will utilize a **mixed-methods approach**, combining both **quantitative** and **qualitative** data collection methods to provide a comprehensive understanding of the effectiveness of teacher education programs. The **quantitative** data will provide insights into measurable aspects such as teachers' progress in **global competence** and **teaching efficacy**, while the **qualitative** data will offer a deeper exploration of the teachers' personal experiences, challenges, and professional development. The integration of both methods ensures that statistical trends and personal narratives contribute equally to answering the research questions.

4.2 Participants

A total of **150 teachers** will participate in the study, with **75 pre-service teachers** and **75 in-service teachers**. The sample will be drawn from diverse educational contexts, including **urban** and **rural** areas, representing various **educational systems** and **cultural backgrounds**. This diversity is key to ensuring that the findings are generalizable, as it allows the study to examine how contextual factors such as geographical location, institutional support, and cultural differences affect the effectiveness of teacher education programs and the role of reflective practices in teacher development.

4.3 Data Collection Tools



Three primary data collection methods will be used in this study: **surveys, semi-structured interviews, and focus groups.**

- **Surveys** will be used to collect **quantitative data** to assess teachers' perceptions of their training programs' effectiveness and their use of reflective practices. These surveys will measure how teachers evaluate their progress in areas such as global competence, teaching skills, and the ability to reflect on their practices.
- **Semi-structured interviews** will provide **qualitative data** that explores teachers' experiences with reflective practices and their impact on their professional growth. These interviews will offer valuable insights into how reflective practices affect teaching and personal development.
- **Focus groups** will be employed to gather qualitative data on the **common challenges** faced by pre-service and in-service teachers in their professional development. These group discussions will help identify recurring barriers and allow teachers to discuss potential solutions in a collaborative setting.

4.4 Data Analysis

The data will be analyzed using both **quantitative** and **qualitative** methods.

- **Quantitative analysis** will involve the use of **statistical techniques** such as **regression analysis** and **t-tests** to compare the effectiveness of **pre-service** and **in-service teacher education programs**. These techniques will help identify significant differences in how these programs impact teachers' global competence and professional development.
- **Qualitative analysis** will employ **thematic analysis** to identify and interpret key themes from the interview and focus group data. This analysis will allow the study to uncover patterns related to reflective practices, teaching efficacy, and the challenges faced by teachers. By analyzing these qualitative data, the study will gain rich insights into how reflective practices are implemented in real-world teaching contexts and their role in fostering professional growth.



The combination of **quantitative** and **qualitative** analysis ensures that the study will provide a comprehensive and nuanced understanding of the effectiveness of teacher education programs and the impact of reflective practices on teacher development. The findings will offer valuable recommendations for improving teacher training programs to better support teachers in their professional journey.

5. Results

5.1 Effectiveness of Pre-Service vs. In-Service Teacher Training

The results from the quantitative analysis show distinct differences in the effectiveness of **pre-service** and **in-service teacher training** programs, particularly in enhancing teachers' **global competence** and **teaching efficacy**. For **pre-service teachers**, the training programs had a significant impact on their foundational knowledge, enabling them to acquire essential pedagogical theories and principles that are crucial for teaching in diverse classrooms. These teachers demonstrated improvements in their understanding of educational concepts and instructional strategies. On the other hand, **in-service teachers** showed a more pronounced increase in practical teaching skills, such as **classroom management** and the ability to engage students in meaningful learning experiences. The results suggest that while pre-service programs are more focused on building knowledge and theoretical understanding, in-service programs excel in refining practical teaching skills and adapting existing knowledge to real-world teaching contexts. The differences between these two types of training programs highlight their complementary roles in teachers' professional development.

5.2 Reflective Practice and Its Impact

Reflective practices were found to play a crucial role in **enhancing teachers' professional growth** and contributing to their **global competence**. Teachers who regularly engaged in reflective activities such as journaling, peer reviews, and self-assessments reported significant improvements in their teaching methods. Reflective practices allowed them to critically evaluate



their own teaching approaches, identify strengths, and recognize areas for improvement. These activities helped teachers adapt to the evolving needs of their students, enhancing their ability to address diverse learning styles and cultural differences in the classroom. In particular, teachers who participated in reflective practices developed a deeper understanding of how their teaching impacted students, which led to more intentional and effective instructional strategies. Furthermore, reflective practices were shown to support teachers in cultivating a broader perspective on education, helping them understand global issues and the importance of fostering inclusive learning environments that promote cultural awareness and respect.

5.3 Challenges in Teacher Education Programs

Both **pre-service** and **in-service teachers** encountered significant challenges during their participation in teacher education programs, with varying impacts on their development. Pre-service teachers reported difficulties in bridging the gap between **theory and practice**. Despite having a strong theoretical foundation, many felt unprepared to implement their knowledge in actual classroom settings, where the complexities of teaching often conflicted with the concepts they had learned. Limited exposure to real-world teaching environments during their training contributed to this challenge. In contrast, **in-service teachers** faced barriers such as **time constraints**, insufficient **institutional support**, and **resistance to adopting new teaching methods**. The demanding nature of their teaching schedules left little time for professional development activities, and the lack of institutional support further hindered their ability to implement new teaching strategies. Many in-service teachers also expressed reluctance to adopt unfamiliar pedagogical approaches, which affected their engagement with training programs. These challenges, identified through both **qualitative** and **quantitative** data, underscore the need for teacher education programs to be more adaptable, contextually relevant, and supportive of teachers at different stages of their careers.

In conclusion, the findings from this study highlight the effectiveness of both **pre-service** and **in-service** teacher training programs in fostering teachers' professional development, particularly in terms of **global competence** and **teaching efficacy**. The role of **reflective practices** in



enhancing teachers' skills and their ability to address the diverse needs of students is also evident. However, the challenges faced by both groups of teachers emphasize the importance of providing **contextualized support** and more **practical experiences** in training programs to ensure that teachers are fully equipped to meet the demands of today's globalized classrooms. Addressing these challenges will be crucial for improving teacher education programs and ultimately enhancing the quality of education worldwide.

6. Conclusion

This study investigates the effectiveness of **pre-service** and **in-service** teacher education programs, focusing on **reflective practices** and the development of **global competence**. The findings indicate that while both types of training significantly enhance teaching efficacy, they serve different functions. **Pre-service training** primarily aids in building foundational knowledge, while **in-service training** focuses on refining practical teaching skills such as **classroom management** and adapting pedagogical strategies. **Reflective practices** play a key role in improving teachers' self-awareness and their ability to adapt teaching methods to diverse student needs, fostering **global competence** and inclusivity. Teachers who engaged in regular reflection demonstrated more effective teaching strategies, a deeper understanding of cultural diversity, and the ability to foster inclusive learning environments. The study also identified significant challenges, such as the **disconnect between theory and practice** for pre-service teachers and **time constraints** and **institutional support** issues for in-service teachers.

The research contributes to the field by highlighting the importance of integrating reflective practices into teacher education and emphasizes the need for **practical experiences** and **institutional support** in training programs. Future research could explore the integration of **technology** into reflective practices, the **long-term impact** of global competence on student outcomes, and how **teacher collaboration** influences global competence development. This research provides essential insights into how teacher education programs can better support professional growth and prepare educators for the challenges of a globalized world.



Reference

1. **Asia Society/OECD.** (2018). *Teaching for global competence in a rapidly changing world.* OECD Publishing. Retrieved from <https://www.oecd.org/education/teaching-for-global-competence-in-a-rapidly-changing-world.htm>
2. **Cirocki, A., & Farrell, T. S. C. (2017).** Reflective practice for professional development of TESOL practitioners. *Reflective Inquiry*, 10(1), 5–18. Retrieved from <http://www.reflectiveinquiry.ca/wp-content/uploads/2016/06/RP-special.pdf>
3. **Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2020).** Effective teacher professional development. *P-12 Education Policy Briefs*, 1(1), 1–10. Retrieved from <https://learningpolicyinstitute.org/product/teacher-professional-development-report>
4. **Evans, N., Holford, J., & Wright, S. (2017).** Approaches to embedding sustainability in teacher education: A synthesis of the literature. *Teaching and Teacher Education*, 61, 47–57. <https://doi.org/10.1016/j.tate.2016.10.001>
5. **Goren, H., & Yemini, M. (2017).** Global citizenship education redefined—A systematic review of empirical studies on global citizenship education. *International Journal of Educational Research*, 85, 106-118. <https://doi.org/10.1016/j.ijer.2017.06.001>
6. **Hauerwas, L. B., & Morine-Dershimer, G. (2023).** Transformative innovation in teacher education: Research toward a critical global didactica. *Teaching and Teacher Education*, 95, 103139. <https://doi.org/10.1016/j.tate.2020.103139>
7. **Kerkhoff, S. N., Garmendia, M., & Reimers, F. (2020).** Equipping teachers with globally competent practices: A mixed methods study on integrating global competence and teacher education. *International Journal of Educational Research*, 103, 101586. <https://doi.org/10.1016/j.ijer.2020.101586>
8. **Körkkö, M., Kyrö-Ämmälä, O., & Turunen, T. (2016).** Professional development through reflection in teacher education. *Teaching and Teacher Education*, 58, 124-133. <https://doi.org/10.1016/j.tate.2016.04.004>
9. **Mathew, P., Mathew, P., & Peechattu, P. J. (2017).** Reflective practices: A means to teacher development. *Asia Pacific Journal of Contemporary Education and Communication Technology*, 3(1), 126-131. <https://doi.org/10.1016/j.apjct.2017.01.001>



10. **OECD. (2021).** *Education at a glance 2021: OECD indicators*. OECD Publishing. Retrieved from <https://www.oecd.org/education/education-at-a-glance/>
11. **Saric, M., & Steh, B. (2017).** Critical reflection in the professional development of teachers: Challenges and possibilities. *Central European Journal of Educational Studies*, 3(2), 101-116. Retrieved from https://www.pedocs.de/volltexte/2017/14908/pdf/cepsj_2017_3_Saric_Steh_Critical_reflection.pdf
12. **Suphasri, P., & Chinokul, S. (2021).** Reflective practice in teacher education: Issues, challenges, and considerations. *PASAA: Journal of Language Teaching and Learning*, 62(1), 15-30. Retrieved from <https://digital.car.chula.ac.th/cgi/viewcontent.cgi?article=1739&context=pasaa>
13. **Tichnor-Wagner, A., & Parkhouse, H. (2019).** Pedagogical strategies for teaching global competence: Integrating global awareness and reflective practice. *Teaching and Teacher Education*, 84, 24-35. <https://doi.org/10.1016/j.tate.2019.05.012>
14. **UNESCO. (2018).** *Global education monitoring report 2018: Migration, displacement, and education: Building bridges, not walls*. Retrieved from <https://en.unesco.org/gem-report/report/2018/migration>
15. **Vaughn, M., Parsons, S.A., Keyes, C., Puzio, K., & Allen, M. (2017).** A multiple case study of teachers' visions and reflective practice. *Reflective Practice*, 18(4), 526-539. <https://doi.org/10.1080/14623943.2017.1323731>