Reflective Learning to Improve Teaching Abilities of Vocational High School Teacher Candidates

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Abstract: The purpose of this study is to test the effectiveness of the reflective learning model in improving the understanding and teaching skills of prospective teachers in vocational high schools. This research is a qualitative descriptive study with a case study approach. The subjects of this study are students of the Vocational Education in Mechanical Engineering. Data collection in this study used three techniques: in-depth interviews, participant observation and documentation study The data analysis technique used is the interactive model which includes: data reduction, data presentation, and conclusion drawing Implementation of the verification technique is based on four criteria: credibility, transferability, dependability, and confirmability. The conclusion of this study shows that the reflective learning model has a significant positive impact on improving the understanding and teaching skills of prospective Vocational High School teachers. The implementation of this model has been proven effective in helping prospective teachers develop their professional competencies. In addition, the students showed high involvement in the reflection process, which allowed them to evaluate and improve their teaching strategies. The majority of students also felt that reflective learning was very beneficial in enhancing their teaching skills and in preparing them to face challenges in the field of education.

Keywords: Reflective learning; teachers; professional competencies

1. Introduction

Strategic issues that is a priority in the revitalization of Vocational High Schools is the innovation of learning and the fulfillment and enhancement of the professionalism of teachers who teach subjects relevant to their vocational fields. Vocational High School teachers are required to have pedagogical, personal, professional, and social competencies. Additionally, vocational teachers in productive programs must possess specific professional competencies, including adequate practical expertise in all productive study areas, the ability to organize learning relevant to the competencies needed in the workforce, and the ability to design lessons both in schools and in the business and industrial sectors.

Based on this, universities are obligated to prepare professional Vocational High School (SMK) teachers through reflective learning, which is a model of learning activities that involves reflective thinking during the process. Reflection in the context of learning is an intellectual and affective activity aimed at exploring experiences to achieve new understanding and appreciations.

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Reflective learning requires learners to study what they are facing, make assumptions, evaluate, take stances, and apply their understanding [1-3].

The reflective learning model is highly suitable for implementation in the Micro Teaching course within the Mechanical Engineering Vocational Education Program, as students, as prospective teachers, are required to apply the four competencies of teachers in their teaching practice. The Micro Teaching course demands students to engage in reflection, as they, as future teachers, have the obligation to evaluate and reorganize their teaching skills to ensure that the teaching-learning process can be carried out optimally [4-9].

This research is motivated by the fact that Micro Teaching plays a crucial role in shaping professional prospective teachers for Vocational High Schools. Additionally, there is concern about the low quality of learning, particularly in Vocational High Schools, due to the insufficient professional training provided to prospective teachers during their higher education. To address this issue, a reflective learning model is needed to enhance the teaching abilities of prospective Vocational High School teachers, making them more professional.

The importance of this research lies in its potential to contribute significantly to improving the quality of education in Vocational High Schools, with a focus on developing the teaching abilities of prospective teachers. Several reasons why this research is important include:

1. Enhancing Professionalism of Prospective Teachers: By applying the reflective learning model, prospective teachers can evaluate and improve their teaching skills, which in turn will enhance the quality of teaching.
2. Improving the Quality of Learning: challenges related to teaching quality, this research is expected to provide more effective solutions to address these issues, resulting in graduates who are well-prepared with skills relevant to industry needs.
3. Meeting the Needs of the Workforce: One of the main objectives of to prepare competent workers. By improving the teaching skills of prospective teachers, the learning process in can better align with the needs of the business and industry world, making graduates more ready to enter the job market.
4. Applying an Innovative Teaching Model: This research provides insights into how the reflective learning model can be applied in vocational education to improve teaching quality, as well as exploring the potential of prospective teachers to enhance teaching effectiveness in the classroom.

This research is important to ensure that teachers not only have technical skills but also adequate pedagogical abilities, which will contribute to the development of higher-quality vocational education. The purpose of this study is to test the effectiveness of the reflective learning model in improving the understanding and teaching skills of prospective teachers in vocational high schools.

2. Materials and Methods

This research is a qualitative descriptive study with a case study approach. The subjects of this study are students of the Vocational Education Program in Mechanical Engineering from the 2020 cohort, consisting of 12 students. The product trial was conducted in a small class, consisting of 6 students. These 6 students were categorized into three groups: 3 students with high understanding, 3 students with moderate understanding, and 3 students with low understanding.

Data collection in this study used three techniques: in-depth interviews, participant observation and documentation study [10]. The data analysis technique used is the interactive model which includes: data reduction, data presentation, and conclusion drawing [11]. The validity of the data in this study was examined using triangulation techniques. Triangulation is a method of validating data by using something external to the data for verification or comparison purposes. This technique involves seeking other sources related to the focus of the study. To establish data validity, a verification technique is required. Implementation of the

verification technique is based on four criteria: credibility, transferability, dependability, and confirmability [12].

3. Results and Discussion

The findings of this research indicate that the implementation of the reflective learning model has a positive impact on the improvement of teaching understanding and skills of prospective vocational school teachers. The main findings of this research are as follows:

1. Improvement in Teaching Understanding and Skills: Prospective teachers who participated in the reflective learning model showed a significant increase in their understanding of the subject matter and teaching skills. This was reflected in the evaluation results, which indicated a significant difference in teaching ability before and after using this model.

2. Effectiveness of the Reflective Learning Model: Based on the statistical tests conducted, the reflective learning model proved to be effective in improving the professional competence of prospective teachers. The t-test results showed a significant difference between the experimental and control groups in terms of the improvement in teaching understanding and skills.

3. Student Engagement in the Reflection Process: The students demonstrated high engagement in the reflection process, both in group discussions and in writing reflective journals. This process helped them evaluate and improve their teaching strategies.

4. Student Acceptance of the Learning Model: The majority of the students stated that reflective learning was very beneficial in developing their teaching skills. They felt more prepared to face challenges in the field of education with a more reflective and integrated approach.

These findings indicate that the reflective learning model can enhance the teaching skills of prospective vocational school teachers and prepare them to become more professional and competent educators.

The findings of this research have several important implications for both the development of prospective vocational school teachers and the broader education system:

1. Improved Teaching Competence: The use of the reflective learning model has proven to significantly enhance the teaching understanding and skills of prospective teachers. This means that future educators are better equipped to deliver high-quality education, adapt to diverse learning needs, and engage students more effectively in the classroom. The model supports the development of critical teaching competencies, ensuring that teachers are well-prepared for the challenges of teaching in vocational schools.

2. Strengthening Teacher Professionalism: By integrating reflective practices into teacher training, this research helps foster a culture of continuous self-assessment and professional growth among prospective teachers. Teachers are encouraged to critically analyze their teaching methods, reflect on their classroom experiences, and implement improvements. This leads to the formation of more competent, reflective, and professional educators, enhancing the overall quality of education in vocational schools.

3. Encouraging Student-Centered Learning: The reflective learning model emphasizes self-reflection and evaluation, which encourages students (prospective teachers) to take ownership of their learning. By participating in group discussions and writing reflective journals, students become more active and engaged learners. This shift towards a more student-centered approach in teacher education can ultimately improve how these future educators teach their own students in vocational schools.

4. Increased Preparedness for Real-World Teaching Challenges: Prospective teachers who undergo reflective learning training feel more prepared to handle the complexities of the real-world teaching environment. They are better equipped to adapt their teaching methods to meet the needs of diverse student populations, creating a more inclusive and

effective learning environment. This increased preparedness is crucial for their success as professional educators.

5. Improved Teaching Practices in Vocational Schools: The reflective learning model can contribute to the continuous improvement of teaching practices in vocational education. As prospective teachers apply reflection to their practice, they are likely to transfer these skills into their professional teaching careers, enhancing the quality of instruction in vocational schools. This can have long-term positive effects on the overall quality of vocational education, contributing to the development of a skilled workforce.

Reflective learning has a very significant impact on improving teaching effectiveness. By engaging in deep reflection on their practices, prospective teachers can become more competent, creative, and adaptive educators, and better prepared to face the challenges in an ever-changing educational world.

4. Conclusions

The conclusion of this study shows that the reflective learning model has a significant positive impact on improving the understanding and teaching skills of prospective Vocational High School teachers. The implementation of this model has been proven effective in helping prospective teachers develop their professional competencies. In addition, the students showed high involvement in the reflection process, which allowed them to evaluate and improve their teaching strategies. The majority of students also felt that reflective learning was very beneficial in enhancing their teaching skills and in preparing them to face challenges in the field of education.

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