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Implementation of Technology-Based Learning to Improve the Professional Competence of Postgraduate Students in English Language Learning

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ABSTRACT

This study investigates the experiences and perceived meanings of implementing a technology-based Project-Based Learning (PjBL) model in English language education and its contribution to developing the professional competence of postgraduate students at Universitas PGRI Ronggolawe Tuban. Utilizing a qualitative phenomenological approach, the research adopts Colaizzi's method to deeply analyze students' lived experiences. The participants consisted of 25 postgraduate students enrolled in a zero-credit English course during the matriculation program of the 2024–2025 academic year. Data were collected through in-depth interviews, participatory observations, document analysis, and focus group discussions involving students, lecturers, and institutional records. Through Colaizzi's seven-step data analysis, themes emerged highlighting significant improvements in students' English proficiency, critical thinking, creativity, collaboration, and digital literacy. The technology-integrated PjBL approach fostered student engagement in authentic learning contexts while encouraging learner autonomy and responsibility. Additionally, the lecturer's role shifted to that of a facilitator, guiding students to take ownership of their learning processes. The study concludes that the integration of technology into PjBL not only supports effective language acquisition but also cultivates essential 21st-century competencies. These findings underline the holistic benefits of this approach in enhancing the academic and professional readiness of postgraduate students in English education.

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1. INTRODUCTION

English language learning in the era of globalization has an important role in preparing students to be able to compete at the international level, especially in academic and professional contexts (Mika & Mardiana, 2023; Suryani & Thamrin, 2023). The need for applicable and relevant English language competencies demands innovative and adaptive learning methods to technological developments (Fasha, Hidayah, & Wahyuni, 2024; Novitasari & Paramita, n.d.; Supatmi, Suhendra, Andriani, Azwar, & Mandasari, 2024) (Mika & Mardiana, 2023). One of the widely used approaches is Project-Based Learning (PjBL) which emphasizes active learning through real projects, so that students not only understand theory, but also apply knowledge practically (Fidiyanti, 2020).

Technology is a very important supporting element in the implementation of PjBL (Wijnia, Noordzij, Arends, Rikers, & Loyens, 2024) (Andik, Sulistyaningrum, & Wardhono, 2024), because it is able to provide various digital platforms that facilitate collaboration, access to learning resources, and project management effectively (Agustina, Kusmiyati, & Silver, 2022; Septianingsih, Burhanudin, Fawzia, Irawati, & Wahyuni, 2024). By integrating technology, learning becomes more dynamic, interactive, and allows students to develop both digital and English skills simultaneously (Swandi, Rahmadhanningsih, Dara Amin, Viridi, & Chang, 2022). This is very relevant in facing the challenges of the digital era and increasingly complex professional needs (Saputra, Abdullah, & Hakim, 2014). The collaboration between teachers and students through the PjBL model can guide students in the process of designing technology that can build and improve content knowledge, problem-solving skills, thinking systems and thinking skills (Andik et al., 2024).

In Indonesia, English language learning still faces various challenges, ranging from the limitations of less contextual and applicative learning methods to low mastery of technology among students and educators (Jus, Elpisah, & Nurdin, 2025; Satuti & Atmojo, 2025). The lack of integration between technology and language learning hinders the achievement of the competencies needed in the digital era and globalization (RS, Rantung, & Naibaho, 2023; Wahyuni, Zaim, Thahar, & Susmita, 2024). In addition, there are still many students who feel less confident and awkward in using English actively in academic and professional contexts (Kholidiyah, Murtadho, & Mahliatussikah, 2022), so there is a need for a learning approach that can encourage active involvement and real skill improvement (Fadhilah, 2022; Khoiruman, Sutajaya, & Suja, 2023; Surani & Chaerudin, 2019).

Several previous studies have shown that the application of technology-based Project-Based Learning methods is effective in improving students' English language skills and professional skills (Putri, Sutiadiningsih, Nurlaela, Niken, & Purwidiani, 2021). For example, the application of the Project-Based Learning collaborative learning model with a scientific approach gradually increases students' English text writing skills significantly from pre-cycle to cycle III (Hapsari, Frijuniarsi, & Ahyar, 2024). The implementation of project-based learning in various schools and universities around the world has succeeded in improving language skills, the use of technology, and fostering the spirit of learning, creative skills, and positive social attitudes in students (Gama, 2023). The application of Case Method and Project-Based Learning strategies in English learning can improve communication skills, critical thinking skills, and provide a more meaningful and effective learning experience for students (Masita, 2023).

Initial observations in the postgraduate program of PGRI Ronggolawe Tuban University show that English learning is still dominated by limited lecture and practice methods that do not encourage active student involvement. The use of technology in learning is not optimal, and students often find it difficult to apply English in a real context. In addition, the interaction between lecturers and students tends to be one-way, so students lack the opportunity to develop creativity and collaboration effectively.

Although many studies have discussed the effectiveness of Project-Based Learning and the integration of technology in English language learning, there are still few studies that specifically examine the experiences of postgraduate students in Indonesia in this learning context, especially those that highlight the process of technology adaptation and the application of PjBL in improving professional competencies relevant to academic needs and the world of work. This gap opens up opportunities to delve deeper into how students respond, manage challenges, and optimize this method in the context of learning in Indonesian postgraduate universities. This research offers a new contribution by combining a phenomenological approach to understand the subjective experiences of postgraduate students in using technology-based Project-Based Learning methods in English language learning. In addition, this research focuses on the integration of professional and digital competencies that have been understudied in the context of postgraduate language learning in Indonesia, thus providing a more holistic insight into learning transformation in the digital era.

This research is relevant in the context of developing effective and adaptive English learning methods to the needs of the times, especially for postgraduate students who must prepare themselves to face professional and academic demands. The significance of the research lies in its ability to provide practical recommendations for lecturers and educational institutions in designing learning that integrates technology and project approaches, so as to improve the quality of education and the competitiveness of graduates in the global market. This study aims to explore the experience and meaning of the application of technology-based Project-Based Learning methods in English learning and its impact on improving the professional competence of postgraduate students of PGRI Ronggolawe Tuban University.

2. METHODS

This study uses a qualitative method with a phenomenological approach (Nasir, Nurjana, Shah, Sirodj, & Afgani, 2023) which aims to explore in depth the meaning and subjective experiences of postgraduate students in the application of technology-based Project-Based Learning (PjBL) methods in English learning. The phenomenological approach was chosen because it allows researchers to understand how students experience, respond, and interpret the learning process in its entirety (Hadi, 2021; Nasir, Nurjana, Shah, Sirodj, & Afgani, 2023). This research was carried out at the Postgraduate Program of PGRI Ronggolawe University Tuban in semester 1 of the 2024/2025 academic year. The main informants in this study were 25 students who took English courses in the matriculation program with a weight of 0 credits. In addition, a teaching lecturer is also a key informant because he plays an important role as a facilitator in the process of implementing the technology-based PjBL method.

Data collection is carried out through several techniques, namely in-depth interviews with students and lecturers to explore perceptions and experiences during the learning process. In addition, participatory observations were carried out in person or through online recordings to understand the dynamics of the classroom and the implementation of the PjBL method. To strengthen the data, the researcher also conducted a Focus Group Discussion (FGD) to get students' collective views on their learning experiences.

The data obtained was analyzed using a phenomenological approach with the Colaizzi analysis model which consisted of seven stages, starting from reading the entire transcript, identifying meaningful statements, formulating meanings, grouping into themes, compiling a comprehensive description, formulating the essence of the phenomenon, to confirming or member checking informants. To ensure the validity of the findings, the researcher applies triangulation of sources and techniques, as well as confirming the interpretation of the results of the analysis to the informant to match the intended meaning.

3. FINDINGS AND DISCUSSION

Result

This research was carried out in the English course at the Postgraduate Program of PGRI Ronggolawe Tuban University, with a technology-based Project-Based Learning (PjBL) approach. Data were obtained from in-depth interviews, classroom observations, project documentation, and focus group discussions (FGDs).

Technology Integration in English Projects

The lecturer explained that the PjBL approach began to be implemented in the odd semester of the 2023/2024 academic year. Platforms such as Google Workspace, Canva, Edmodo, and Moodle are used in learning activities. One of the statements of the lecturer, Dr. W:

> "We realize that postgraduate students need to have applicative English language skills, especially in a professional context. Therefore, we combine Project-Based Learning with the use of technologies such as Google Workspace, Canva, and online learning platforms such as Edmodo and Moodle."

Student Response and Active Engagement

Students show enthusiasm for this learning model. YH students stated:

> "This learning model is very helpful for us. We not only learn theory, but also create real projects such as conference presentations, English-language research proposals, and educational videos. Technology makes the process more interesting and flexible."

At first, some students had difficulty using technology, but the adaptation took place quickly and significantly.

Description of Class Interactions and Activities

Observations were made in three learning sessions. In the first session, students were divided into groups to prepare a mini research proposal in English which was presented via Zoom and OBS Studio. Interactions in groups show active discussions, the use of laptops for writing, and presentation exercises. In the second session, students began to communicate in English during the discussion. Google Docs is used as an online collaboration tool. In the third session, students present the final project, using digital slides and receive feedback from lecturers in English. Lecturers play the role of facilitators without dominating the process.

The Meaning of Projects on Professional Competencies

Follow-up interviews with six students from different backgrounds (teachers, principals, TU staff) showed that this learning was professionally meaningful. NH students say:

> "We feel more confident when we have to compile academic documents in English. Projects such as making scientific presentation videos and writing research proposals in English are very challenging but make us better prepared to enter the professional academic world."

The MA student added:

> "At first, I was a techie, but because I had to do tasks with Google Docs, Canva, and Zoom, I was forced to study. Now I can create more engaging teaching materials for my students. So not only English, but also my digital skills are developing."

Discussion

Implementation of *Technology-Based Project-Based Learning* Method in English Language Learning at the Postgraduate Program of PGRI Ronggolawe University Tuban

This research was carried out at the Postgraduate Program of PGRI Ronggolawe Tuban University with a focus on English courses that use a technology-based Project-Based Learning approach. Data was collected through in-depth interviews, hands-on observations, and documentation of relevant learning activities. Interviews were conducted with the lecturer in charge of the English course, namely Dr. W, as well as three postgraduate students from the Educational Management study program. The lecturer said that the Project-Based Learning approach began to be implemented since the odd semester of the 2023/2024 academic year as an effort to adapt learning to the needs of the 21st century.

Observations were carried out during three meetings, namely on February 5, 12, and 19, 2025. Each session lasts 2 x 50 minutes. The researcher observed student involvement in project activities, the use of technology, and the role of lecturers as facilitators. At the first meeting, the lecturer opened the class with a brief presentation on the topic of English for Academic Purposes and then divided the students into working groups. Each group was given the task of making a mini research proposal in English, which was later presented through the Zoom platform and recorded using the OBS Studio application. Observations show that students are quite active in discussing in their groups. Lecturers do not dominate, but provide guidance if needed. Students use their personal devices (laptops/tablets) to write, access online resources, and practice presentations using digital slides.

At the second meeting, students showed significant progress. They began to use English in group discussions. One group displays their project outline in Google Docs and shares a link for lecturers to comment on. At the third meeting, students presented the results of their projects. The entire process is done online and broadcast live for archiving. Lecturers provide feedback in English and assess based on project assessment rubrics that cover aspects of linguistics, collaboration, and technology use.

In the context of Project-Based Learning (PjBL)-based English learning applied to the Graduate Program of PGRI Ronggolawe Tuban University, a number of modern learning theories seem to be in harmony with the reality in the field. One of the most relevant major theories is Vygotsky's Zone of Proximal Development (ZPD) and Scaffolding theory (Gehlot, 2021; Shvarts & Bakker, 2019; Zaretsky, 2021). This theory emphasizes the importance of the role of facilitators in assisting students to achieve their maximum potential through appropriate and targeted assistance. This is reflected in the pattern of interaction between lecturers and students, where lecturers no longer play the role of information centers, but rather as active supervisors. Students are given space to explore, discuss, and create their own work, while lecturers are present to provide assistance when needed. In practice, technologies such as Google Workspace, Edmodo, and Moodle also act as digital scaffolding, providing structural tools that allow students to navigate their projects independently but in a targeted manner. Interestingly, although some students admitted that they had difficulty mastering the application of the technology, they were gradually able to adapt and develop, showing that they were able to move within their proximal development zone.

The learning structure applied also shows a close relationship with the revised version of Bloom's Taxonomy by Anderson and Krathwohl (Khalishah & Iklilah, 2021; Nafiati, 2021). Students are required to not only understand and remember the material, but also to reach higher cognitive stages such as analyzing, evaluating, and creating. They must analyze research topics, evaluate academic information sources, and produce various academic products in English, such as proposals, educational videos, and digital presentations. This shows that the learning process that takes place has encouraged students to be intellectually and creatively active, in accordance with the cognitive domain in the taxonomy. Furthermore, the application of this method is also in line with the *Experiential Learning Theory* put forward by David Kolb (Passarelli & Kolb, 2023). This theory underlines that effective learning occurs

through an experiential cycle involving four stages, namely concrete experience, reflective observation, abstract conceptualization, and active experimentation. This cycle is clearly reflected in the data from observations and interviews. Students experience project-based learning as a concrete experience—they not only learn about academic English theoretically, but also work on it in real form through research projects and presentation media. They then reflect on the experience by receiving and responding to feedback from lecturers (reflective observation), understanding the language and academic structure of the project being done (abstract conceptualization), and practicing these skills in the form of online presentations using Zoom and OBS Studio (active experimentation). This cycle shows how students not only experience passive learning, but are truly engaged in a contextual, reflective, and continuous learning process.

Put forward by Eselov et al. (2019), PBL provides a learning experience that focuses on solving problems relevant to daily life both individually and in groups, with the role of educators as facilitators in student projects (Nikmah, Shofwan, & Loretha, 2023). In the context of learning English in this postgraduate program, students actively make mini research proposals in groups and discuss intensively (Born, Ma'ruf, & Tho'in, 2017). The role of lecturers who do not dominate the classroom but function as supervisors and facilitators is very visible in this process (Syahputra, 2014). This shows that students are directly involved in activities that are applicable and in accordance with the professional context, which strengthens the suitability of field implementation with the theory.

The characteristics of PBL described by Rineksiane (2022) are also clearly seen in the implementation of this learning. The theory emphasizes that PBL requires students to be independent in conducting investigations, focusing on relevant questions or case studies, and becoming problem solvers through activities that are in accordance with real circumstances (Rineksiane, 2022). This is reflected in how students prepare research proposals independently and present them using technology as an investigative and collaboration tool. The projects they work on are also directly related to real academic and professional situations, so that the learning process runs effectively according to the expected characteristics.

What was stated by Global SchoolNet (2000) and Rani (2021) about the characteristics of PBL is also very relevant to field data. PBL according to this theory is characterized by decision-making by students, challenges faced, process design for solutions, collaboration between students, continuous evaluation, reflection on activities, and tolerance for mistakes (Rani, 2021). In practice, students choose a research topic, design proposals, work collaboratively in groups, and use various technology platforms such as Google Docs to share and get comments directly from lecturers. Evaluation is carried out continuously through feedback provided in various stages, both online and oral. The initial difficulties in the use of technology experienced by students are also part of the learning process that reflects tolerance for mistakes and adaptation, in accordance with the characteristics of PBL.

The application of English learning in this context is also in line with the theory of the role of English as an important universal communication tool in the international scope, as explained by Azis et al. (2020) (Azis, Pribadi, & Nurcahya, 2020). The focus of English learning directed at academic and professional contexts through real projects such as the preparation of research proposals and conference presentations improves students' English skills applicatively. Thus, the use of this technology-based PBL method is not only methodologically relevant, but also for learning purposes, which is to prepare students to master English as an international language that is crucial for their academic and professional careers.

The results of the research in the preparation of this paper show that the implementation of project-based learning methods with technological support in English learning in postgraduate programs shows significant changes in the teaching and learning process. This method has succeeded in improving students' English skills in an applicative and relevant manner to the needs of the current

era. The use of various technology platforms supports the success of this learning method. Students are given the opportunity to actively participate and work on real projects such as preparing research proposals in English, conference presentations, and making educational videos. Thus, students not only learn theory, but also directly apply English in academic and professional contexts.

The students' response to this learning model was very positive. They find it helpful in honing their English skills through challenging and engaging activities. Although there are initial obstacles related to mastering technology, students are able to adapt and show gradual improvement in their abilities. This can be seen from the intensity of the group discussions, collaboration in the preparation of online documents, and the improvement of their presentation skills. During the learning process, the interaction between lecturers and students takes place in a pattern that provides space for students to learn independently and exploratoryly, with guidance according to their needs. Technology acts as a support tool that helps students manage projects effectively and efficiently.

The learning that takes place involves various stages ranging from the implementation of the project in real life, reflection on the results obtained, understanding academic concepts, to application in the form of online presentations and discussions. This process encourages students to not only memorize or understand the material, but also to analyze, evaluate, and produce quality academic work in English. The characteristics of project-based learning methods, such as independence in conducting investigations, focusing on real problem solving, intensive cooperation, continuous evaluation, and tolerance for errors, are seen very strongly during the implementation of learning. Students actively make decisions in choosing topics and designing projects, while lecturers act as facilitators who provide direction without fully controlling the learning process.

The results of this study have important implications for the development of the English language learning process in postgraduate programs, especially in integrating technology-supported project-based learning methods. This approach not only improves language skills applicatively, but also encourages students to become independent, creative, and responsible learners in managing academic and professional projects. For lecturers, their role shifts from just delivering material to facilitators who provide direction and support according to student needs, thus creating a more interactive and collaborative learning atmosphere. The use of technology as a support tool also expands access and effectiveness of learning, while preparing students to face challenges in the digital era. More broadly, the application of this method can be a relevant and adaptive learning model, not only in the field of English, but also for other disciplines that require the development of practical skills and real problem-solving in academic and professional contexts.

Students' Perception of the Effectiveness of *Technology-Based Project-Based Learning* Methods in Supporting Professional Competency Development

This study also explores how students interpret and respond to the application of technology-based Project-Based Learning (PjBL) methods in English language learning, especially in relation to the development of their professional competencies. Data was obtained through in-depth interviews with students, behavioral observations during the learning process, and documentation of learning activities. Interviews were conducted with six students from the Postgraduate program of PGRI Ronggolawe Tuban University. They come from a variety of professional backgrounds, such as teachers, principals, and administrative employees, all of whom take English courses for academic and professional needs. The majority of students revealed that the technology-based PjBL method provides a more meaningful learning experience than conventional methods. Some college students stated that the biggest challenge was the time constraints because most of them were workers. However, the flexibility of using online platforms such as Edmodo and Google Classroom allows them to stay engaged in group projects, albeit asynchronously. The conclusion of the interview showed that students

assessed that technology-based PjBL was not only effective in improving language skills, but also encouraging the development of 21st century skills, such as collaboration, digital literacy, and professional communication.

Observations were carried out during three learning sessions and one final project presentation. During the session, the researcher recorded student behavior in group work, the use of English, and the use of digital technology. In the first session, some students were still passive and awkward in using English, even in informal contexts such as group discussions. However, lecturers give instructions systematically and repeatedly encourage students to try, without fear of being wrong. Significant changes began to be seen in the second session, where students were more open in discussing and began to actively ask questions using simple English sentences. They also seem comfortable using platforms like Padlet to jot down group ideas and Google Slides to compose presentations.

The last observation session showed an increase in participation and confidence. In the presentation session, students were able to explain the content of their projects in English with the help of digital media. They use pointers, organized slide transitions, and include subtitles in video presentations to support audience understanding. Lecturers only act as facilitators, letting students lead discussions and give each other input between groups. This shows a shift from teacher-centered to student-centered learning that is more active and reflective.

In this study, the *technology-based Project-Based Learning* (PjBL) approach in English learning at the Postgraduate Program of PGRI Ronggolawe Tuban University is analyzed not only in terms of implementation, but also in terms of how students interpret and respond to it in the context of professional competency development. The results of interviews, observations, and documentation show a strong compatibility between modern educational theories and students' real experiences in the field. Vygotsky's theory is particularly suitable in this context, especially in seeing the role of lecturers as *scaffolders* and facilitators who accompany students beyond the limits of their initial abilities (Xi & Lantolf, 2021). At the beginning of the learning process, students look passive and awkward in using English and technology. However, through gradual guidance from lecturers and the use of technology such as Padlet, Google Docs, and Zoom, students slowly improved. For example, an M.A. student stated that even though he was initially *lacking*, technology-based assignments made him study compulsorily but effectively. It shows that technology and lecturer support act as scaffolding, allowing students to learn within their proximal developmental zone.

The application of technology-based Project-Based Learning (PjBL) methods in English learning at the Postgraduate Program of PGRI Ronggolawe Tuban University shows a strong compatibility with two major learning theories, namely *Bloom's Revised Taxonomy* (Anderson & Krathwohl) and *Experiential Learning Theory* (David Kolb) (Laksana, Dhiu, Jau, & Ngonu, 2019; Passarelli & Kolb, 2023; Urgo, Arguello, & Capra, 2019). These two theories provide a cognitive framework and experience that can be used to deeply understand the learning process that students experience. From the perspective of Bloom's Revised Taxonomy, high-level cognitive stages are reflected prominently in learning activities. Students not only remember or understand the material passively, but have reached the level of Analyzing, Evaluating, and Creating. In the Analyzing stage, students are able to dissect the research topics given, develop a framework of thinking, and determine project objectives that are relevant to their academic and professional contexts. Evaluating abilities are seen in group discussions, where they assess the validity of data sources, determine appropriate language styles for scientific presentations, and adjust communication strategies with audiences. At the peak of the Creation stage, students produce real products in the form of research proposals in English, educational videos with subtitles, and digital presentations with attractive designs using platforms such as Canva and Google Slides. This process demands a synthesis of a wide range of abilities: language, critical thinking, digital literacy,

and communication aesthetics, which directly support the development of their professional competencies.

Meanwhile, in terms of *Experiential Learning Theory* put forward by David Kolb, the student learning process also follows four core stages in the learning experience cycle (Passarelli & Kolb, 2023). The first stage, Concrete Experience, occurs when students are directly involved in project tasks, such as compiling academic documents, creating presentation media, and recording videos using OBS Studio. These activities provide them with an authentic and contextual learning experience. Furthermore, in the Reflective Observation stage, students reflect on the experiences they have lived. This happens through group discussion forums and feedback sessions given by lecturers and colleagues. They reflect on difficulties, successes, and strategies that can be improved. Then, students enter the Abstract Conceptualization stage, which is the process of internalizing formal concepts and structures in academic English. They begin to understand the conventions of writing proposals, how to formulate logical arguments, and choose diction and sentence structures that are in accordance with international standards. Finally, in the Active Experimentation stage, students put into practice the knowledge and skills they have acquired in the form of final project presentations conducted synchronously via Zoom and asynchronously via Google Classroom. They lead discussions, present ideas, and dare to answer questions in formal English, which shows increased confidence and professionalism.

The implementation of the technology-based Project-Based Learning (PjBL) method in English learning in the Postgraduate program of PGRI Ronggolawe University Tuban shows a strong suitability with various project-based learning theories that have been put forward by experts. First, in accordance with the views of Eselov et al. (2019), PjBL provides a real learning experience through solving relevant problems in daily life individually and in groups (Nikmah et al., 2023). Field data showed that students actively worked in groups, compiled mini research proposals in English, and discussed using various digital platforms such as Google Docs and Zoom. Lecturers play the role of facilitators who are not dominant, only providing guidance when needed. This describes student-centered learning practices, where students are the main actors in the learning process, very much in accordance with the basic principles of PjBL.

Furthermore, the characteristics of PjBL as explained by Rineksiane (2022) are also clearly reflected in this learning activity. This method emphasizes on asking questions or case studies that force students to be independent in conducting investigations and become active problem solvers (Rineksiane, 2022). In the context of this research, students not only prepare research proposals independently but also have to make decisions and take responsibility for their learning process collaboratively. The projects they work on adapt to real academic and professional situations, thus building real investigative and decision-making skills. This shows the compatibility between the characteristics of PjBL in theory and practice in the field.

Then, Global SchoolNet (2000) emphasized that project-based learning has characteristics in the form of decision-making by students, challenges that must be solved, solution design processes, collaboration, continuous evaluation, reflection, and tolerance for mistakes (Rani, 2021). In the field, students actively choose project topics, design proposals, work in groups with digital collaboration, and receive continuous evaluation through lecturer feedback, both in writing on the Google Docs platform and orally during presentations. Students also learn to overcome various technical and non-technical challenges during the process, which shows a tolerance for mistakes and opportunities to learn from failures. This process of continuous reflection and evaluation reinforces learning, emphasizing that the focus is not only on the final product, but also on the learning process as a whole. Thus, the characteristics of PjBL described in theory are very much reflected in this real learning practice.

The relevance of English learning to students' academic and professional needs is also in accordance with the theory put forward by Azis et al. (2020) (Azis et al., 2020). English as an international language and a universal communication tool is very important for graduate students who will compete in the global academic and professional world. The use of the technology-based PjBL method allows students to learn English in an applicative manner through the creation of research proposals and scientific presentations, which are real needs in their careers. In addition to developing language skills, students also acquire digital skills that support their professional competencies more broadly. This strengthens the position of technology-based PjBL as an effective and relevant method to support English proficiency in academic and professional contexts.

The result of this research is that this study explores how students interpret and respond to the application of technology-supported project-based learning methods in English learning in postgraduate programs. In general, students experience a dynamic and transformative learning process, where they can develop professional competencies significantly through active involvement in various assignments and projects. At the beginning of learning, many students still feel awkward and lack confidence in using English and technology. However, with the support of structured guidance and the use of various digital platforms, they are able to adapt and evolve gradually. Students learn through a challenging process but provide real practical experience, from compiling research proposals in English to creating engaging presentation media and educational videos. This experience allows them to not only understand theory, but also apply language and technology skills in contexts relevant to their academic and professional needs.

The learning process that takes place involves activities that require students to think critically and creatively. They do not just memorize or understand material passively, but actively analyze, evaluate, and produce quality products. Group discussions, joint reflections, and online presentations are important means for them to hone their communication and collaboration skills. During the implementation of learning, students take a central role in determining project topics, designing work plans, and managing the learning process independently and with peers. The role of lecturers is more as a facilitator who provides direction and guidance when needed, so that the learning atmosphere is more student-centered and encourages independence. This approach fosters a high sense of responsibility and motivation in students.

Students also demonstrate the ability to overcome a variety of challenges, both technical and non-technical, during the project-based learning process. They learn from mistakes and accept evaluation openly, which strengthens their understanding and skills on an ongoing basis. This marks the existence of a learning cycle that focuses not only on the final result, but also on the process of overall self-development. In addition to improving English language skills, students gain digital skills that are very useful in supporting their academic and professional careers. Experience using various technology platforms intensively equips them with essential digital literacy skills in this modern era.

The results of this study have important implications for the development of English language learning at the postgraduate level, especially through the application of technology-supported project-based learning methods. This approach shows that learning that focuses on students' active involvement can foster the simultaneous development of language competencies and digital skills, which is highly relevant to the demands of today's academic and professional worlds. The practical implication is that lecturers need to adopt the role of facilitators who provide structured guidance without full control, thereby creating an independent, creative, and collaborative learning atmosphere. In addition, the use of technology not only enriches the learning process, but also increases students' digital literacy, which is an important capital in facing global challenges. More broadly, this learning model can be adapted and developed in various disciplines as an effective strategy in building students' critical, creative, and professional skills.

4. CONCLUSION

The results show that the application of project-based learning methods with technology support in English language learning in postgraduate programs has a significant positive impact. This method improves students' English language skills applicatively and is relevant to current professional needs. Students are actively involved in real projects, such as research proposal preparation, conference presentations, and educational video production, so that they are able to apply English in academic and professional contexts. Although initially there were obstacles in mastering technology, students managed to adapt and show gradual improvement in their abilities. Independent and exploratory learning interactions with the guidance of lecturers as facilitators foster independence and intense collaboration. This learning process encourages students to think critically, analyze, and produce quality academic work, while honing technological skills that support effective project management. The application of technology-based Project-Based Learning methods in English language learning in graduate programs provides a dynamic and transformative learning experience for students. Students initially feel awkward using English and technology, but with structured guidance and the support of digital platforms, they are able to grow significantly. The learning process encourages students to think critically, creatively, and actively engage in designing and implementing projects independently and collaboratively. The role of lecturers as facilitators fosters independence and a sense of responsibility. Students are also able to overcome technical and non-technical challenges, learn from mistakes, and receive evaluations openly. In addition to improving their English language skills, they acquire digital skills that are essential to support academic and professional careers, making this learning relevant and applicable in a real-world context.

REFERENCES

Agustina, L., Kusmiyati, K., & Silver, S. T. E. (2022). Peranan Model Pembelajaran Project Based Learning Pada Meningkatkan Keterampilan Bahasa Indonesia Siswa Kelas XI SMKN 2 Bangkalan. *Jurnal Teknologi Pembelajaran*.

Andik, M., Sulistyaningrum, H., & Wardhono, A. (2024). VALIDITAS PENGEMBANGAN MEDIA PEMBELAJARAN IPA MELALUI MODEL PJBL BERBASIS TIK. *EL-Muhbib Jurnal Pemikiran Dan Penelitian Pendidikan Dasar*, *8*(1), 126–137.

Azis, N., Pribadi, G., & Nurcahya, M. S. (2020). Analisa dan Perancangan Aplikasi Pembelajaran Bahasa Inggris Dasar Berbasis Android. *IKRA-ITH INFORMATIKA: Jurnal Komputer Dan Informatika*, *4*(3), 1–5.

Fadhilah, I. (2022). Faktor kecemasan siswa dalam berbicara bahasa Inggris pada mahasiswa Universitas Muhammadiyah Jakarta. *Indonesian Research Journal on Education*, *2*(1), 96–105.

Fasha, A. N., Hidayah, N., & Wahyuni, F. (2024). Pendekatan Komunikasi Adaptif melalui Problem-Based Learning untuk Meningkatkan Kompetensi Konselor dalam Public Speaking. *Jurnal Ilmiah Bimbingan Konseling Undiksha*, *15*(3), 337–347.

Fidiyanti, L. (2020). Penggunaan Media Pembelajaran Flashcard Untuk Meningkatkan Penguasaan Vocabulary Dengan Materi Narrrative Text. *Journal of Education Action Research*, *4*(1), 42. https://doi.org/10.23887/jear.v4i1.23437

Gama, F. I. (2023). Keberhasilan implementasi project-based learning dalam bidang bahasa: program dan dampaknya pada peserta didik di sekolah dan perguruan tinggi di dunia. *Jurnal Pendidikan Dan Pembelajaran Bahasa Indonesia*, *12*(1), 24–33.

Gehlot, L. (2021). Cognitive development by zone of proximal development (ZPD). *The Journal of Education, Culture, and Society*, *12*(2), 432–444.

Hapsari, F. S., Frijuniarsi, N., & Ahyar, M. F. M. (2024). Implementasi Model Pembelajaran Kolaboratif Project Based Learning dalam Meningkatkan Kemampuan Menulis Teks Bahasa Inggris Mahasiswa. *Jurnal Pendidikan Modern*, *9*(2), 72–80.

Jus, J., Elpisah, E., & Nurdin, N. (2025). Implementasi Pendekatan Kontekstual dalam Meningkatkan Motivasi Belajar Siswa Kelas X Program Keahlian Manajemen Perkantoran dan Layanan Bisnis (MPLB) SMK Negeri 4 Pangkep. *Indonesian Research Journal on Education*, *5*(1), 980–988.

Khalishah, N., & Iklilah, N. (2021). Taksonomi Bloom (Revisi): Tujuan Pendidikan dan Implementasinya dalam Pembelajaran Matematika. *SANTIKA: Seminar Nasional Tadris Matematika*, *1*, 248–266.

Khoiruman, M. A., Sutajaya, I. M., & Suja, I. W. (2023). Implementasi Pendidikan Humanistik dalam Pengembangan Keterampilan Komunikasi Bahasa Inggris di Perguruan Tinggi. *Jurnal Pendidikan Tunas Bangsa*, *1*(2), 53–60.

Kholidiyah, N. F., Murtadho, N., & Mahliatussikah, H. (2022). The Utilization of Portfolio in Linguistics and Its Effect on The Attitudes and Understanding of Students at Universitas Negeri Malang. *Jurnal Pendidikan: Teori, Penelitian, Dan Pengembangan*, *7*(4), 143–148. https://doi.org/10.17977/jptpp.v7i4.15218

Lahir, S., Ma'ruf, M. H., & Tho'in, M. (2017). Peningkatan Prestasi Belajar Melalui Model Pembelajaran Yang Tepat Pada Sekolah Dasar Sampai Perguruan Tinggi. *Jurnal Ilmiah Edunomika*, *1*(01), 1–8. https://doi.org/10.29040/jie.v1i01.194

Laksana, D. N. L., Dhiu, K. D., Jau, M. Y., & Ngonu, M. R. (2019). Developing early childhood cognitive aspects based on Anderson And Krathwohl's Taxonomy. *JPI (Jurnal Pendidikan Indonesia)*, *8*(2), 219–227.

Masita, E. (2023). *Buku Referensi: Strategi Case Method dan Project-Based Learning Dalam Pembelajaran Bahasa Inggris*. PT LITERASI NUSANTARA ABADI GRUP.

Mika, M. A., & Mardiana, N. (2023). Edukasi pentingnya bahasa inggris di era globalisasi. *BERNAS: Jurnal Pengabdian Kepada Masyarakat*, *4*(1), 246–251.

Nafiati, D. A. (2021). Revisi taksonomi Bloom: Kognitif, afektif, dan psikomotorik. *Humanika, Kajian Ilmiah Mata Kuliah Umum*, *21*(2), 151–172.

Nasir, A., Nurjana, N., Shah, K., Sirodj, R. A., & Afgani, M. W. (2023). Pendekatan fenomenologi dalam penelitian kualitatif. *Innovative: Journal Of Social Science Research*, *3*(5), 4445–4451.

Nikmah, A., Shofwan, I., & Loretha, A. F. (2023). Implementasi metode project based learning untuk kreativitas pada anak usia dini. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, *7*(4), 4857–4870.

Novitasari, A., & Paramita, N. P. (n.d.). Edupreneurship 4.0: Eksplorasi Strategi Pembelajaran Inovatif Pendidikan Bahasa Arab di Era Digital. *Mahira: Journal of Arabic Studies & Teaching*, *2*(2), 115–140.

Passarelli, A. M., & Kolb, D. A. (2023). Using experiential learning theory to promote student learning and development in programs of education abroad. In *Student learning abroad* (pp. 137–161). Routledge.

Putri, M. C. I., Sutiadiningsih, A., Nurlaela, L., Niken, & Purwidiani. (2021). Hubungan Penerapan PJBL Portofolio Proses Dengan Kemampuan Berpikir Kritis dan Bertanggung Jawab. *Jurnal Tata Boga*, *10*(1), 76–86.

Rani, H. (2021). Penerapan Metode Project Based Learning pada Pembelajaran Sejarah Kebudayaan Islam dalam Meningkatkan Motivasi Belajar. *Jurnal Pendidikan Refleksi*, *10*(2), 95–102.

Rineksiane, N. P. (2022). Penerapan metode pembelajaran project based learning untuk membantu siswa dalam berpikir kritis. *Jurnal Pendidikan Manajemen Perkantoran*, *7*(1), 82–91.

RS, A., Rantung, D. A., & Naibaho, L. (2023). Integrasi teknologi dalam pembelajaran pendidikan agama Kristen (PAK) sebagai peluang dan tantangan di era digital. *Journal on Education*, *6*(1), 7607–7613.

Saputra, D. I., Abdullah, A. G., & Hakim, D. L. (2014). Pengembangan Model Evaluasi Pembelajaran Project Based Learning Berbasis Logika Fuzzy. *Innovation of Vocational Technology Education*, *10*(1), 13–34. https://doi.org/10.17509/invotec.v9i1.5089

Satuti, R., & Atmojo, I. R. W. (2025). Mengatasi Miskonsepsi Dalam Pembelajaran IPA: Tantangan Dan Strategi Untuk Peningkatan Pemahaman Sains di Sekolah Dasar pada Materi Iklim dan Perubahan. *Elementary School: Jurnal Pendidikan Dan Pembelajaran Ke-SD-An*, *12*(1), 150–161.

Septianingsih, D., Burhanudin, M. Z., Fawzia, M., Irawati, H., & Wahyuni, P. A. (2024). Implementasi Metode Pembelajaran Project Based Learning Berbasis Teknologi Canva Untuk Meningkatkan Kreativitas Peserta Didik di SMA N 1 Tambun Selatan. *Available at SSRN 4837650*.

Shvarts, A., & Bakker, A. (2019). The early history of the scaffolding metaphor: Bernstein, Luria, Vygotsky, and before. *Mind, Culture, and Activity*, *26*(1), 4–23.

Supatmi, R., Suhendra, H., Andriani, S., Azwar, R., & Mandasari, E. (2024). Analisis Literature Review pada Merdeka Belajar Kampus Merdeka sebagai Catalyst untuk Inovasi Pedagogi dalam Pendidikan Bahasa Inggris. *Merdeka Belajar Kampus Merdeka*, *1*(1), 46–51.

Surani, D., & Chaerudin, A. R. (2019). Pemanfaatan Media Whatsapp Grouping dalam Peningkatan Kemampuan Bahasa Inggris Ekonomi Mahasiswa Fakultas Ekonomi dan Bisnis. *Tarbawi: Jurnal Keilmuan Manajemen Pendidikan*, *5*(02), 155–172.

Suryani, L. A., & Thamrin, H. (2023). Pentingnya Belajar Bahasa Inggris di Era Globalisasi Bagi Anak-Anak di Panti Asuhan Al-Jami'yatul Washliyah. *ABDISOSHUM: Jurnal Pengabdian Masyarakat Bidang Sosial Dan Humaniora*, *2*(3), 272–278.

Swandi, A., Rahmadhanningsih, S., Dara Amin, B., Viridi, S., & Chang, C.-H. (2022). Project Based Learning on Laboratory Experiment about Refraction and Total Internal Reflection of Different Types of Materials. *Jurnal Ilmu Pendidikan Fisika*, *7*(2), 102–111.

Syahputra, I. (2014). Strategi Pembelajaran Bahasa Inggris Sebagai Bahasa Asing Dalam Meningkatkan Kemampuan Berbahasa Siswa. *Jurnal Penelitian Sosial Keagamaan*, *17*, 127–145.

Urgo, K., Arguello, J., & Capra, R. (2019). Anderson and krathwohl's two-dimensional taxonomy applied to task creation and learning assessment. *Proceedings of the 2019 ACM SIGIR International Conference on Theory of Information Retrieval*, 117–124.

Wahyuni, S., Zaim, M., Thahar, H. E., & Susmita, N. (2024). Revolusi Media Pembelajaran Digital:"Membuka Peluang Dan Menangani Tantangan Dalam Pembelajaran Bahasa. *Visipena*, *15*(1), 51–66.

Wijnia, L., Noordzij, G., Arends, L. R., Rikers, R. M. J. P., & Loyens, S. M. M. (2024). The Effects of Problem-Based, Project-Based, and Case-Based Learning on Students' Motivation: a Meta-Analysis. In *Educational Psychology Review* (Vol. 36). Springer US. https://doi.org/10.1007/s10648-024-09864-3

Xi, J., & Lantolf, J. P. (2021). Scaffolding and the zone of proximal development: A problematic relationship. *Journal for the Theory of Social Behaviour*, *51*(1), 25–48.

Zaretsky, V. K. (2021). One More Time on the Zone of Proximal Development. *Cultural-Historical Psychology*, *17*(2).