

Project Based Learning as an Instructional Approach in Interprofessional Education: Students' Perspectives and Learning Experiences

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Abstract

Interprofessional Education is essential in preparing students to collaborate effectively across professional disciplines in addressing complex real-world problems. One instructional approach that has gained increasing attention in higher education is Project-Based Learning, as it emphasizes active learning, collaboration, and authentic tasks. This study aims to explore students' perspectives and learning experiences regarding the implementation of Project-Based Learning as an instructional approach in an Interprofessional Education course. Using a qualitative research design, data were collected from undergraduate students enrolled in an IPE course through reflective journals, focus group discussions, and semi-structured interviews. The data were analyzed thematically to identify recurring patterns related to students' perceptions and experiences. The findings reveal that Project-Based Learning facilitates meaningful interprofessional collaboration, enhances communication skills, and promotes critical thinking and problem-solving abilities. Students also reported increased awareness of professional roles and responsibilities, as well as improved teamwork and mutual respect among different disciplines. However, challenges such as coordination difficulties, unequal participation, and time management issues were also identified. Overall, the study concludes that Project-Based Learning is an effective instructional approach in Interprofessional Education, providing authentic learning experiences that support the development of interprofessional competencies. The findings offer pedagogical implications for educators in designing and implementing IPE courses that foster collaborative and experiential learning environments.

Keywords: *Project based learning, Interprofessional education, Students' perspectives, Learning experiences*

INTRODUCTION

Interprofessional Education (IPE) has become a strategic approach in higher education to prepare students for collaborative professional practice in complex and multidisciplinary contexts. The World Health Organization emphasizes that IPE enables students from different professional backgrounds to learn with, from, and about each other in order to improve collaboration and the quality of services in real-world settings (World Health Organization, 2010). In the context of higher education, particularly in professional and applied disciplines, IPE is expected to develop essential interprofessional

competencies such as communication, teamwork, role awareness, and collaborative problem-solving (Reeves et al., 2016). Despite its importance, the implementation of IPE often faces pedagogical challenges. Traditional teacher-centered instructional methods are frequently insufficient to support active engagement, meaningful collaboration, and authentic learning experiences among students from diverse disciplines (Barr et al., 2014). As a result, there is a growing need for instructional approaches that promote student-centered learning, experiential engagement, and real-world problem solving within IPE courses.

Project-Based Learning (PBL) has emerged as a promising instructional approach to address these challenges. PBL is characterized by student engagement in extended projects that require collaboration, inquiry, critical thinking, and the application of knowledge to authentic tasks (Bell, 2010). Through project-based activities, students are encouraged to take responsibility for their learning while working collaboratively to solve complex problems, making PBL particularly relevant to interprofessional learning contexts (Kokotsaki et al., 2016). Previous studies have demonstrated that PBL positively influences students' learning outcomes across various disciplines. Research indicates that PBL enhances students' critical thinking, communication skills, and collaborative competencies, which are core objectives of Interprofessional Education (Hmelo-Silver, 2004; Thomas, 2000). In IPE settings, PBL has been shown to foster deeper understanding of professional roles and responsibilities while strengthening interprofessional interaction and teamwork (Reeves et al., 2017). In language learning contexts, Project-Based Learning has also been found to contribute significantly to higher-order thinking skills. The author's previous study, Project-Based Learning to Enhance Students' Creative Thinking Skill on Language Learning, reported that PBL effectively promotes students' creative thinking, active participation, and meaningful learning experiences through authentic and collaborative tasks (Arifatin et al., 2023). These findings support the notion that PBL not only enhances cognitive and creative skills

but also creates a learning environment conducive to interaction and reflection—key elements in Interprofessional Education.

However, while numerous studies have examined the effectiveness of PBL in improving learning outcomes, research focusing specifically on students' perspectives and learning experiences in PBL-based Interprofessional Education remains limited. Understanding students' perceptions is crucial, as their experiences provide insights into how instructional approaches support or hinder the development of interprofessional competencies (Braun & Clarke, 2006; Creswell & Poth, 2018). Students' reflections on collaboration, communication, and project implementation can inform educators in designing more effective and inclusive IPE learning environments. Therefore, this study aims to explore students' perspectives and learning experiences regarding the implementation of Project-Based Learning as an instructional approach in an Interprofessional Education course. By examining how students perceive and experience PBL within an IPE context, this study seeks to contribute empirical evidence to the growing body of literature on innovative pedagogical strategies for interprofessional learning in higher education.

RESEARCH METHODS

This study employed a qualitative descriptive research design to explore students' perspectives and learning experiences regarding the implementation of Project-Based Learning (PBL) in an

Interprofessional Education (IPE) course of in Universitas Muhammadiyah Lamongan. A qualitative approach was selected as it allows for an in-depth understanding of participants' experiences, perceptions, and meanings constructed during the learning process (Creswell & Poth, 2018). This design is particularly suitable for educational research aiming to capture students' reflections on collaborative and experiential learning activities within authentic instructional settings. The study was conducted in an undergraduate Interprofessional Education course at a higher education institution in Indonesia. The course involved students from different academic programs from Universitas Muhammadiyah Lamongan who were grouped into interprofessional teams and assigned to complete a project addressing real-world community or organizational problems. Participants were selected using purposive sampling, as they had direct experience with Project-Based Learning in the IPE course (Palinkas et al., 2015).

A total of 35 students participated in this study. All participants had completed the project-based activities throughout the semester and were therefore able to provide informed reflections on their learning experiences. Prior to data collection, participants were informed about the purpose of the study, and informed consent was obtained to ensure ethical research practices. Project-Based Learning was implemented throughout one academic semester. At the beginning of the course, students were introduced to the principles of Interprofessional Education and Project-Based

Learning, including collaborative work, shared responsibility, and reflective learning. Students were then organized into interprofessional groups consisting of members from different study programs. Each group was assigned a project that required them to collaboratively identify a problem, design an intervention or solution, and produce tangible outcomes such as reports, presentations, or community-based outputs. The lecturer acted as a facilitator, providing guidance, monitoring group progress, and encouraging reflection rather than delivering direct instruction. This instructional procedure aligns with core characteristics of PBL, including student autonomy, inquiry-based learning, and authentic assessment (Bell, 2010; Kokotsaki et al., 2016).

Data were collected using multiple qualitative instruments to ensure data triangulation and enhance the credibility of the findings (Denzin, 2012). The instruments included:

1. Reflective Journals

Students were asked to write reflective journals at the end of the project to describe their learning experiences, challenges, and perceived benefits of working in interprofessional teams. Reflective journals are widely used to capture students' personal insights and learning reflections in experiential learning contexts (Moon, 2006).

2. Focus Group Discussions (FGDs)

Focus group discussions were conducted with selected student groups to explore collective experiences and shared perceptions of Project-Based Learning in the IPE course. FGDs allowed participants to

interact, clarify ideas, and elaborate on their experiences through group dialogue (Krueger & Casey, 2015).

3. Semi-Structured Interviews

Semi-structured interviews were conducted with several participants to gain deeper insights into individual learning experiences, particularly related to collaboration, communication, and role awareness in interprofessional settings. This method provides flexibility while maintaining consistency across interviews (Creswell & Poth, 2018).

The collected data were analyzed using thematic analysis. The analysis process followed six stages: familiarization with the data, initial coding, searching for themes, reviewing themes, defining and naming themes, and producing the report (Braun & Clarke, 2006). Data from reflective journals, FGDs, and interviews were coded manually to identify recurring patterns related to students' perspectives and learning experiences. To enhance trustworthiness, the study employed strategies such as data triangulation, peer debriefing, and member checking. These strategies help ensure the credibility, dependability, and confirmability of qualitative research findings (Lincoln & Guba, 1985). Ethical approval was obtained from the institutional authority prior to data collection. Participants were informed about the voluntary nature of their participation, confidentiality of data, and their right to withdraw at any time without academic consequences. All data were anonymized to protect participants' identities.

RESULT AND DISCUSSION

The projects that students at the Faculty of Economics and Business at the University of Muhammadiyah Lamongan must complete, where students are formed into teams of four to five students. The teams must seek partners from productive economic actors within the BUMDES or MSME sector. This begins with field surveys of partners and observations, analysis, determining problem-solving strategies, providing mentoring for one to two months, monitoring and evaluation, and finally, writing a scientific paper for publication in a national journal. The findings indicate that students generally perceived Project-Based Learning (PBL) as a meaningful and engaging instructional approach in the Interprofessional Education (IPE) course. Based on data from reflective journals, focus group discussions, and semi-structured interviews, most students reported that PBL enabled them to actively participate in learning through real-world projects that required collaboration across different disciplines. This active involvement encouraged students to move beyond theoretical understanding and apply knowledge in authentic contexts. These findings align with previous studies suggesting that PBL promotes student-centered learning and increases engagement by involving learners in complex, real-life tasks (Bell, 2010; Kokotsaki et al., 2016). In the context of IPE, students emphasized that working on joint projects helped them understand the importance of interprofessional collaboration and the value of diverse perspectives in problem-solving.

One of the dominant themes that emerged from the data was the development of interprofessional competencies, particularly communication, teamwork, and role awareness. Students reported that regular discussions, collaborative decision-making, and shared responsibilities within project teams enhanced their communication skills and confidence in expressing ideas to peers from different disciplines. Many participants also noted increased awareness of their own professional roles as well as those of others. This finding supports existing literature indicating that experiential and collaborative learning environments are effective in fostering interprofessional competencies (Reeves et al., 2016; Reeves et al., 2017). The use of PBL in this study allowed students to experience interprofessional collaboration in practice rather than merely learning about it theoretically. This experiential aspect represents a critical strength of PBL in IPE settings.

Students' learning experiences reflected the development of higher-order thinking skills, including critical thinking, problem-solving, and creativity. Participants explained that identifying problems, designing project plans, and evaluating outcomes required them to think critically and creatively. These findings are consistent with previous research showing that PBL enhances higher-order thinking skills across disciplines (Hmelo-Silver, 2004; Thomas, 2000). Notably, these results extend the findings of the author's previous study, Project-Based Learning to Enhance Students' Creative Thinking Skill on Language Learning, which demonstrated that

PBL effectively fosters creative thinking and active engagement in language learning contexts (Arifatin et al., 2023). The current study expands this evidence by showing that PBL also supports higher-order thinking and reflective learning within an interprofessional framework, thereby contributing to the pedagogical integration of PBL across disciplines.

Despite the positive learning experiences, students also identified several challenges during the implementation of PBL. Common issues included coordination difficulties among team members, unequal participation, and time management constraints. Differences in academic backgrounds and schedules occasionally led to misunderstandings or delays in project completion. These challenges have been similarly reported in previous studies on PBL and interprofessional learning (Barr et al., 2014; Kokotsaki et al., 2016). However, students in this study perceived these challenges as part of the learning process, noting that overcoming them contributed to the development of problem-solving and negotiation skills. This finding highlights the dual role of challenges in PBL as both obstacles and learning opportunities.

The novelty of this study lies in its focus on students' perspectives and learning experiences in a PBL-based Interprofessional Education course, particularly within the context of higher education in Indonesia. While prior studies have examined the effectiveness of PBL and IPE separately, empirical research integrating PBL as an instructional approach in IPE and exploring

students' lived experiences remains limited. By capturing students' reflections through multiple qualitative data sources, this study addresses a gap in the literature regarding how PBL supports interprofessional learning from the learners' viewpoint.

Furthermore, this study contributes to the existing body of knowledge by demonstrating that PBL not only enhances interprofessional competencies but also supports higher-order thinking and reflective learning in interdisciplinary settings. These findings suggest that educators should consider integrating structured project-based activities into IPE curricula to promote authentic, collaborative, and experiential learning environments.

Table 1. Results of thematic analysis of PBL implementation in interprofessional learning

Theme	Sub-Themes	Indicators/Codes	Data Sources	Interpretation
Meaningful Learning through PBL	Active engagement	Student involvement, hands-on tasks, learning by doing	Reflective journals, FGDs	PBL encourages students to actively construct knowledge through authentic interprofessional projects
	Authentic learning context	Real-world problems, community-based projects, practical relevance	Reflective journals, Interviews	Authentic tasks enhance relevance and meaningfulness of learning in IPE
Development of Interprofessional Competencies	Communication skills	Expressing ideas, interprofessional dialogue, negotiation	FGDs, Interviews	PBL supports effective communication across different professional backgrounds
	Teamwork and collaboration	Shared responsibility, coordination, mutual support	Reflective journals, FGDs	Collaborative projects foster teamwork and collective problem-solving
Higher-Order Thinking Skills	Role awareness	Understanding own role, recognizing others' expertise	Interviews, Reflective journals	Students gain clearer awareness of professional roles and responsibilities
	Critical thinking	Problem analysis, decision making, evaluation	Reflective journals, Interviews	PBL stimulates analytical and evaluative thinking processes
	Creative	Idea	Reflective	Projects provide

	thinking	generation, innovative solutions	journals	space for creativity and innovation, extending prior PBL findings in language learning
Challenges in PBL Implementation	Coordination issues	Scheduling conflicts, communication barriers	FGDs, Interviews	Interprofessional diversity presents logistical challenges
	Unequal participation	Passive members, task imbalance	Reflective journals, FGDs	Group dynamics require structured facilitation
Reflective and Experiential Learning	Time management	Project deadlines, workload	Reflective journals	Time constraints affect project execution
	Self-reflection	Learning awareness, self-evaluation	Reflective journals	Reflection helps students internalize learning experiences
	Learning from peers	Knowledge sharing, peer feedback	FGDs, Interviews	Peer interaction strengthens interprofessional understanding

Integration of the Thematic Matrix with Findings and Discussion

The thematic coding matrix demonstrates how students' perspectives and learning experiences were systematically analyzed across multiple data sources. The dominant themes meaningful learning, interprofessional competency development, higher-order thinking skills, and implementation challenges—corroborate the qualitative findings presented earlier. The triangulation of reflective journals, focus group discussions, and interviews strengthens the credibility of the analysis (Braun & Clarke, 2006; Lincoln & Guba, 1985). Importantly, the matrix highlights the novel contribution of this study by illustrating how Project-Based Learning simultaneously supports interprofessional competencies and higher-order thinking skills within a single instructional framework. This integrative perspective remains underexplored in prior IPE research, which often focuses on competency outcomes without sufficient attention to students' lived learning experiences (Reeves et al., 2016). By

explicitly mapping codes to themes and interpretations, this study offers a transparent analytical process that can inform future pedagogical design and qualitative inquiry in Interprofessional Education.

CONCLUSION

This study explored students' perspectives and learning experiences regarding the implementation of Project-Based Learning (PBL) as an instructional approach in Interprofessional Education (IPE). The findings indicate that PBL provides meaningful and authentic learning experiences by actively engaging students in collaborative projects that reflect real-world professional contexts. Through these experiences, students were able to construct knowledge collaboratively, apply interdisciplinary insights, and develop a deeper understanding of interprofessional learning.

Furthermore, the study demonstrates that PBL effectively supports the development of key interprofessional competencies, including communication, teamwork, role awareness, and higher-order thinking skills. By working in interprofessional teams, students enhanced their critical and creative thinking abilities while learning to navigate diverse perspectives and professional responsibilities. Although challenges such as coordination difficulties, unequal participation, and time constraints were identified, these issues were perceived as integral to the learning process and contributed to students' problem-solving and reflective skills.

Overall, this study highlights the pedagogical value of Project-Based Learning in strengthening Interprofessional Education in higher education. The findings suggest that integrating structured and reflective project-based activities into IPE courses can foster collaborative, experiential, and student-centered learning environments. Future instructional practices should consider PBL as a strategic approach to preparing students for effective interprofessional collaboration in professional and community-based settings.

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