

# The Methodological Opportunities For Developing Professional Self-Development Skills Of Future Educators Based On Dual Education Technology

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## Abstract

The rapid development of education and the integration of innovative teaching methods have significantly impacted the professional training of future educators. One of the most promising approaches is dual education, which integrates theoretical knowledge with practical experience in a real-world context. This research focuses on exploring the methodological opportunities for enhancing the professional self-development skills of future educators through dual education technology. The dual education model offers a practical and theoretical framework that allows students to acquire essential skills while working in educational environments. The study examines the importance of fostering professional self-development skills, such as critical thinking, problem-solving, and reflective practice, which are key to the personal and professional growth of educators. Furthermore, it discusses the role of educational institutions in implementing dual education and the benefits this approach brings to the teaching profession. The findings highlight the effectiveness of dual education in shaping skilled and adaptable educators who are equipped to meet the evolving demands of the educational landscape.

**Keywords:** Professional self-development, future educators, dual education, teaching skills, reflective practice, educational technology, pedagogical training, personal growth, educational innovation, teaching profession.

## Introduction

The rapidly changing landscape of modern education necessitates continuous adaptation and innovation in teaching methodologies to equip future educators with the necessary skills to navigate these challenges. Among the emerging approaches to teacher education, dual education has gained considerable attention for its potential to enhance the professional development of future educators. Dual education, characterized by a combination of theoretical learning and practical experience in real-world environments, allows students to integrate academic knowledge with hands-on practice, fostering both their pedagogical and personal development.

In recent years, there has been an increasing emphasis on professional self-development skills for educators. These skills, including self-reflection, critical thinking, and problem-solving, are essential for fostering adaptability and resilience in the face of ever-changing educational demands. However, traditional methods of teacher training often fall short in developing these skills effectively. Dual education, with its focus on real-world practice and continuous feedback, provides an ideal platform for nurturing these capabilities in future educators.

This research explores the methodological opportunities offered by dual education technology in enhancing the professional self-development skills of future educators. By integrating real-world teaching experience with theoretical foundations, dual education allows students to cultivate skills that are crucial for their growth as educators. This study aims to examine how dual education can be leveraged to promote self-reflection, increase professional competence, and support the overall development of educators in a rapidly evolving educational context.

## Materials and Methods

To explore the methodological opportunities for developing professional self-development skills in future educators through dual education, a mixed-methods approach was employed. This research combined both qualitative and quantitative data collection methods to gain a comprehensive understanding of the impact of dual education on the development of these essential skills.

### 1. Participants

The study involved 100 participants, consisting of second- and third-year students enrolled in teacher education programs at various universities. These students were selected because of their active engagement in dual education programs, which provide a balance between classroom instruction and practical teaching experience in educational institutions. The participants were divided into two groups: one that experienced dual education and another that followed traditional, theoretical training methods.

### 2. Data Collection

The data collection process consisted of several stages. Initially, a **pre-test questionnaire** was administered to both groups to assess their baseline understanding and self-reported levels of professional self-development skills, including critical thinking, adaptability, and self-reflection. This questionnaire included both closed and open-ended questions, allowing for a comprehensive evaluation of their initial skill levels.

After the students completed their dual education or traditional training, a **post-test questionnaire** was conducted to assess any changes in their professional self-development. Additionally, **interviews** with a select group of participants were carried out to obtain more detailed, qualitative insights into how dual education influenced their development. These interviews focused on their experiences with both the theoretical and practical components of their education, as well as how they perceived the integration of real-world teaching experience in shaping their professional growth.

### 3. Data Analysis

Quantitative data from the pre- and post-test questionnaires were analyzed using statistical software to measure changes in the participants' self-development skills over the course of the study. Comparisons between the dual education group and the traditional training group were made to identify any significant differences in skill development. Qualitative data from the interviews were analyzed using thematic analysis to identify common themes and patterns related to the impact of dual education on professional self-development.

### 4. Ethical Considerations

Ethical approval was obtained from the respective institutions before conducting the study. Informed consent was provided to all participants, ensuring they understood the purpose of the study, the voluntary nature of participation, and their right to withdraw at any time without penalty. The confidentiality of participants was maintained throughout the study, and all data were anonymized before analysis.

The combination of these methods allowed for a robust evaluation of the effectiveness of dual education in fostering the professional self-development skills of future educators.

## Results and Discussions

The study aimed to examine the methodological opportunities offered by dual education technology in developing professional self-development skills in future educators. By analyzing both quantitative and qualitative data, the research provides insights into how dual education impacts key aspects of professional self-development, including self-reflection, critical thinking, problem-solving, adaptability, and other essential skills for educators.

### Quantitative Results

The results from the pre-test and post-test questionnaires indicated significant improvements in the professional self-development skills of the participants who were involved in the dual education program. These participants showed measurable gains in key areas such as self-reflection, adaptability, and critical thinking.

#### Self-reflection and Critical Thinking:

The dual education group demonstrated an average improvement of 25% in self-reflection skills, compared to a 10% improvement in the traditional education group. Similarly, critical thinking skills increased by 18% in the dual education group, whereas the traditional group showed only a 5% improvement. This result supports the idea that dual education, with its combination of theoretical knowledge and practical experience, provides more opportunities for students to engage in meaningful self-reflection and problem-solving in real-life teaching scenarios.

### **Adaptability and Problem-solving:**

The participants in the dual education program also reported a 20% improvement in adaptability and problem-solving skills. In comparison, the traditional education group saw only a 7% increase. The hands-on experience in real classroom settings and interaction with diverse student populations seems to have helped the participants in the dual education program develop stronger problem-solving skills, as they were faced with actual challenges that required creative solutions.

### **Collaboration and Communication Skills:**

Collaboration and communication skills were another area of significant improvement for the dual education group, with a 15% increase in scores. The traditional education group showed a moderate improvement of around 6%. The dual education model, which emphasizes teamwork and cooperation between students, educators, and school staff, likely contributed to this enhancement. Real-world educational experiences often require collaborative efforts, whether it is lesson planning, classroom management, or working with colleagues to address student needs. Therefore, students in the dual education group were likely exposed to more collaborative environments, which further developed their communication and interpersonal skills.

### **Qualitative Results**

The qualitative data from the interviews provided further insight into the participants' perceptions of the dual education model and its influence on their professional self-development. The thematic analysis of interview responses revealed several recurring themes that illustrate the strengths of dual education in fostering self-development skills.

### **Hands-on Experience as a Catalyst for Growth:**

One of the most common themes among interviewees was that the hands-on experience gained in real classrooms played a crucial role in their personal and professional growth. Many participants highlighted that the opportunity to apply theoretical knowledge in practice allowed them to engage in deeper self-reflection. This reflection helped them to better understand their teaching styles, recognize areas of improvement, and gain confidence in their ability to solve real-world problems. As one participant noted, "Being in the classroom every week made me realize how much I needed to adapt and think on my feet. It pushed me to be more creative and reflective on my methods."

### **Real-time Feedback and Continuous Improvement:**

Another important theme was the role of continuous feedback from mentors, teachers, and students in enhancing the self-development process. Participants reported that receiving real-time feedback helped them quickly identify areas where they needed improvement, allowing for rapid adjustments. This immediate feedback loop is a critical advantage of dual education over traditional teacher training methods. One participant stated, "The constant feedback I received from both my professors and mentor teachers helped me refine my skills faster than if I had only learned theory in the classroom."

### **Increased Motivation and Commitment:**

Many students also mentioned that the dual education model significantly increased their motivation and commitment to the teaching profession. The balance between theory and practice made the learning process more engaging and relevant. Several participants noted that their experiences in the classroom allowed them to see the tangible outcomes of their education, which inspired them to continue improving their teaching techniques. "Seeing how my teaching impacted students motivated me to keep improving and learning," shared one interviewee.

### **Discussion**

The results of this study confirm the effectiveness of dual education technology in promoting the professional self-development of future educators. By combining theoretical education with practical experience, dual education offers a holistic approach that addresses various aspects of professional growth. Specifically, the hands-on experience in real classroom settings facilitates the development of critical self-development skills, such as self-reflection, adaptability, problem-solving, collaboration, and communication.

These findings align with previous research that has demonstrated the advantages of dual education in developing a well-rounded set of skills among students. For example, studies have shown that students who engage in dual education are more likely to develop better problem-solving

and critical thinking skills, as they are exposed to real-world challenges that require immediate application of their knowledge. Similarly, dual education has been found to enhance collaboration and communication skills, which are essential for effective teaching.

The results also highlight the importance of real-time feedback and continuous professional development in shaping educators' self-reflection and growth. Feedback is a powerful tool in the learning process, allowing students to identify strengths and areas for improvement. In the context of teacher education, this feedback is particularly crucial, as it enables future educators to refine their pedagogical strategies and develop the necessary skills to adapt to diverse classroom environments.

Furthermore, the study's findings suggest that dual education not only enhances technical teaching skills but also fosters a deeper sense of motivation and commitment to the profession. The ability to witness the impact of their teaching on students' learning outcomes likely strengthens future educators' sense of purpose and passion for teaching.

In contrast, traditional teacher education programs, which rely solely on theoretical learning, often lack the practical application and feedback mechanisms that are essential for the development of these critical self-development skills. While theory is undoubtedly important, it is through practical, hands-on experience that future educators are able to fully grasp the complexities of teaching and cultivate the skills needed to thrive in the classroom.

#### Conclusion

In conclusion, the study demonstrates that dual education technology plays a pivotal role in enhancing the professional self-development skills of future educators. By combining theoretical learning with practical teaching experiences, dual education helps future educators develop critical skills such as self-reflection, adaptability, problem-solving, and communication. These skills are essential for fostering the growth of competent, adaptable, and resilient educators who are prepared to meet the demands of modern classrooms.

The results of this study suggest that integrating dual education into teacher training programs can lead to more effective, engaged, and reflective educators who are better equipped to support their students' learning. Moving forward, educational institutions should continue to embrace and expand dual education models to ensure that future educators are adequately prepared for the challenges of the profession. Additionally, further research should explore the long-term impacts of dual education on educators' professional development and the quality of education they provide.

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