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Self-Reflection Model Based on Fact, Feeling, Finding, Future, Framework to Produce Reflective Teachers in Elementary Schools

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Abstract

Research problems indicate that the reflective ability of pre-service teachers is still low, so there is little continuous improvement in every teaching practice. The solution to overcome the problem is to use the 5F (Fact, Feeling, Finding, Future, Framework) based Self-Reflection model in every teaching practice. This study aims to explore the application of the 5F-based Self-reflection model in improving the reflective ability of pre-service teachers in elementary schools. This model is designed to assist pre-service teachers in evaluating and improving teaching practices through structured reflection. This study uses the Collaborative Nested Action Research (C-NAR) approach by involving 20 pre-service teachers during teaching practice at partner schools. Data were collected through questionnaires, observations, and documentation to assess the impact of this model on the development of reflective abilities of pre-service teachers. The results of the study show that the 5F-based Self-reflection model helps pre-service teachers in improving the quality of teaching and classroom dynamics. Through reflection, teachers can identify learning challenges, design more innovative teaching strategies, and plan for future improvements. This model is effective in increasing student engagement, better time management, and a deeper understanding of the material. This research contributes to the development of a structured reflection model for teacher education. These findings suggest that the application of this model can improve teacher competence in improving reflective abilities oriented toward future teaching. More research is needed to explore the long-term impact of this model and its application in other educational contexts.

Keywords: Self Reflection, Model 5f, Reflective Teacher, Pre-Service Teacher

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INTRODUCTION

Reflective teachers in the modern education system play an important role in developing innovative teaching practices that are responsive to student needs. The complex dynamics in modern education can be well managed by reflective teachers. The reflective process empowers teachers as agents of change in modifying the learning environment that effectively benefits (Binheem et al., 2021; Maynard et al., 2022). Reflective teachers have a challenging experience in deepening and expanding the development of professionalism it affects the teacher's social orientation, identity, and teaching concept (Chen & Moore Mensah, 2022; Cole et al., 2022). Reflective teachers will always try to explore and improve

learning practices. Through reflective skills, teachers have the same understanding of successful teaching by committing to continuous pedagogical transformation (Buchanan & Mooney, 2023; Citar et al., 2023; McCleery et al., 2022).

Reflective teachers can design learning innovations that suit the characteristics and needs of students. Reflective paradigms and practices can shape student-centered professional teacher-teaching practices (Kayapinar & Alkhaldi, 2023; Novella-García & Cloquell-Lozano, 2021). The implications of a reflective teacher can improve the learning process and outcomes of students. Learning innovations can also increase students' motivation to learn (Asmianto et al., 2022; Teresa Fuertes-Camacho et al., 2021). Learning innovations that are designed comprehensively have a positive impact on student learning motivation (Martina & Göksen, 2022; Zhang et al., 2023). Learning innovations can increase positive attitudes and high student attendance and participation in learning (Hapke et al., 2021; Schubatzky et al., 2023; Tuwoso et al., 2021). Learning innovations need to be carried out to overcome the lack of student involvement in learning and the inability to reach students fully (Safitri et al., 2021; Sholikah & Harsono, 2021). Finding ways to share experiences between students is a form of effective learning innovation (Gómez-Trigueros, 2023; Ramola, 2021).

Through the reflection process, teachers analyze the teaching methods that have been applied to find their strengths and weaknesses. Reflective teachers experience positive changes in their teaching. Teachers find it easier to deal with stressful learning effectively both inside and outside the classroom. In addition, teachers can observe the increase in interaction between students and teachers and work to reduce problems in the classroom (Çiçek & Gürbüz, 2023; Roybal-Lewis, 2022). Reflective practice among teachers identifies learning barriers and explores opportunities for success to overcome the problems faced. In this case, reflective practices are important in delivering learning reforms (Tomczyk et al., 2023; Zarrabi & Mohammadi, 2024). Learning by applying certain designs, productively can produce meaningful learning and is felt to be more effective in strengthening the relationship between theoretical and practical understanding in the classroom (Lim & Nguyen, 2022; Vartiainen et al., 2024).

The application of reflection for pre-service teachers as prospective professional teachers is not always easy. Many pre-service teachers face challenges in systematically integrating reflective practices into their learning activities. This is largely due to the lack of policy support that encourages reflection as an integral part of the development of the professionalism of pre-service teachers. Many teaching practices focus more on quantitative and administrative assessment, so the reflection process becomes less structured and often neglected (Meihami, 2023; Rodríguez et al., 2021; Tomczyk et al., 2023). In addition, the limited time and resources that exist also limit the space for pre-service teachers to conduct deep reflection, even though reflection is a very important process in improving and improving the quality of teaching (Jimenez-Liso et al., 2021; Mystakidis & Christopoulos, 2022; Ojala, 2023). Therefore, there needs to be a more structured approach to support pre-service teachers in developing their reflective competencies, one of which is by using a reflection model based on a clear and applicable methodology (Karnchanapayap & Chaetnalao, 2021; Lozano & Blanco Fontao, 2023; Moya & Camacho, 2023; Nammakhunt et al., 2023).

As a solution to solve this problem, this study proposes a Self-reflection model based on 5F (Fact, Feeling, Finding, Future, Framework), which is designed to assist pre-service teachers in evaluating and improving their teaching practices. This model consists of five stages of reflection, namely the facts that occur during teaching, the feelings that arise, the findings obtained, planning for the future, and the preparation of a framework that will support the desired change. This model aims to help pre-service teachers not only analyze what is happening in the classroom but also plan for continuous improvement that can have a positive impact on learning outcomes. By implementing the 5F-based Self-Reflection model, it is hoped that pre-service teachers can be more effective in overcoming the challenges they face and systematically improving the quality of their teaching. The 5F-based Self-reflection model is expected to help pre-service teachers identify and design teaching strategies that are more innovative and relevant to the times.

Previous research has shown that teachers' professional development can be enhanced through collaborative mentoring methods that facilitate joint reflection between mentors and practitioners, as well as allow pre-service teachers to share their experiences and best practices in addressing learning challenges (Gómez-Trigueros, 2023; Hill et al., 2024; Kwangmuang et al., 2021). Collaborative guidance contributes to improving assessment design and practice and can simultaneously develop assessment literacy for pre-service teachers and students (Lin et al., 2022; López-Hernández et al., 2023). Self-motivation and guidance factors by promoters greatly influence the intention of pre-service teachers as future educators (Ciampa & Reisboard, 2024; López-García et al., 2023). Collaborative guidance has a positive impact on pre-service teachers because it can increase the competence and independence of pre-service teachers in developing a teaching system in the classroom (Rasmitadila et al., 2023a, 2023b). Collaborative mentoring emphasizes the important role of mentors in facilitating various learning innovations and problem-solving skills by pre-service teachers. This mentoring also has a positive impact in inspiring authentic responses and uncovering the hidden potential of pre-service teachers (Chaudhry et al., 2023; Chu, 2024). Nonetheless, the application of a more systematic and structured reflection model, such as that offered by the 5F model, still needs to be further developed and implemented in the context of education in primary schools, especially to face the increasingly complex educational challenges of the future. This model differs from other reflective teaching models in that it not only focuses on continuous improvement in teaching, but the 5F model connects feelings of satisfaction in previous learning and provides an emphasis on always future-oriented learning according to the state-of-the-art learning needs in schools. Not only that, after the implementation of the 5F model, pre-service teachers will be accustomed to using a structured and systematic framework to overcome each of their teaching problems.

Based on the existing literature review, there is a clear gap between the importance of reflection in the professional development of pre-service teachers and its implementation which is still limited in the field, especially at the elementary school education level. The 5F-based Self Reflection model proposed in this study offers a more structured solution to increase teachers' reflective capacity, in the hope of having a positive impact on teaching and student development. Therefore, the main objective of this study is to examine how the application of the 5F-based

Self-reflection model can help develop reflective teachers in primary schools while addressing the urgent need to improve the quality of teaching in the future era of education. Thus, the research hypothesis states that the 5F-based Self Reflection model can improve the reflective ability of pre-service teachers who connect the feeling of teaching satisfaction and always focus on making continuous improvements oriented to the latest learning needs in schools, as well as producing a clear framework in overcoming every problem encountered in teaching.

This research is important because the 5F-based Self-reflection model can develop teachers' reflective abilities in a structured and systematic manner. Through the 5F-based Self Reflection model, reflective teachers continue to make continuous improvements which are manifested in the form of learning innovations. Not only that, the Self Reflection model is a cutting-edge guidance model that is oriented to preparing future teachers to follow the demands of the times. Therefore, this research aims to explore how the 5F-Based Self-Reflection model can produce reflective teachers, especially in elementary schools.

METHODS

This research is a Classroom Action Research with the Collaborative Nested Action Research (C-NAR) approach which is also known as guidance action research in classroom action research. In this study, there are two main focuses: first, pre-service teachers who focus on continuous improvement in their learning process, and second, lecturers and teachers who focus on continuous improvement in the guidance process for pre-service teachers (Faisal, F., Sembiring, M. M., Hatmi, E., & Lova, 2024; Faisal et al., 2022, 2024). This approach aims to create effective collaboration between various parties to improve the quality of teaching and learning in the classroom.

The research procedure consists of 4 stages of activities, namely *Design, Implementation, Observation, and Reflection* (D-I-O-R). In simple terms, the D-I-O-R pattern in the study can be seen in Figure 1 below.

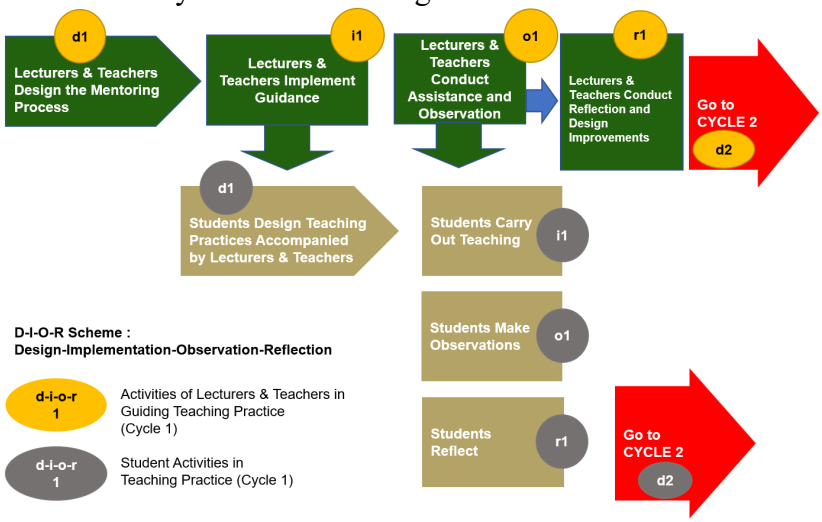

Figure 1. Classroom Action Research with C-NAR Approach

The research population consists of 56 pre-service teacher students of Elementary School Teacher Education at the State University of Medan in 2025 which are distributed to 10 partner schools. The sample of this study consisted of 20 pre-service teachers who were selected using *the purposive sampling* technique which represented the 10 existing partner schools. There are 2 pre-service teachers for 1 partner school, with a division of 1 low-class pre-service teacher and 1 high-class pre-service teacher. This technique was chosen to ensure that the sample taken was students who had criteria relevant to the research objectives, namely pre-service teacher students who were involved in independent teaching practices at partner schools who were guided by the same lecturers and teachers and were represented by the lower and upper classes in elementary schools.

The data collection techniques used in this study are questionnaires, observations, and documentation. Questionnaires were given to pre-service teachers to assess their experience in using the 5F-based Self Reflection model. The questionnaire includes nine key questions that assess the systematic aspects of reflection, the relevance of the model to the teaching experience, and the motivation of pre-service teachers to continue to apply reflection in their learning. Observations were made during the teaching session of pre-service teachers to observe the effectiveness of the implementation of the learning strategies that had been designed. The observation sheet records aspects such as student engagement, student responses to learning strategies, and the effectiveness of interactions between teachers and students. Documentation includes field notes and recordings of the learning process carried out by pre-service teachers. This data is used to support further analysis of the effectiveness of reflection in improving teaching quality.

Data analysis was carried out using qualitative and quantitative analysis approaches. Qualitative Analysis uses data reduction techniques, data presentation, and conclusion drawing to understand the reflection patterns carried out by pre-service teachers based on the 5F-based Self-Reflection model. Quantitative analysis was carried out by calculating the average achievement of pre-service teachers based on data from questionnaires and classroom observations. The achievement value is categorized in the reflection model effectiveness evaluation scale.

The validity of the data was checked through the triangulation method by comparing the results of observations, questionnaires, and documentation. The validity of the reflection of pre-service teachers is strengthened by collaborative analysis with supervisors and among teachers so that the research results can be more objective and can be used for further development.

RESULTS & DISCUSSION

Result

The research with the C-NAR approach that has been carried out aims to explore the implementation of the 5F-based Self-reflection model as an effort to improve the reflective ability of pre-service teachers in elementary schools. Based on the results of research that has been carried out during the practice of field

experience at partner schools, it was found that the 5F-based Self-Reflection model has a significant impact in helping pre-service teacher students improve quality and learning dynamics in the classroom. The results of the study also revealed various findings related to the challenges faced by pre-service teachers and how to adapt this model to overcome the learning problems encountered.

Implementation of the 5F-Based Self-Reflection Model

The implementation of the 5F-based Self-reflection model begins with the identification of problems by pre-service teachers during field experience practices at partner schools. Each pre-service teacher designs learning innovations according to the problems they face and then implements them in the classroom. Observations were made to see the implementation of learning and its impact on the student learning process. Finally, students reflect on the learning that has been carried out using the 5F-based Self Reflection model which includes five phases, namely: Fact, Feeling, Finding, Future, and Framework. The following is the result of the implementation of the 5F-based Self-Reflection model by 5 pre-service teacher students at partner schools.

Table 1. D-I-O-R Pattern Implementation of 5F-Based Self-Reflection Model by Pre-service Teachers 1

Problem	Difficulties in getting students actively involved in learning	
Design (D)	Designing learning strategies that can increase student engagement, namely using a project-based learning model (PjBL) that encourages collaboration	
Implementation (I)	Implement learning with the PjBL model, which allows students to work in groups to solve problems together.	
Observation (O)	Observing the implementation of learning using the PjBL model and analyzing its impact on students' activeness in learning	
Reflection (R)	Reflecting on the application of PjBL in learning using the 5F model	
	Fact	Students show better engagement.
	Feeling	My feeling is that learning has become more interactive.
	Finding	Findings, students tend to be more active.
	Future	In the future, I will continue to integrate this method.
	Framework	Framework, will more often use a collaborative approach.

Pre-service teachers 1 have difficulty in making students actively involved in learning. This pre-service teacher designs learning innovations using a project-based learning model (PjBL) that encourages collaboration between students. Implementation is carried out by dividing students into groups to solve problems together. After making observations, it was found that students showed better engagement. Student 1 felt that learning became more interactive and students were more active in asking questions. Based on these findings, students plan to continue to integrate the PjBL method in future learning.

Table 2. D-I-O-R Pattern Implementation of 5F-Based Self-Reflection Model by Pre-service Teachers 2

Problem	Difficulties in adapting learning materials for different levels of student ability	
Design (D)	Design materials that are flexible and adaptable to students' ability levels, including the use of varied learning media	
Implementation (I)	Carry out learning with more flexible materials and adjust to the level of students' abilities, using tools in the form of videos and interactive modules.	
Observation (O)	Observing the implementation of learning using videos and interactive modules in learning about the adjustment of the material to the level of students' abilities	
Reflection (R)	Reflecting on the difference in students' understanding levels with the 5F model	
	Fact	Some students are still struggling.
	Feeling	My feeling, I need to adjust the method further.
	Finding	Findings, the use of media is more helpful for students with low ability.
	Future	In the future, I will continue to develop customizable materials.
	Framework	The framework will create more adaptive teaching materials.

Pre-service teachers 2 face challenges in adapting learning materials for different levels of student ability. To overcome this, pre-service teachers design flexible materials using a variety of learning media, namely videos and interactive modules. After being applied, it was found that the media helped students with low ability to understand the material more easily. Although some students are still struggling, pre-service teachers are committed to developing more adaptive materials in the future.

Table 3. D-I-O-R Pattern Implementation of 5F-Based Self-Reflection Model by Pre-service Teachers 3

Problem	Difficulty in maintaining student focus during learning	
Design (D)	Designing a more interactive strategy, namely the use of visual media and educational games to maintain students' attention	
Implementation (I)	Carry out learning with the use of visual media, in the form of videos, infographics, and educational games to maintain students' attention.	
Observation (O)	Observing the implementation of learning using videos, infographics, and educational games related to improving student focus during learning	
Reflection (R)	Reflecting on the use of visual media with the 5F model	
	Fact	Students are more focused when the material is presented visually.
	Feeling	My feeling is that learning has become more interesting.
	Finding	Findings, students are more active in asking.
	Future	In the future, I will continue to integrate technology.

	Framework	Outline, I will add a variety of media in learning.

The problem faced by Pre-service Teacher 3 is the difficulty in maintaining student focus during learning. Students design strategies using visual media, namely videos and infographics, as well as educational games to attract students' attention. The observation results showed that students were more focused and actively asked questions during learning. Pre-service teachers feel that learning has become more interesting and are committed to continuing to integrate technology into learning.

Table 4. D-I-O-R Pattern Implementation of 5F-Based Self-Reflection Model by Pre-service Teachers 4

Problem	Challenges in managing effective learning time	
Design (D)	Designing learning with a clearer division of time, as well as determining the priorities of the material that must be taught	
Implementation (I)	Carry out learning with better time management by arranging time for each part of the lesson so that it is not rushed.	
Observation (O)	Carry out observation of the implementation of learning with better time management by arranging time for each part of the lesson so that it is not rushed.	
Reflection (R)	Reflecting on time management with the 5F model	
	Fact	Clearer time management makes learning more structured.
	Feeling	I feel calmer in managing the class.
	Finding	Findings, students are more focused because of more regular time.
	Future	In the future, I will continue to prioritize stricter time management.
	Framework	Outline, I will adjust the lesson plan to the time allocation.

Pre-service teachers 4 face challenges in managing learning time effectively. In overcoming this, students design a clearer division of time and determine the priority of the material that must be taught. After making observations, it was found that better time management made learning more structured and students more focused. Pre-service teachers are committed to continuing to prioritize stricter time management in the future.

Table 5. D-I-O-R Pattern Implementation of 5F-Based Self-Reflection Model by Pre-service Teachers 5

Problem	Lack of students' understanding of the basic concepts of the subject	
Design (D)	Designing strategies to simplify the material and provide more contextual examples to make it easier for students to understand basic concepts	
Implementation (I)	Implement learning with an emphasis on more relevant examples and a more contextual approach so that students can understand more easily.	
Observation (O)	Observing the implementation of learning by simplifying the material and providing contextual examples related to improving students' understanding of the basic concepts of the subject	
Reflection (R)	Reflecting on students' difficulties with the 5F model	
	Fact	Some students still have trouble understanding the concept.
	Feeling	My feelings need further adjustment.
	Finding	Findings, the use of examples is more relevant to helping students with difficulties.

Future	In the future, I will use more analogies.
Framework	Framework, I will adjust to the basic abilities of students.

Pre-service teachers 5 have difficulty in improving students' understanding of the basic concepts of the subject. Pre-service teachers design strategies by simplifying the material and providing more contextual examples so that students can more easily understand the concept. Although some students are still struggling, pre-service teachers find that the use of more relevant examples helps struggling students. Pre-service teachers are committed to using more analogies in future learning.

Results of Analysis of Pre-service Teachers' Response to the 5F-Based Self-Reflection Model

There are nine question items asked to obtain pre-service teachers' responses to the post-learning 5F-Based Self Reflection model, including:

1. Does the 5F model help you in doing systematic learning reflections?
2. To what extent are the stages in this model relevant to your teaching experience?
3. Do you feel that this model can be used in the classroom to improve self-reflection?
4. Do you find it easy to follow the steps in this model during learning?
5. How do you assess the application of this model in the context of classroom learning?
6. Can this model be applied without much modification in daily learning?
7. After using the 5F model, do you feel that your reflection on learning has become more profound?
8. To what extent does this model help you in designing improvements for future learning?
9. Do you feel like this model motivates you to become a more innovative teacher?

The results of the analysis of the response of pre-service teachers to the 5F-based Self-reflection model can be seen in Figure 2 below.

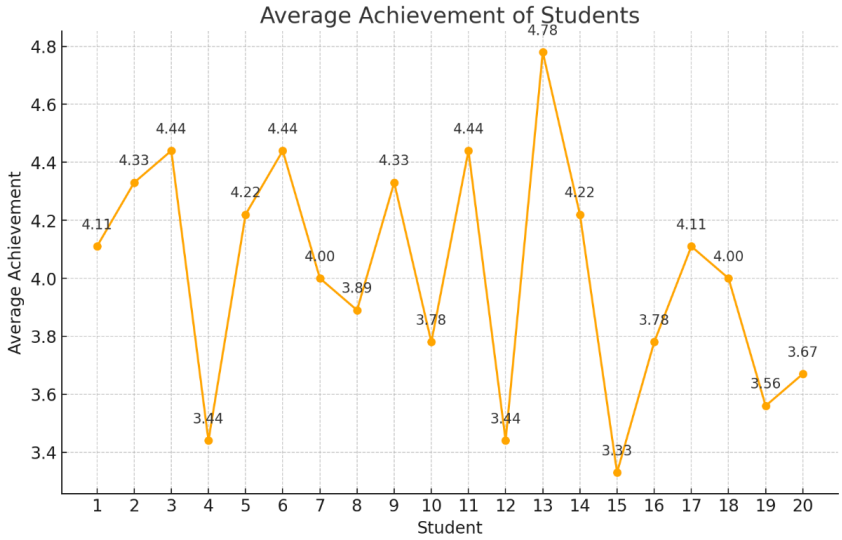

Figure 2. Pre-service Teachers' Response to the 5F-Based Self-Reflection Model

The results of the analysis of pre-service teachers' responses to the 5F-based Self-Reflection model showed very positive results. In general, the average response score of teachers was 4.02 with the category "Excellent" (Table 6). This shows that the application of the 5F model has a positive impact on the development of the reflective ability of pre-service teachers. As an illustration, Pre-service Teacher 1 received an average achievement of 4.11 in the "Very Good" category, while Pre-service Teacher 4, despite showing a slightly lower achievement of 3.44 (the "Good" category), still showed a positive response to this model. This shows that despite the differences in achievement, the majority of pre-service teachers stated that the application of *the 5F-based Self-reflection* model can improve their reflective abilities.

Results of Observation of Reflective Ability of Pre-service Teachers

Five aspects are assessed in measuring the reflective ability of pre-service teachers, following the stages of *the 5F-based* Self Reflection model, including:

1. Fact Phase: Identifying the facts of learning that occurred.
2. Feeling Phase: Analyzing students' feelings towards the learning experience.
3. Finding Phase: Analyzing the findings or lessons learned.
4. Future Phase: Designing the way forward for learning improvement.
5. Framework Phase: Putting together a framework for sustainable development.

The results of the observation of the reflective ability of pre-service teachers using the 5F-based Self-Reflection model can be seen in the following Figure 3.

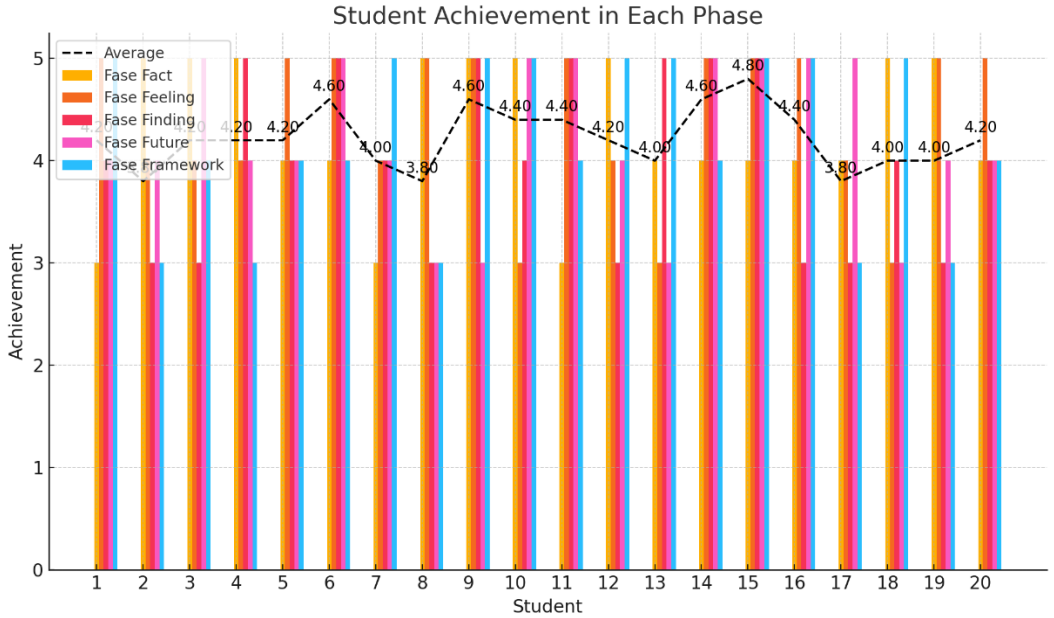

Figure 3. Reflective Ability of Pre-service Teachers Using the 5F-Based Self-Reflection Model

Observation of the reflective ability of pre-service teachers using the 5F-based Self-Reflection model shows that the majority of students managed to achieve the "Very Effective" category. The overall average achievement is 4.2, with the category "Highly Effective". Pre-service Teacher 6, who achieved a 4.6, demonstrated excellent reflective abilities in all phases of reflection, including the

Fact, Feeling, Finding, Future, and Framework phases. In contrast, Pre-service Teacher 8, despite being in the "Good" category with a score of 3.8, still showed significant progress in their reflective abilities. Figure 3 shows the higher reflective ability of the majority of pre-service teachers after applying the 5F-based Self-reflection model. These results show that this model is effective in improving the reflective ability of pre-service teachers in the context of learning, both in terms of problem identification, solution development, and the implementation of more adaptive learning strategies.

Discussion

The application of the 5F-based Self-reflection model in this study aims to explore its impact on the development of reflective skills of pre-service teachers in elementary schools. Reflective teachers are one of the important components in modern teaching because, through the process of reflection, teachers can identify strengths and weaknesses in their teaching practices, as well as design improvements to improve the quality of learning. In this context, the 5F-based reflection model (Fact, Feeling, Finding, Future, and Framework) proposed in this study aims to provide a more systematic and applicable structure for pre-service teachers in developing their reflective competencies.

Referring to the results of the analysis of the response of pre-service teachers to the 5F-based Self-Reflection model, it can be seen that the majority of pre-service teachers give a very positive assessment of the application of this model. The average response achievement of pre-service teachers is 4.02, which is included in the "Very Good" category. This shows that this model is effective in helping pre-service teachers improve their reflective skills. This positive response is also reflected in various questions asked, such as whether this model helps teachers in conducting systematic reflection, the relevance of the stages of the model to the teaching experience, and the extent to which this model can be applied in the classroom to improve the quality of learning.

These results are also in line with findings in the literature that show that a systematic reflection model can have a positive impact on the development of teacher professionalism (Podgórska & Zdonek, 2024; Rodríguez et al., 2021). The professional development in question is not only related to improving pedagogical ability but also to improving the quality of the relationship between teachers and students, which will ultimately affect student learning outcomes (Lim & Nguyen, 2022; Otto & Kerres, 2022).

The results of observation of the reflective ability of pre-service teachers using the 5F-based Self-Reflection model show encouraging results. The majority of teachers managed to achieve the "Highly Effective" category in all phases of reflection, with an overall average achievement of 4.2. This shows that this model can help pre-service teachers develop their reflective abilities more deeply, especially in terms of problem identification, sentiment analysis, findings obtained, and improvement planning for future learning.

The reflection phases in this model help pre-service teachers in analyzing every aspect of the learning they are doing. The Fact phase invites pre-service teachers to identify the facts that occur in learning, while the Feeling phase provides

space for pre-service teachers to analyze their feelings about the teaching experience. The Finding and Future phase encourages pre-service teachers to seek valuable findings from teaching experience and plan improvement measures for the future. The final phase, the Framework, invites teachers to develop a framework that can support continuous development in their teaching practices. Observation of this reflective ability shows that this model can have a significant impact on the development of reflective competencies of pre-service teachers, which follows the findings that teachers' reflective abilities are an important aspect in creating positive changes in education (Buchanan & Mooney, 2023; Lutovac & Flores, 2022).

The results of this observation also show that the majority of pre-service teachers can better cope with the challenges they face during learning after using this reflection model. Even lower-achieving pre-service teachers, such as Pre-service 8 teachers, still show significant progress in their reflective abilities, which suggests that this model can have a positive impact even if it is applied under conditions that are not always optimal. These findings support the findings that suggest that structured and directed reflection can improve the overall learning effectiveness of the outlook (Hill et al., 2024; Nong et al., 2022).

Overall, the results of this study show that the application of the 5F-based Self-Reflection model can help pre-service teachers develop their reflective skills in a more systematic and applicable way. This model not only assists pre-service teachers in analyzing their teaching practices but also provides a foundation for planning continuous improvement in the learning process.

The results of this study make an important contribution to the realm of teacher professionalism development, especially in terms of improving reflective skills through the 5F approach. The finding that the majority of pre-service teachers gave a "Very Good" rating to this model demonstrates its effectiveness in helping teachers reflect on their teaching experiences. Thus, this model can be used as a practical and theoretical reference in teacher training, as well as enriching the literature on reflection strategies in education.

This study implies that educational institutions and teacher training institutions can adopt a 5F-based Self Reflection model as part of the pre-service teacher professional development curriculum. The application of this model has the potential to improve the quality of teaching through increased reflective awareness, which ultimately has a positive impact on students' learning processes and outcomes. In addition, this approach can also be used as an effective self-evaluation tool for teachers in designing more meaningful learning.

The limitations of this study lie in the context of its application, which is still limited to pre-service teachers in elementary schools, as well as the use of qualitative and observational measurement instruments. Therefore, for future research, it is recommended that this model be tested on a broader scale by involving teachers at various levels of education and using a mixed-method approach to produce more comprehensive findings.

CONCLUSION

The development of pre-service teachers' reflective abilities requires a structured, systematic, and contextual approach to form meaningful and sustainable reflection habits in teaching practice. The 5F-based Self-reflection model is present as a conceptual solution that not only facilitates the process of reflection as a whole but also encourages the internalization of reflective values in the teacher's professional identity since the pre-service period. Thus, this model reinforces the conceptual foundation that reflection is not just a passive evaluation of experience, but an active process that encourages self-transformation and continuous improvement of the quality of education. Further research efforts are recommended to explore the long-term impact of the application of this model on student learning outcomes and teaching quality at different levels of education. The research can also examine the application of this reflection model in other educational contexts, including with experienced teachers, as well as integrate collaborative guidance in the reflection process.

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