

Project-Based Learning in Developing Student-Teacher Professional Skills

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In the 21st century, the digital competence becomes increasingly important for student-teachers (teacher candidate) to promote their professional skills. Therefore, it is necessary to have courses that support the achievement of digital competence and emphasize on giving various learning experiences through the Project-Based Learning (PjBL) method. The purpose of this study was to explain the learning experience of English Education Department students on the Instructional Media course and to find out how project-based learning develops student-teacher professional skills in the Instructional Media courses of the English Education Department at Muhammadiyah University of Ponorogo. In this research, the researcher used case study, with interview and documentation as instrument of the research. The subjects of this study were 33 students in the third and fifth semesters of the English Education Department taking the Instructional Media course at Muhammadiyah University of Ponorogo. The research was conducted from December 8, 2022 to January 5, 2023. Based on the results of the research, the researchers found that by implementing PjBL in the Instructional Media course, the majority of students were able to develop teacher professional skills included pedagogic, professional, personal, and social competence. In conclusion, the use of PjBL in instructional media courses has an important role in developing student-teacher professional skills, particularly their digital competence.

KEYWORDS: *PjBL, teacher professional skills, learning experience.*

INTRODUCTION

Education has an important role in life because it is one method for improving the quality of human resources. Through education, it will educate human life and develop its potential. As a result, in order to improve the quality of human resources in education, it is critical to possess knowledge, creativity, an autonomous personality, and to be a more responsible individual. In this regard, the role of the teacher in education is important, one of the roles and abilities that must be possessed by the teacher is the professional skills that have been obtained from a higher education. According to Rahmawati (2021), teachers are considered to have professional skills if they have certain professional qualifications as well as fundamental knowledge and expertise in their profession. Professional skills refer to a teacher's knowledge, creativity, skills, talents, and abilities in the teaching and learning process.

To achieve the professional skills of a teacher, several materials or courses are needed that support this process, such as instructional media courses. According to preliminary research, the courses in the English Education Department at Muhammadiyah University of Ponorogo that help students achieve professional skills have been identified. For instance, the educational profession, student development, curriculum material development, learning methodologies, language assessment and evaluation, and instructional media. A teacher is taught how to create teaching materials and teaching and learning media for teaching in the Instructional Media course, which includes the purpose of teaching materials and media in learning English. There are several professional skills that support this instructional media course. One of the professional skills that support this Instructional Media course is that the teacher can develop learning methods and materials, be creative and innovative in the application of teaching materials, and most importantly, be able to use information technology in the learning experience. Then, a lecturer will select a learning media development project, often known as project-based learning (PjBL).

PjBL is a learning approach that emphasizes the learning process with a final outcome in the form of a project, making students the subject or center of learning. Projects are complex tasks based on challenging questions or problems that involve students in design, problem-solving, opportunity decision-making, or investigative activities; allow students to work relatively autonomously over extended periods of time; and culminate in realistic products or presentations (Stanley, 2021). As stated above, strives to equip students to grasp their new responsibilities as people who have increasing responsibility for addressing issues. As a result, the activeness of students has a substantial impact on the success of learning.

In today's era, PjBL could improve 21st-century skills by involving students in real-world problems. According to Mulyono (2020), critical thinking, creativity, collaboration, and communication are the competencies required of students in the 21st century. As a professional teacher, the teacher should be able to develop students' critical thinking skills, specifically the ability to understand a complex problem and resolve it. Furthermore, the teacher should develop the students' ability to be creative, conceive, implement, and communicate new ideas in the development of various new innovations. As a role model, teachers must also demonstrate collaboration skills, specifically the ability to collaborate in various responsibilities and roles so that students can achieve common goals. Moreover, teachers should be able to teach students how to communicate effectively and efficiently as the key to success in the learning process because there is no way to solve problems without effective communication. Therefore, it is necessary to develop a learning model approach that answers the challenges of the 21st century; one such approach is project-based learning (PjBL).

According to the requirements of the 21st century, the learning process is becoming increasingly important for students to have soft skills. As a result, mastery of academic knowledge is emphasized in 21st century learning, which strives to empower students with a variety of abilities based on PjBL. To develop teachers' professional skills, students can explore academic subjects by creating projects, identifying solutions, and producing products that demonstrate what they have learned. Based on the explanation above, the researcher is interested in analyzing the phenomenon of the role of project-based learning on student-teacher professional skills. Then, the researcher conducts the research entitled "Project Based Learning in Developing Student-Teacher Professional Skills; A Case on the Instructional Media Course at English Education Department Muhammadiyah University of Ponorogo".

LITERATURE REVIEW

2.1 Teacher Professional Skill

Professional teachers are teachers who have certain components that comply with the standards of the teaching profession. Professional teachers always master the topic or subject

matter that will be taught in teaching and learning interactions, and teachers constantly increase their skills in terms of knowledge and experience. Teachers with professional competence will be able to establish a conducive, innovative, effective, and enjoyable learning environment in order to optimize the student learning process.

2.1.1 Definition of professional teacher

A teacher is a vital figure in education, possessing a diverse set of values and abilities that can transform challenges into opportunities. They serve as an educator or learning agent, facilitating, motivating, and inspiring students' learning (Dudung, 2018). Professional teachers possess educational qualifications and competence as learning agents, which are acquired through professional education. Teachers' professional skills are achieved through mastering learning materials and guiding students towards national education standards (Ramadhani et al., 2021). In today's digital world, students receive learning experiences from various sources, including books and electronic media (Maghfiroh, 2020). Technological development has impacted people's lifestyles and learning experiences, and the world is entering the era of globalization with rapidly developing information technology. Teachers must be able to use electronic media as a tool to support the learning process and improve learning outcomes. Professional teachers play a key role in the learning process, requiring educational credentials and competence.

2.1.2 Professional teacher principles and requirements

Hatta (2018) outlines eight principles and five requirements for a professional teacher. These principles include having abilities, goals, occupations, and values, being committed to advancing education, having an academic reputation, acquiring necessary expertise, being responsible for professional responsibilities, allowing for lifelong learning, legalizing protection during professional duties, and having a professional organization to regulate issues related to teachers' obligations.

Requirements for a professional teacher include a minimum academic qualification of a bachelor's degree or four diplomas, pedagogic, personality, social, and professional competence, as well as teacher competence. Teachers must be certified as educators, maintain physical and mental health, and have the competence to achieve national education goals. Teachers must also meet the requirements for academic and teacher certification at least ten years after the enactment of the Law.

2.1.3 Teacher competence

Hatta (2018) identifies four teacher competencies: personal competence, social competence, professional competence, and pedagogic competence. Personal competence refers to a teacher's moral ideals and positive attitude towards students, which can have a significant impact on students and society. Social competence involves the ability to communicate effectively with students, parents, and the community. Professional competence involves mastering source material and teaching methods that are understandable and do not generate difficulty.

Pedagogic competence is the capacity of a teacher to manage student learning in the classroom. It distinguishes teachers from other professions and predicts the success rate and outcomes of the learning process. There are nine pedagogical abilities that every teacher should be aware of and understand: mastering teaching materials, managing learning programs, managing class, using educational media, acknowledging the educational foundation, managing teaching and learning interactions, assessing students for teaching purposes, understanding the role of counseling guidance, and understanding and managing school administration.

Teachers must be able to understand and manage various components of learning

interactions, including teachers, students, techniques, technological tools, facilities, and learning objectives. They must also assess student achievement, understand the role of counseling guidance, and manage school administration effectively. By participating in these programs, students can optimize their potential and become responsible individuals for their future. Overall, teachers must possess these competencies to effectively operate their educational institutions.

2.2 Project Based Learning (PjBL)

Project-based learning (PjBL) is a learning approach that focuses on projects, allowing students to work independently over extended periods and culminate in a realistic product or service presentation. It enhances students' inquiry process, problem-solving, creative thinking, and information analysis skills (Yang et al., 2021). PjBL differs from traditional teaching methods like teacher-led instruction or textbook reading. Students explore on their own, using structure, resources, and direction to determine the best approach to learn content (Stanley, 2021).

2.2.1 Key features of the PjBL

Harmer & Stokes (2014) highlight six key features of Practical and Creative Learning (PjBL): learning by doing, real-world problems, the role of the tutor as a guide-on-the-side, interdisciplinarity, collaboration and group work, and an end product. Learning by doing involves students actively engaging in practical and creative learning experiences. Real-world problems involve students solving relevant issues within a topic or problem, while the tutor acts as a facilitator, providing guidance and support. Interdisciplinarity allows learners to use concepts and abilities from multiple disciplines in a single product. Collaborative learning encourages group work and problem-solving, challenging misunderstandings and building communication skills. An end product is a student-created final product that demonstrates competency in the PjBL unit's fundamental material and competencies, allowing students to apply their learning to something bigger than themselves.

2.2.2 Advantages of PjBL

Project-based learning (PjBL) has several advantages, Amissah (2019) highlights six advantages of PjBL: 1) Promotes academic achievement and problem-solving, 2) Improves project management, 3) Develops equity collaborative skills, 4) Promotes motivation and self-confidence, 5) Promotes teacher satisfaction and reward, and 6) Allows revisiting feedback and making comments. By incorporating diverse learners and incorporating project alternatives, PjBL can enhance learning, problem-solving, project management, equity collaborative skills, motivation, self-confidence, teacher satisfaction, and feedback.

METHODOLOGY

3.0 Research Design

The researcher utilized a qualitative research design, specifically a case study, to analyze an individual unit, such as a person or community, focusing on developmental factors and their environment. Case studies are an empirical method for investigating contemporary phenomena in depth and within their real-world context, especially when the boundaries between phenomenon and context are unclear. They are useful for investigating specific issues or situations in great detail.

3.1 Technique of Data Collection

Data collection techniques are crucial for research as they ensure data meets standards (Sugiyono, 2015). In this study, the researcher analyzed the role of PjBL in developing student-teacher professional skills and learning experience in the Instructional Media course. Data was

collected from third and fifth semester students in the English Education Department at Muhammadiyah University of Ponorogo using interviews and documents as instruments.

3.2.1 Interview

The present study will apply structured interviews that before conducting interviews, the researchers prepared research instruments in the form of written questions. The question posed is focused on project-based learning in instructional media courses in order to develop student-teacher professional skills and learn more about how students learn in the instructional media course of the English Education Department at Muhammadiyah University of Ponorogo. In order to obtain more accurate data, the researchers interviewed not only students but also lecturer during the interview process.

3.2.2 Documents

Documentation is used to collect and analyze data and as a complement to the data that has been collected from the interview process. The documentation used in this research includes the portfolio of student projects or assignments and the students' score.

3.2 Data Analysis

The researcher used qualitative descriptive research to analyze data, following Sugiyono's three steps: data reduction, data display, and conclusions drawing. Data reduction involves selecting, identifying, classifying, and coding important data. This research aims to explain students' learning experiences and explore how project-based learning develops student-teacher professional skills in the English Education Department at Muhammadiyah University of Ponorogo.

Data display involves presenting the data in various forms, such as brief descriptions, infographics, category linkages, and flowcharts. This helps researchers understand the data and plan future research based on the findings. The researcher compiled the reduced data into narrative text sentences to make it easier to understand.

Conclusion drawing is the third step in the research. The researcher produced conclusions based on interview data and research outcomes, providing an easy-to-understand summary statement referencing the research's purposes. This qualitative descriptive research approach helps researchers better understand and plan future research.

RESULTS AND DISCUSSION

4.1 RESULT

4.1.1 The students' learning experience in the Instructional Media Course

The researcher conducted open interviews to assess the students' learning experience in an instructional media course. The learning model used varied, ranging from technology-based lectures to face-to-face classes. Four students felt enthusiastic about using technology in lectures, while one student did not like the lecture method.

The lecturer used Google Classroom and bebas.umpo.ac.id for online classes, and Google Meet for online classes. Students enjoyed attending lectures because technology made things easier for them, allowing them to look up information online or watch video tutorials. The class was fun because they learned how to manage a learning management system (LMS) and create innovative applications.

The second question asked about the learning experience of students in the Instructional Media course at the English Education Department UMPO. Four students gained many benefits

from attending lectures, while one student felt less satisfied due to the monotonous lecture method. However, the course was facilitated by a qualified lecturer, making the material presented well.

The majority of students enjoyed the learning model used, with students gaining in-depth knowledge about technology for their future careers as teachers. They used Google's search and examples given by the lecturer to find references for assignments and videos. Students prepared materials using Canva to make lessons attractive and used Google's search to find references.

During lectures, students expressed that the knowledge gained was helpful in developing their abilities to face the next life when they became teachers. The lecturer's qualifications in his field allowed students to gain valuable knowledge about technology and the learning process. In conclusion, the majority of students enjoyed the instructional media course, with students finding it enjoyable and useful for their future careers. The lecturer's qualifications and the use of technology in the course helped students develop their skills and prepare them for the future.

4.1.2 The implementation of PjBL in Instructional Media Courses to develop Student-teacher Professional Skill

The text explores the development of student-teacher professional skills through project-based learning (PjBL) in instructional media courses. The first question focuses on the preparation of tasks or project plans for students, which is crucial for successful completion. Students should understand the materials and look for references on platforms like YouTube or Google before giving assignments. The lecturer should explain the material in advance and be open to explaining it in a group discussion forum or meeting.

The second question concerns how students' efforts to complete assignments and projects are managed. As many as four students always paid off assignments and made completion deadlines to ensure timely submission. One student completed the assignment one day before the submission deadline determined by the lecturer. The lecturer also encourages and motivates students to complete assignments on time by setting a time limit, providing encouragement and motivation, and setting a time limit depending on the level of difficulty of the task.

The fourth question asks how the lecturer assesses, evaluates, and gives feedback on the results of the assignments and projects. The lecturer usually assesses, evaluates, and provides feedback on student assignments directly or through the learning management system (LMS). A score is given based on their activeness in class and submitting assignments that have been given. If the assignments have been done, the assignments collected are evaluated and then given feedback by the lecturer. The lecturer gives an assessment by looking at the contents of the assignments that have been done, then gives a score free of charge. Then, they are evaluated one by one, and then the lecturer gives feedback such as criticism and suggestions based on the results of completing the assignment.

The assessment is done through the learning management system (LMS) based on the completeness of the assignments carried out by students, such as the components that must be fulfilled in the project, and also on the activeness of students in lectures. The lecturer gives the feedback and evaluations in bebas.umpo.ac.id or directly during face-to-face lectures. The lecturer also adds that assessment is adjusted to the student activities, such as daily assignments, discussions, middle test, and final test. Later all scores will be automatically accumulated by the system, and the lecturer will input the score using the formula according to the assessment rules that exist in our university.

The fifth question discusses the benefits of using the PjBL model in the Instructional Media course to develop skills as prospective professional teachers. The results of the interviews showed that students gained many benefits from the innovative use of technology, especially in education. They also gained knowledge related to managing teaching materials with the use of technology, improved creativity and critical thinking abilities, and supported the search for material and

development of problem-solving and critical thinking skills.

Project-based learning in instructional media courses has provided students with valuable knowledge and skills in various aspects of their lives. The use of technology in education, the use of technology in learning, and the use of learning management systems have significantly enhanced the students' ability to learn and grow as professionals.

Beside interview, the researcher also used documentation to support the data. The researcher collected documentation in form of assignment portfolios and scores obtained by students in instructional media courses and sourced it from the bebas.umpo.ac.id system.



Figure 1. Material Submission

The picture showed that the lecturer delivered course material at bebas.umpo.ac.id, then explained the material using Google Meet, and sent the link via the WhatsApp group. After delivering the material, the lecturer opened a discussion forum that discussed the material that had been delivered, and then the lecturer provided feedback to be filled in by students as an evaluation of the meeting that had been held.



Figure 2. Discussion Forum

The picture showed that the lecturer opened a discussion forum at the end of the learning meeting, and then students responded to questions that had been given by the lecturer. The discussion took place with the aim to establish interaction between students and lecturer, as well as developing students' ability to socialize properly.



Figure 3. Submission of Assignments

The picture showed that the lecturer gives assignments or projects that must be completed

by students. The given assignment aimed to determine the abilities of students after they had attended the lectures. Then the lecturer provided information about when students could start accessing assignments and the deadline for submitting assignments, with the goal of encouraging students to be disciplined in completing the assignments that have been assigned.

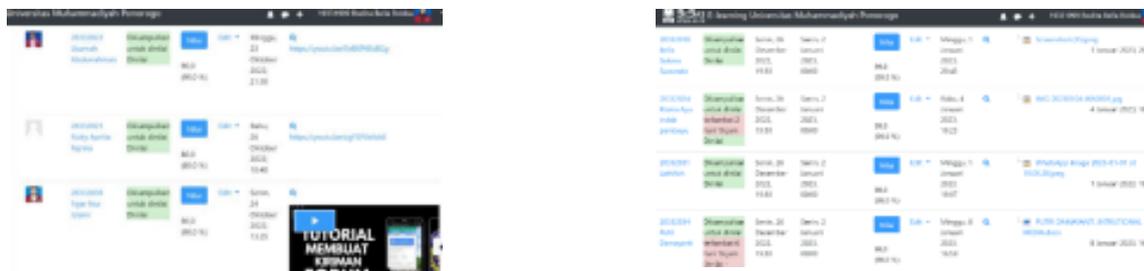


Figure 4. Assignments Collection and Scoring

The picture showed that students submitted their assignments or projects by attaching the results of their projects in form of YouTube links or images. Then the lecturer immediately gave a score based on the assignments that had been submitted by the students. The score that has been given showed that students understood the material that has been delivered by the lecturer, as evidenced by the assignment score of more than 80. Then, by giving a score, students could find out their ability to understand the material and completed the assignments that had been given by the lecturer.



Figure 5. Assignment Feedback

The picture showed that the lecturer provided feedback on assignments that had been completed by the students, the lecturer appreciated and provided criticism and suggestions for student assignments, and also asked whether the students experienced problems when completing assignments or projects. The lecturer's goal in providing feedback was to give a score and evaluated, so the students could identify and corrected deficiencies in completed assignments or projects.

DISCUSSION

4.2.1 The students' learning experience in the Instructional Media Course

In the instructional media course, there were various kinds of materials and assignments or projects given to students. Assignments or projects given during the lecture will certainly produce a variety of learning experiences. Through learning experiences, students can develop their competencies and abilities.

Based on the findings, the researcher found that the lecturer of the instructional media course used the learning management system (LMS) for material delivery, interaction during the learning process, and task submission tool. As a result, the lecturer could easily plan courses, and students could access learning materials and assignments whenever and wherever they wanted. The similar response was also delivered by Hardika (2021), the LMS function was to increase

learning motivation in lectures and increase the effectiveness and efficiency of delivering material. Bhuana (2022) also stated that the LMS can help teachers make it easier to check or assess assignments. The same thing was also conveyed by Simbolon (2022), the learning management system has many good and positive influences on the conditioning of learning and teaching during learning.

Meanwhile in synchronous online class, the lecturer used Google Meet to deliver and explained the material. In addition, the lecturer was able to manage classes and control assignments more effectively than the students who studied independently. As said by Adhityo (2021), online synchronous learning could encourage interaction and collaboration between students and teachers. The same response was also conveyed by Fadhilah (2021), with synchronous learning, students can receive feedback directly from fellow student or teacher. Whereas for face-to-face learning, material explanations were carried out directly in an offline class. So, the students were able to interact, discuss, and practice directly related to the material in class. As stated by Graham (2019), with face-to-face learning, lecturer could provide feedback and respond directly to questions.

After giving the material, the lecturer gave assignments through bebas.umpo.ac.id, these assignments were usually in form of making teaching materials by using various media as well as learning materials in form of video presentations and then uploaded them on the bebas.umpo.ac.id or YouTube. As a learning media, the use of ICT-based learning was able to increase student interest and also provided many benefits to learn activities or processes. As stated by Rulviana (2019), the use of ICT certainly had a function, namely as a tool in learning media, learning facilities, and places, as a source of learning, and as a means of increasing professionalism.

In addition, the learning process took place comfortably and pleasantly. As evidenced by student answers, the majority of students enjoyed the various learning methods used by the lecturer in instructional media courses. As stated by Hasan (2019), the use of technological media in learning could significantly influence the teaching and learning process and have an impact on student academic performance. Another response was also conveyed by Himayaturrohman (2019), that fun learning indeed required many things, such as mastery of learning methods and learning media.

It was equally important that students felt comfortable with a quality learning environment. Students had been facilitated by the existence of lecturer who were highly qualified in his fields. The material was presented in detail and clearly, so the students easily accepted and understood the material that had been presented. A similar response was also conveyed by Soraya (2018), by having lecturers who have extensive knowledge in accordance with their fields, it would be very easy to motivate students.

From several learning experiences that had been given by lecturer, it had been shown that students actively participate in online or face-to-face learning activities. This was shown by the routine information on student activities that was collected automatically by the learning management system, including student attendance, participation in class, participation in discussion forums, completion of assignments or projects, the middle test, and the final test. When students were active in each learning, it would affect their understanding of the material and their soft and hard skills. When students were not actively engaged in their learning, their quality or ability was not good. A similar response was also conveyed by Bekkering & Ward (2020), student performance in classes could be affected by lacked of attendance and attention while in class and student participation was measured by the scores for attendance and activeness.

4.2.2 The implementation of PjBL in Instructional Media Courses to develop Student-teacher Professional Skill

Based on the findings, the researchers identified four skills in PjBL in the Instructional Media course to help student teachers mastered the professional skills of teachers. The four competencies were pedagogic competence, professional competence, personal competence, and social competence. As stated by Febriana (2019), there are generally four teacher competencies, namely pedagogical competence, professional competence, social competence, and personality competence. The similar response was also conveyed by Gultom (2022), teachers must have four competencies to become professional teachers, including pedagogical competence, personal competence, professional competence, and social competence.

According to findings, students who took instructional media courses learn how to organize and managed learning programs. This was indicated by the existence of several assignments given by lecturer, such as designing teaching materials and making learning videos carried out through a learning management system (LMS) or other learning media. The students also prepared materials by utilizing several sources and applications as references. As said by Sudargini (2020), in terms of pedagogic competence, professional teachers should have the ability to design the material, media learning, learning strategies, and classroom management.

Whereas the teacher professional competence was broad and in-depth mastery of learning material, the teacher's competency includes planning, implementing, and evaluating learning according to their area of expertise. A similar response was also expressed by Susanto (2020), as teacher training students who would produce prospective teachers must have professional competence, one of which was being able to compile teaching materials. Another statement was also delivered by Ramaliya (2018), professional competence includes expertise in the field, being able to master the teaching materials that must be delivered, as well as the methods used.

In addition, to become a teacher who has professional skills, it was necessary to have personal competence. Personal competences were competencies related to the teacher's own personal behavior that must reflect noble values in the teacher's daily behavior. The same thing was stated by Wardawati (2018), the teacher's personality competence was the ability possessed and rational behavior displayed in carrying out the assigned tasks. The similar statement was also conveyed by Bakhru (2018), a teacher's personal competence included having good insight, resilience, creativity, and composure. In addition, the teacher should be patient, enthusiastic, energetic, and open-minded to improve bonding with students. Based on the statement above, it could be concluded that personality competence refers to the personal behaviors of a teacher, such as responsibility, respect, authority, independence, and discipline.

During instructional media lectures, the researcher also discovered students' social competence. Social competence was defined as the capacity to communicate, socialize, collaborate, and contribute to others. As stated by Ahmad (2019), a teacher's social competence was the capacity to communicate and engage successfully and efficiently with students, teachers, parents, and the wider community.

Based on the results obtained, the researchers found evidence that students participated in the discussion forums provided by the lecturer. In the discussion forum, students were encouraged to answer questions that had been given by lecturer, or asked about material or assignments that they do not understand. In addition, students and lecturer could also socialize during face-to-face lectures. As stated by Jamin (2018), that the communication presented by the teacher in a relevant learning process would provide great opportunities for students to obtain better learning outcomes.

Based on the findings, the instructional media course aimed to develop students' abilities to be creative and innovative in developing and utilizing various media to facilitate language teaching. In the instructional media course, several materials are taught, such as making learning media using technology in the form of video, audio, or interesting presentations. Students are also taught to design and compile teaching materials using a learning management system (LMS). Therefore, students are expected to be able to develop relevant learning media and master technology to develop their abilities as prospective professional teachers. However, because

assignments or projects were completed individually, collaboration and groupwork between students had not been carried out.

CONCLUSION

The research findings indicate that students gained various learning experiences through instructional media courses, including synchronous discussions in online learning using Google Meet, asynchronous discussions using learning management systems (LMS), synchronous discussions in offline classes, completing assignments or projects using LMS, and designing and managing the learning process using LMS. These experiences improved students' teaching and learning skills, leading to the development of four teacher competencies: pedagogic competence, professional competence, personal competence, and social competence.

Pedagogic competence involved proper management of student learning processes, organizing and managing learning programs, and using various technologies and media. Professional competence involved learning about educational innovation, using technology in learning, and working in a planned manner. Personal competence involved discipline, polite communication, and participation in discussion forums provided by LMS and face-to-face lectures in class.

Social competence is crucial for professional teachers to communicate effectively and efficiently, affecting the quality of learning and student motivation. Overall, the implementation of PjBL in instructional media courses can develop student-teacher professional skills and enhance the quality of learning for students.

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