Educate
JURNAL TEKNOLOGI PENDIDIKAN
P-ISSN 2527-7677
E-ISSN 2614-8331
Vol. 10, No. 2, JULY 2025, pages. 286-305 DOI: 10.32832/educate.v10i2.21121

IMPLEMENTATION OF THE PJBL MODEL IN THE EDUCATIONAL TECHNOLOGY STUDY PROGRAM COURSE FIP UNM

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Abstrak

Penelitian ini dilatarbelakangi oleh kebutuhan akan inovasi pembelajaran yang berpusat pada mahasiswa untuk meningkatkan kemampuan kolaboratif dan partisipatif sesuai tuntutan Indikator Kinerja Utama (IKU) Nomor 7 di perguruan tinggi. Permasalahan utama yang diangkat adalah implementasi model *Project-Based Learning* dalam menembangkan keterampilan kolaborasi, partisipasi, serta soft skills mahasiswa program studi Teknologi Pendidikan, Fakultas Ilmu Pendidikan, Universitas Negeri Makassar. Penelitian ini bertujuan untuk menganalisis pelaksanaan model *Project-Based Learning* pada mata kuliah Pameran Teknologi Pendidikan dan Seminar Permasalahan Teknologi Pendidikan. Pendekatan penelitian yang digunakan adalah kualitatif dengan metode survey, observasi, studi dokumen, dan wawancara mendalam. Populasi penelitian adalah seluruh mahasiswa yang mengambil mata kuliah terkait, dengan sampel sebanyak 168 mahasiswa dari 174 yang terdaftar, serta dosen pengampu mata kuliah Pameran Teknologi Pendidikan dan Seminar Permasalahan Teknologi Pendidikan. Data dikumpulkan menggunakan instrumen yang telah diuji validitas dan reliabilitasnya, kemudian dianalisis secara deskriptif. Hasil penelitian ini menunjukkan bahwa penerapan model *Project-Based Leaning* mampu meningkatkan keterlibatan, kolaborasi, dan partisipasi mahasiswa, meskipun masih ditemukan tantangan seperti ketidakseimbangan kontribusi dan kendala penggalangan dana. Kesimpulan penelitian ini menegaskan bahwa model *Project-Based Learning* yang diterapkan dapat membangun kompetensi kolaboratif dan partisipatif mahasiswa, namun perlu dukungan dan strategi lanjutan untuk mengatasi hambatan yang ada.

Kata kunci : Model PjBL; Mahasiswa; Teknologi Pendidikan.

Abstract

This research is motivated by the need for student-centered learning innovations to improve collaborative and participatory skills in accordance with the demands of Indikator Key Performance Indicators Number 7 in higher education. The main problem raised is the implementation of the Project-Based Learning model inn developing collaboration, participation, and soft skills of students in the Educational Technology Study Program, Faculty of Education, Makassar State University. This study aims to analyze the implementation of the Project-Based Learning model in the Educational Technology Exhibition and Educational Technology Problems Seminar courses. The research approach used is qualitative with

Submitted: 23-07-2025 Approved: 29-07-2025 Published: 31-07-2025

Citation: Amir, N. A., Arnidah, & Febriati, F. (2025). Implementation Of The PjBL Model In The Educational Technology Study Program Course FIP UNM. Educate: Jurnal Teknologi Pendidikan, 286-305.

survey methods, observation, document study, and in-depth interviews. The research population is all students taking related courses, with a sample of 168 students out of 174 registered, as well as lecturers teaching the Educational Technology Exhibition and Educational Technology Problems Seminar courses. Data were collected using instruments that have been tested for validity and reliability, then analyzed descriptively. The results of this study indicate that the implementation of the Project-Based Learning model is able to increase student engagement, collaboration, and participation, although challenges such as imbalance in contributions and obstacles to fundraising are still found. The conclusion of this study comfirms that the Project-Based Learning model applied can build students' collaborative and participatory competencies, but further support and strategies are needed to overcome existing obstacles.

***Keywords**: Project-Based Learning Model; Students; Educational Technology.*

INTRODUCTION

Education in the 21st century is no longer sufficient in terms of mastering knowledge content; it must also integrate critical thinking, communication, collaboration, and creativity skills. In line with these needs, higher education institutions are required to equip students with integrative and applicable competencies. One strategic policy supporting the transformation of learning at the university level is the implementation of Key Performance Indicator (KPI) Number 7, established by the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia. Specifically, KPI Number 7 emphasizes the importance of implementing learning that enhances collaborative and participatory skills, one of which is through project-based learning (PBL).

The Project-Based Learning model places students at the center of learning, actively involved in planning, implementing, and completing a project based on real-world problems. PjBL not only provides space for exploring academic concepts but also fosters teamwork skills, decision-making, conflict management, and collective responsibility. In other words, PjBL aligns with the student-centered learning approach that encourages full student engagement in the learning process.

Previous research has shown that PjBL has a positive impact on the development of student competencies. Lestari (2022) found that "the PjBL model can significantly improve the four pillars of 21st-century skills (4C): Critical Thinking, Communication, Collaboration, and Creativity." Additionally, this model also impacts improvements in self-efficacy, conceptual understanding, and learning outcomes. Hendra Cipta (2021) added that "PjBL can enhance students' active participation in group work, both in terms of physical involvement and the contribution of ideas and shared responsibility." Meanwhile, Gandaf Kurniawan and Muh. Sholeh (2023) emphasizes that the cooperative approach underlying PjBL has a strong influence on

enhancing social interaction, active participation, and student learning independence. According to Prabowo (2020), one of the learning models within the scientific approach that can motivate students, both individually and in groups, is the PjBL (Project-Based Learning) model.

However, most of these studies focus more on learning outcomes or quantitative improvements in students' final grades. Studies that specifically examine how the PjBL model is implemented in real-world classroom settings, particularly in fostering students' collaborative and participatory skills, remain limited. Yet, the success of this model heavily depends on how instructors design instructional plans, how group work processes are managed, how evaluations are conducted, and to what extent students are actively engaged throughout the process.

At the University of Makassar (UNM), the Educational Technology Study Program has implemented a project-based learning model in a number of courses, including the Educational Technology Exhibition and the Educational Technology Issues Seminar. Both of these courses explicitly require students to undertake large-scale real-world projects, involving role distribution within work teams, interaction with external experts, logistical planning, and the execution of events that integrate academic, technological, and creative elements. This makes both courses important subjects for examining how the Project-Based Learning model is implemented, as well as how students develop their collaborative and participatory skills through hands-on practice in the field.

However, there has been no previous research that comprehensively analyzes the implementation of Project-Based Learning in these two courses using a qualitative approach, especially one that focuses on triangulation between instructional design (RPS), project implementation, and student challenges during teamwork. Therefore, a study is needed that not only examines the final learning outcomes but also delves deeply into the process of planning and implementing project-based learning.

This study was conducted to address these needs. Using a descriptive qualitative approach, this study aims to analyze: (1) how lecturers design PjBL instructional models through RPS, (2) how PjBL models are implemented in the classroom learning process, and (3) what challenges students face in improving their collaborative and participatory skills. Data was collected through documentation of RPS and activity proposals, interviews with lecturers and students, and analysis of exhibitions and seminars conducted by students.

The novelty value of this research lies in its triangulation and contextual approach to evaluating the implementation of PjBL in higher education, particularly in the field of Educational Technology. This study not only presents a report on the success of the learning program but also critically examines how project-based

learning strategies can be utilized as a tool to enhance students' soft skills, as well as identifies real challenges that need to be addressed in its implementation. The results of this study are expected to serve as an academic and practical reference for curriculum development, enhancing faculty capacity, and designing more adaptive and contextual collaborative learning models.

RESEARCH METHOD

This study uses a descriptive qualitative approach that aims to gain an in-depth understanding of the implementation of the Project-Based Learning (PjBL) model in improving students' collaborative and participatory skills in courses at the Educational Technology Study Program, Faculty of Education, Makassar State University. This approach was chosen because the research focuses not only on learning outcomes but also on the process, group dynamics, and students' subjective experiences, as well as instructors' instructional strategies.

The focus of this study is to comprehensively examine the implementation of the Project-Based Learning model in the context of the Educational Technology Exhibition and Educational Technology Issues Seminar courses at the Faculty of Education, Makassar State University. This study focuses on three main aspects. First, how instructional design is developed by instructors in the application of the Project-Based Learning model, including the development of the Semester Learning Plan, selection of materials, learning strategies, and evaluation methods that support active, collaborative, and participatory student engagement. Second, the implementation of the Project-Based Learning model in classroom learning activities, both online and offline, emphasizes the role of lecturers as facilitators and student participation in completing projects as a team based on PjBL principles. Third, the challenges or obstacles encountered during the implementation of the PjBL model, particularly those related to the development of students' collaborative and participatory skills, such as uneven distribution of roles, difficulties in group communication, and poor time management. By examining these three aspects, this study aims to obtain a comprehensive understanding of the implementation of the Project-Based Learning model in promoting active learning that aligns with the learning outcomes required in the 21st-century education era.

This research was conducted at the Faculty of Education, Makassar State University. The researcher chose the Educational Technology Study Program as the object of research in order to obtain a comprehensive overview and accurate information regarding the implementation of the Project-Based Learning model in improving students' collaborative and participatory skills. The researcher selected the Educational Technology Study Program as the research location because, based on

the problem identification results, the Educational Technology Study Program is one of the programs that has already implemented the Project-Based Learning model, and the characteristics of the courses in the Educational Technology Study Program involve projects in developing learning media and curriculum.

The research subjects consisted of lecturers and students who took the Educational Technology Exhibition and Educational Technology Issues Seminar courses in the odd semester of 2024/2025. Informants were selected purposively based on their active involvement in the planning and implementation of project-based activities. Data collection was conducted using three main techniques: (1) in-depth interviews with course instructors and students, (2) document analysis of the Semester Learning Plan (SLP), activity proposals, and event manuals, and (3) direct observation of project activities such as seminars and exhibitions. The instruments used included semi-structured interview guidelines, document analysis guidelines, and observation sheet

The implementation procedure was carried out in stages, starting from the collection of learning documents, conducting interviews, and analyzing student activity documents. The data were analyzed using data reduction, data presentation, and conclusion-drawing techniques about the Miles and Huberman model. In this study, triangulation techniques were used to verify the validity of the data by comparing information from various data sources, such as students, lecturers, and academic documents, to ensure the consistency of the findings. These triangulation techniques used several data collection methods, such as observation and document analysis, to obtain a more holistic understanding.

The data analysis technique in this study was conducted interactively and repeatedly through the stages of data collection, data reduction, data presentation, and conclusion drawing. This study used a survey method to collect data on the collaborative and participatory abilities of Educational Technology students, Faculty of Education, Makassar State University in implementing the Project-Based Learning model -Based Learning model, using a research instrument in the form of a questionnaire distributed to respondents, namely students who had participated in the implementation of the Project-Based Learning model, which was then analyzed using descriptive and inferential data analysis techniques, to determine the extent of students' collaborative and participatory abilities in the implementation of the Project-Based Learning model. Additionally, this study also employs observation as a data collection technique, involving direct observation of students' activities during the learning process, as well as recording and analyzing data obtained through field notes, photos, and videos, which are then analyzed using qualitative data analysis techniques, namely content analysis and thematic analysis.

RESULTS AND DISCUSSION

A. Research Results

The data for this study were collected through preliminary observations, interviews, and documentation conducted by the researcher to gather data on the implementation of the Project-Based Learning Model in the Educational Technology Study Program at the Faculty of Education, Makassar State University. The results of the initial observation indicate that learning in the Educational Technology Study Program at the Faculty of Education, Makassar State University, has utilized a student-centered learning approach that enhances students' collaborative and participatory skills. However, further research is needed to analyze whether the implementation of the Project-Based Learning model aligns with its principles and is effective in improving students' critical thinking and collaborative skills. The researcher directly participated in the observation activities conducted on May 19–21, 2025, during the implementation of the Educational Technology Exhibition and Educational Technology Issues Seminar course projects. Over the three days, the researcher conducted direct observations at the AP Pettarani Hall to monitor the ongoing project activities. Researchers monitored and observed the level of activity and collaboration of students who served as committee members in project activities, focusing on whether the Project-Based Learning model could increase the active participation of all committee members. Researchers selected the courses “Educational Technology Exhibition” and “Educational Technology Issues Seminar” as the research subjects for the implementation of the Project-Based Learning model because both courses align with the principles of Project-Based Learning, emphasizing project-based activities centered on problem-solving and requiring student collaboration and creativity in completing project tasks. Additionally, both courses provide opportunities for students to develop critical thinking, creativity, and collaboration skills in the context of educational technology. The final assignment in both courses is a large-scale project designed to actively and collaboratively involve all students enrolled in the course, enabling a comprehensive observation of the effectiveness and efficiency of the implemented learning model. Through this collective involvement, the process of designing, implementing, and evaluating the project becomes a real representation of the implementation of the theories studied, while also facilitating researchers in assessing how well the learning model supports the achievement of competencies optimally in the context of the model *Project-Based Learning*.

Based on the results of observations conducted by researchers over three consecutive days during the implementation of the project as part of the Project-Based Learning model in the Educational Technology Study Program at the Faculty of Education, Makassar State University, it was found that the majority of students acting

as committee members showed active participation in various aspects of the activity. This observation was conducted using a qualitative approach through non-participant observation techniques, enabling the researcher to directly observe team dynamics, task distribution, and student involvement in the planning, implementation, and evaluation of the project. However, the researcher also noted that not all students demonstrated the same level of involvement; some individuals appeared less active in participating, whether in group discussions, decision-making, or the execution of previously assigned tasks. This disparity in participation may be influenced by various factors, such as intrinsic motivation, understanding of roles, or communication skills among team members. Therefore, while the implementation of the Project-Based Learning model in this course has generally been effective in promoting student engagement, the observation results also emphasize the need for more adaptive facilitation strategies by instructors or facilitators to ensure all participants can gain meaningful learning experiences. Therefore, although in general the implementation of the Project-Based Learning model in this course has been quite effective in encouraging student engagement, the results of this observation also emphasize the need for more adaptive facilitation strategies by lecturers or facilitators, so that all participants can obtain an equitable and meaningful learning experience in line with the objectives of collaborative learning in higher education.

A study on the implementation of the Project-Based Learning model in the Educational Technology Study Program at the Faculty of Education, Makassar State University, was conducted on June 23, 2025. Research data was collected through interviews with 10 respondents, including 8 students (members of the organizing committee for the educational technology exhibition and seminar on educational technology issues) and 2 lecturers responsible for the relevant course. The interviews were conducted in person at the Faculty of Education, University of Makassar, and online via Google Meet, resulting in the following research findings:

1. Instructional design of the Project-Based Learning model through the Semester Learning Plan (RPS) of lecturers in the Educational Technology study program, Faculty of Education., Universitas Negeri Makassar

The Semester Learning Plan (SLP) developed by lecturers in the Educational Technology Study Program, Faculty of Education, University of Makassar, serves as the main foundation in the process of designing, directing, and implementing the Project-Based Learning model. This is due to the presence of a structured and comprehensive instructional framework within the SLP, which includes the formulation of learning outcomes, the selection of project-oriented learning strategies, and the design of collaborative and participatory learning activities. As a result, the SLP is not merely an administrative document but also

serves as an instructional tool that implements a constructivist approach in higher education.

This study focuses on two courses that are highly relevant to the implementation of the Project-Based Learning model, namely the Educational Technology Exhibition course and the Educational Technology Issues Seminar course, which were selected because both have characteristics that align with the principles of the project-based learning model.

a. Instructional Design in the Course Syllabus for Educational Technology Exhibition

The instructional design for the Educational Technology Exhibition course, as outlined in the Semester Learning Plan (SLP) of the Educational Technology Study Program, Faculty of Education, University of Makassar, reflects a strong application of the principles of the Project-Based Learning model. This SLP is designed with a learning structure that not only emphasizes cognitive aspects in terms of mastering event management concepts and exhibition organization but also integrates affective and psychomotor aspects through students' direct involvement in planning, managing, and practically evaluating exhibition activities.

As stated in the Merdeka Curriculum Learning and Assessment Guide (Kemendikbudristek, 2021), there are six main steps in the Project-Based Learning model, namely: (1) determining fundamental questions, (2) developing project plans, (3) developing implementation schedules, (4) monitoring projects, (5) testing the results, and (6) evaluating the learning experience.

The instructional design of the Semester Learning Plan (SLP) for the Educational Technology Exhibition course has systematically applied and integrated the steps of the Project-Based Learning Model into learning activities.

Dapat disimpulkan bahwa RPS mata kuliah Pameran Teknologi Pendidikan telah menerapkan seluruh langkah model Project-Based Learning secara konsisten dan menyeluruh. Pembelajaran tidak hanya diarahkan pada pemahaman teori, melainkan pada proses pembelajaran berbasis proyek nyata.

b. Instructional Design in the Course Syllabus for the Educational Technology Issues Seminar

The instructional design applied in the Semester Learning Plan (RPS) for the Educational Technology Issues Seminar course, developed by lecturers from the Educational Technology Study Program, Faculty of Education, Makassar State University, demonstrates the systematic, structured application of the Project-Based Learning model, which is oriented toward the development of collaborative and participatory skills.

This course aims to develop students' ability to analyze current issues in the field of Educational Technology and design relevant solutions through the implementation of a seminar as a final project. The instructional design in this syllabus begins by encouraging students to identify real-world problems in Educational Technology practice, including those related to technology integration in learning, accessibility, the digital divide, and challenges in implementing learning media across various contexts. This process includes discussion activities, literature exploration, and case studies as initial stages that guide students in developing a logical and systematic framework for the topic to be addressed in the seminar project.

Based on the analysis of the Semester Learning Plan for the Educational Technology Issues Seminar course, it is evident that the instructional design applied has integrated the six steps of the Project-Based Learning model as outlined in the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek), 2021. The following is a table analyzing the Instructional Design of the Semester Learning Plan (RPS) for the Educational Technology Exhibition course.

The instructional design of the Semester Learning Plan (RPS) for the Educational Technology Issues Seminar course has systematically applied and integrated the steps of the Project-Based Learning model into learning activities.

Based on interviews with lecturers teaching the Educational Technology Exhibition and Educational Technology Issues Seminar courses, it can be concluded that the instructional design of the Project-Based Learning model is systematically developed through the Semester Learning Plan and other supporting documents such as the SAP (Course Syllabus) and assessment rubrics. Both courses explicitly prioritize the final project as the main focus of learning, with planning designed from the outset of the course to guide students through the project stages in a step-by-step manner.

2. Implementation of the Project-Based Learning model in improving the collaborative and participatory skills of students in the Educational Technology Study Program, Faculty of Education, Makassar State University

Based on the results of observations conducted by researchers during the implementation of the Project-Based Learning model for students in the Educational Technology Study Program, Faculty of Education, Makassar State University, it was found that, in general, this learning model was able to encourage an increase in students' collaborative and participatory skills in the context of real activities, namely the Exhibition and Seminar projects. In its implementation, students were assigned roles as committee members directly responsible for planning, executing, and evaluating the activities, which included task distribution within the committee, developing the event concept, coordinating with external parties, and reporting on the outcomes of the activities.

Researchers collected data by distributing questionnaires to students who were directly involved as organizing committee members in the exhibition and seminar activities, which were part of the implementation of the Project-Based Learning model in the course of the Educational Technology Study Program, Faculty of Education, University of Makassar. Out of a total of 174 students enrolled in the Educational Technology Exhibition and Educational Technology Issues Seminar course, 168 students responded to the distributed questionnaire, indicating a very high and representative participation rate among the study population. The following are the results of the analysis of the questionnaire distributed by the researchers.

Table 4.1 Statement on the effectiveness of PJBL model implementation

No	Statement	Score
1	The committee is formed randomly or based on specific criteria.	605
2	The tasks assigned during the project are consistent with the project objectives.	607
3	All students are actively involved in determining the theme of the activity.	566
4	Students can develop varied and interesting types of activities.	603
5	Students can consider the needs and interests of participants in developing types of activities.	596

6	All types of activities that have been planned will be carried out during the project.	587
7	Students can reflect on the projects they have carried out.	621
8	Lecturers monitor the progress of student projects through direct interaction, discussion, and evaluation.	604
	Total	4.789

$$\text{Persentase} = \frac{\text{Score Total}}{\text{Number of statements} \times \text{highest weight} \times \text{number of students}} \times 100\%$$

$$\text{Persentase} = \frac{4.789}{8 \times 4 \times 168} \times 100\%$$

$$= \frac{4.789}{5.376} \times 100\%$$

$$= 89\%$$

The results of the research through a student response questionnaire on the Educational Technology Exhibition and Educational Technology Issues Seminar courses obtained a percentage score of 89%, so it can be concluded that the implementation of the Project-Based Learning model in the Educational Technology Exhibition and Educational Technology Issues Seminar courses is very effective in improving students' collaborative and participatory skills.

Each student was assigned responsibilities based on specific divisions, and their contributions were monitored through their participation in meetings, task reporting, and direct observation. As explained by Mrs. Nur Eva Yanti, M.Pd, the lecturer in charge of the Educational Technology Exhibition course.

Usually, we start by preparing a proposal. Since the end result is a project, there are naturally many small meetings before everything begins. These meetings are important for dividing committee tasks, determining who is responsible for each section, and ensuring that all preparations run smoothly (Nur Eva Yanti, M.Pd., June 23, 2025).

In its implementation, each division reports progress through digital documentation collected on a regular basis. Mrs. Sella Mawarni, M.Pd., as the lecturer in charge of the seminar on educational technology issues, stated that:

We always emphasize that this is a group project, and teamwork is also assessed, in addition to individual assessments, so that each student is motivated to focus on bringing out their best potential. Every student meeting or gathering is required to upload documentation to the Padlet platform (Sella Mawarni, M.Pd., June 23, 2025).

This shows that there's a system of control and reflection that encourages students to not only finish their assignments, but also build a culture of cooperation, team responsibility, and effective communication.

3. The challenges faced in implementing the Project-Based Learning model are related to improving the collaborative and participatory skills of students in Educational Technology, Faculty of Education, Universitas Negeri Makassar

Researchers conducted a study using observation and interview methods with several students and lecturers from the Educational Technology study program, Faculty of Education, Makassar State University, to identify the challenges faced in implementing the Project-Based Learning model in relation to improving students' collaborative and participatory skills. The research findings indicate that one of the main challenges is that some students still do not contribute sufficiently to the project, leading to an imbalance in teamwork and hindering the overall effectiveness of collaboration. This statement aligns with the remarks of one respondent, Mrs. Nur Eva Yanti, M.Pd., who is the lecturer in charge of the Educational Technology Exhibition course, who stated that:

> Of course, there are still challenges in implementing the Project-Based Learning model, one of which is that some students still lack teamwork skills. Therefore, every time we hold a meeting, we always conduct an evaluation to discuss the obstacles that arise and find solutions together. We also regularly communicate with each section to ensure there are no obstacles in task execution, so that any issues can be addressed promptly and do not disrupt the overall smooth progress of the project. (Nur Eva Yanti, M.Ed., June 23, 2025).

Of course, there are still challenges in implementing the Project-Based Learning model, one of which is that some students still lack teamwork skills. Therefore, every time we hold a meeting, we always evaluate and discuss the obstacles that arise and find solutions together. We also regularly communicate with each section to ensure there are no obstacles in task execution so that any issues can be addressed promptly and do not disrupt the overall smooth progress of the project. (Nur Eva Yanti, M.Ed., June 23, 2025).

B. Discussion

1. Instructional design of Project-Based Learning through Semester Learning Plans (RPS) by lecturers in the Educational Technology study program, Faculty of Education, Universitas Negeri Makassar

Higher education transformation in Indonesia requires learning innovations that emphasize active student involvement, one of which is through the Project-Based Learning model. This research was inspired by the need to develop students' soft skills, particularly collaborative and participatory skills, which are highly sought after in the 21st-century workplace. The Project-Based Learning model was chosen because it has proven effective in encouraging students to take an active role, think critically, and work effectively in teams. The researcher emphasizes that the shift in the learning paradigm from teacher-centered to student-centered learning is the cornerstone of the Ministry of Education, Culture, Research, and Technology's Key Performance Indicator (KPI) No. 7, which promotes collaborative and participatory learning in higher education institutions.

The researchers found that the integration of the Project-Based Learning model steps into the Semester Learning Plan (SLP) and learning activities has been carried out systematically. Students not only learn theoretically but are also directly involved in the planning, implementation, monitoring, and evaluation of projects.

In implementing the project, students experienced an authentic and contextual learning process. They learned to manage group dynamics, divide tasks effectively, and face real-world challenges such as limited funds and imbalances in team member contributions. Researchers found that these challenges enriched the students' learning experience, as they learned to solve problems collaboratively and responsibly. Researchers observed that regular monitoring and evaluation, conducted through weekly reports, class discussions, and online platforms like Padlet, greatly help maintain student engagement. Assessments are conducted not only at the group level but also individually to ensure fairness and encourage each student to maximize their potential.

Researchers conducted in-depth interviews with several students from the Educational Technology Study Program who were directly involved in the Educational Technology Exhibition and Educational Technology Issues Seminar course projects. The interview results showed that students generally understood the learning process applied through the Project-Based Learning model. Students knew that they were given the freedom to choose their work division, had clear job descriptions, and were provided with initial orientation by the lecturer in charge. The project designs provided, such as national/international seminars and educational exhibitions, are structured through a systematic learning framework. Students

stated that the entire process begins with the formation of a committee, activity planning, and collaborative content creation. This indicates that the instructional design has been developed by instructors with a focus on the core principles of PjBL, namely experience-based learning and real-world projects that encourage active student participation from the outset.

2. Implementation of the Project-Based Learning model in improving collaborative and participatory skills of students in the Educational Technology Study Program, Faculty of Education, Makassar State University

Based on the results of research conducted through observation, questionnaire distribution, analysis of RPS documents, and in-depth interviews, the implementation of the Project-Based Learning model in the Educational Technology Study Program at the Faculty of Education, Makassar State University, has been proven to significantly improve students' collaborative and participatory skills. Most students involved as committee members in exhibition and seminar projects demonstrated active participation, both in planning, implementation, and evaluation of activities.

Statements from faculty members and students who served as respondents further reinforce these findings, indicating that active participation in projects encourages students to take initiative, communicate effectively, and collaborate efficiently. Additionally, this approach aligns with the Ministry of Education, Culture, Research, and Technology's Key Performance Indicator (KPI) No. 7, which requires higher education institutions to develop interactive, collaborative, and participatory learning models.

This type of committee formation pattern provides significant benefits in supporting the effectiveness of project implementation. Not only does it improve teamwork efficiency, but it also encourages the development of individual students' skills in their fields of interest. In other words, forming committees based on specific criteria is one of the key factors in the successful implementation of the Project-Based Learning model because it creates a functional, professional, and accountable work structure while also providing students with the opportunity to demonstrate their best potential in a collaborative and participatory learning environment.

Ramadhan (2024) in his journal emphasizes that systematic learning planning is very important to achieve learning objectives effectively and efficiently. This is in line with the views of Irfana et al. (2022), who emphasize that project-based learning increases student motivation, engagement, and understanding through meaningful

and relevant real-world activities, enabling students to develop skills and active attitudes.

The results of the questionnaire distribution show that the tasks assigned during the project were consistent with the project objectives. Consistency between the tasks assigned and the project objectives is very important to ensure that every activity carried out truly supports the achievement of the desired results. Tasks that are aligned with the project objectives help direct the focus of the committee's work so that there is no waste of time and resources on irrelevant activities.

The results of the survey show that the majority of students chose to be actively involved in determining the theme of the activity, although during the planning stage, some students were less active. Student activity in determining the theme of the activity shows a high level of participation in the decision-making process, which is very important for creating a sense of ownership and responsibility for the success of the activity.

Kristiani, R., Oktafany, G., Setiawan, G., & Lisiswanti, R. (2024) in their research on student engagement in learning state that active student engagement in various aspects of learning, including decision-making and participation in discussions, contributes significantly to increased motivation, commitment, and academic achievement (GPA). Dewi & Fauziati (2021) also emphasize that social interaction in the learning environment promotes optimal cognitive development in students. They state that learning that involves discussions, group work, and guidance from more experienced individuals enhances critical thinking skills and deep conceptual understanding.

Although some students are less active in the planning stage, this can be a challenge that needs to be addressed with appropriate facilitation strategies to ensure all members participate equally. Thus, student involvement in determining activity themes not only strengthens the quality of planning and implementation of exhibition projects and seminars but also supports the creation of a collaborative and participatory learning environment in line with the principles of the Project-Based Learning model.

The results of the study indicate that the majority of students believe they are capable of developing varied and interesting activities during the implementation of the project. The ability of students to develop diverse and innovative activities is crucial in creating a dynamic event atmosphere and attracting the attention of the audience. The development of varied activities not only demonstrates the creativity and initiative of the students but also reflects their understanding of the needs and characteristics of the target audience, ensuring the event runs effectively and leaves a lasting impression.

The researchers also conducted an analysis of the EDUFAIR 2025 Event Manual as part of the implementation of the Educational Technology Exhibition course. Based on the analysis results, the researchers found that the students successfully developed exhibition activities that were not only educational but also varied, innovative, and appealing to diverse groups. The three-day event was entirely designed and managed by the students, reflecting the practical application of the Project-Based Learning model with collaborative and participatory teamwork principles.

Researchers believe that the variety of activities organized reflects the high level of creativity and mature managerial skills of the students. Students are not only involved in technical planning but also actively identify relevant themes, build external collaborations, divide roles within the organizing committee, and professionally manage the event's proceedings. This reinforces that the implementation of the Project-Based Learning model in this course has provided ample space for students to develop collaborative and participatory skills while creating engaging, innovative, and impactful activities.

Based on the research findings, most students stated that they could consider the needs and interests of participants in developing the type of activity. This ability plays a crucial role because by understanding what participants need and expect, students can design appropriate, engaging, and targeted activities, thereby making the implementation of activities more effective and ensuring that the desired objectives are achieved optimally. Considering participants' needs also requires students to analyze various aspects, such as participants' characteristics, interests, and expectations, ensuring that the designed activities truly have a positive impact and encourage active participant engagement throughout the activity.

The Ministry of Education, Culture, Research, and Technology (2023) states that student-oriented learning places the needs, interests, and abilities of students at the core of learning planning and implementation. Teachers act as facilitators who guide students to actively build knowledge independently, yet still require guidance and direction to ensure effective learning processes. This approach enhances students' active participation and learning motivation. Therefore, students' ability to consider the needs and interests of participants not only impacts the quality of exhibition and seminar activities but also strengthens the learning process focused on developing interpersonal and professional skills.

Consistency between planning and implementation is crucial for achieving project objectives optimally, as each activity has a strategic function in supporting the overall success of the event. Additionally, Qalbia & Saputra (2024) emphasize that effective management control must be integrated with strategic planning and

implementation, with monitoring and evaluation as a continuous process, ensuring alignment between operational activities and the organization's strategic objectives.

Through reflection, students can develop a more critical understanding of the steps taken and the results achieved, thereby contributing to improved performance and decision-making in future projects. Martin (2021) emphasizes the importance of reflection as an integral part of Dewey's progressive learning in the context of 21st-century education. Reflection enables students to internalize learning experiences and develop the critical thinking and creativity skills needed to address real-world challenges.

Several studies also support the importance of reflection in Project-Based Learning. For example, research by Ardianti and Wanabuliandari (2025) shows that PjBL involving reflection between teachers and students during the evaluation of the project process and results can significantly improve students' writing skills and motivation. The reflection process becomes an important medium for improving and strengthening students' understanding of the learning material.

The Academic Monitoring & Evaluation Report of Wijaya Putra University (2022) states that academic monitoring, including thesis and student project supervision, is carried out through regular meetings, discussions, document reviews, and field visits. Recent research also supports this, as explained in the study on the development of a student project monitoring system application by Komansilan et al. (2024), which shows that direct interaction and progress evaluation through a monitoring platform can enhance the effectiveness of guidance and accelerate the completion of student projects. In addition, a monitoring system that is integrated with regular discussions and progress evaluations helps lecturers provide more specific and personalized guidance according to the needs of each student.

Based on the results of the questionnaire that has been analyzed, I conclude that the implementation of the Project-Based Learning model has proven to be effective in improving the collaborative and participatory skills of students in the Educational Technology Study Program, Faculty of Education, Makassar State University.

However, researchers also identified several challenges in its implementation, such as students who did not contribute enough, difficulties in fundraising, and uneven workloads among groups. Monitoring was conducted during the activity to ensure that the process and outcomes were in line with the plan. Any deviations were immediately addressed to ensure that the activity proceeded according to the target. Faculty members, as the primary facilitators of learning, must actively encourage student engagement. (University of Borobudur Quality Assurance Agency, 2024). This aligns with Nanlohy et al. (2025) in the Journal of Education and Physics, who reported that Project-Based Learning (PBL) effectively enhances

student motivation through the provision of autonomy, appropriate challenges, and learning objectives relevant to real-life contexts. This supports the Self-Determination Theory, which emphasizes intrinsic motivation, which is the key to the success of the project.

CONCLUSION

Based on the results of the research and discussion described above, the researcher concludes that the implementation of the Project-Based Learning (PjBL) model in courses in the Educational Technology Study Program has been successful in three main aspects: learning planning, PjBL implementation, and the challenges that accompany it.

First, in terms of instructional planning, the instructors have conducted a highly integrated planning process by systematically adopting PjBL principles. This is evident in the development of the Semester Instructional Plan (SIP), which consistently accommodates collaborative and participatory learning. Specifically, instructors designed learning outcomes that not only emphasize theoretical understanding but also strengthen critical thinking skills, teamwork, and collective responsibility among students. The learning structure is designed to ensure that students are involved in the entire PjBL cycle—from problem identification, strategy planning, activity implementation, to project outcome reporting. Teaching materials, learning strategies, and evaluation instruments are designed with high consistency and tailored to the characteristics of the course, which requires active student involvement.

Second, regarding the implementation of the PjBL model, the research shows that the learning process runs in accordance with the standard PjBL syntax and principles. Students actively participate in developing project plans, organizing task distribution within groups, and collaborating to complete projects designed collectively. The projects undertaken encourage students to think critically and creatively, while also requiring skills in interaction, negotiation, and collaborative group task organization. Here, the instructor acts as a facilitator, monitoring the implementation process, providing regular guidance, and ensuring that each student carries out their tasks in a structured and responsible manner. Such learning creates meaningful and contextual learning experiences, as students do not merely complete tasks as an academic formality but genuinely develop teamwork and interpersonal communication skills in real-world situations.

Third, in its implementation, the PjBL model cannot be separated from a number of practical challenges, particularly those related to students' collaborative and participatory abilities. Some of the obstacles that arise include role imbalances among group members, where not all students contribute equally. Additionally, there are still

barriers in group communication, difficulties in synthesizing various ideas, and limitations in time management skills when completing projects according to the set schedule. These findings emphasize that while PjBL holds great potential for fostering collaborative and active participation skills, its success rate is significantly influenced by students' maturity in working together, as well as the active role of instructors in facilitating and managing group dynamics. Therefore, the implementation of the PjBL model must be complemented by appropriate mentoring strategies, strengthening students' soft skills (such as communication, negotiation, and time management), and a monitoring system that ensures fair and proportional involvement of all team members.

Overall, this study concludes that Project-Based Learning is an effective learning strategy in strengthening students' academic and social dimensions. However, to achieve full effectiveness, intensive pedagogical guidance, systematic non-academic skills training, and an evaluation and monitoring system that ensures each student contributes actively and measurably in a collaborative environment are required.

DAFTAR PUSTAKA

Badan Penjaminan Mutu Universitas Wijaya Putra. (2022). Laporan Monitoring dan Evaluasi (Monev) Bidang Akademik Program Studi Magister Hukum Tahun Akademik 2021/2022. Surabaya: BPM UWP.

Dewi, S., & Fauziati, E. (2021). Peran interaksi sosial dalam perkembangan kognitif berdasarkan teori Vygotsky. Jurnal Ilmiah Pendidikan, 9(2), 120-130.

Lestari, I., & Ilhami, A. (2022). Penerapan model project based learning untuk meningkatkan keterampilan berpikir kreatif siswa SMP: Systematic review. LENSA (Lentera Sains): Jurnal Pendidikan IPA, 12(2), 135-144.

Irfana, S., Attalina, S. N. C., & Widiyono, A. (2022). Efektivitas Model Pembelajaran Project Based Learning (PjBL) dalam Meningkatkan Minat dan Hasil Belajar Siswa. Jurnal Pendidikan Dasar, Universitas Pasundan.

Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia (Kemendikbudristek). (2023). Pembelajaran Berpusat pada Siswa atau Guru? Kompas.id

Kristiani, R., Oktafany, G., Setiawan, G., & Lisiswanti, R. (2024). Hubungan keterlibatan mahasiswa terhadap indeks prestasi kumulatif mahasiswa program studi pendidikan dokter Fakultas Kedokteran Universitas Lampung. Medula, 11(1), 2197-2205.

Komansilan, R., Rumbayan, M., & Rumagit, A. (2024). Aplikasi sistem monitoring proyek mahasiswa pendukung pembelajaran berbasis proyek dan magang. Jurnal Teknik Elektro dan Komputer.

Lembaga Jaminan Mutu Universitas Borobudur. (2024). Pedoman Monitoring dan Evaluasi Kinerja Dosen dan Tenaga Kependidikan. Jakarta: Universitas Borobudur.

Martin, L. (2021). Implementasi Pendidikan Progresif John Dewey dalam Pembelajaran Abad 21. Jurnal Pendidikan dan Kebudayaan, 6(1), 15-29.

Nanlohy, et al. (2025). Efektivitas Model Project-Based Learning dalam Meningkatkan Motivasi Belajar Siswa Kelas V pada Pembelajaran Sains. Jurnal Pendidikan dan Ilmu Fisika, 5(1), 110-120.

Qalbia, M., & Saputra, A. (2024). Peran sistem pengendalian manajemen dalam penerapan strategi organisasi. Jurnal Manajemen Kontemporer, 5(1), 12-25.

Ramadhan, E. H., & Hindun, H. (2023). Penerapan model pembelajaran berbasis proyek untuk membantu siswa berpikir kreatif. Protasis: Jurnal Bahasa, Sastra, Budaya, dan Pengajarannya, 2(2), 43-54.