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# The Impact of Project-Based Learning on Collaborative and Critical Thinking Skills of Students in Translation Course

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ABSTRACT

This study investigates the effectiveness of project-based learning (PjBL) in translation education, focusing on the development of students' collaborative and critical thinking skills. Using a quasi-experimental design, the research examines how engagement in real-world translation projects influences students' active learning, integration of theory and practice, and overall engagement in the learning process. Key findings indicate that PjBL significantly increases student participation, fosters the application of theoretical knowledge in practical settings, and improves essential professional skills such as teamwork and decision-making. The research contributes to the field of translation learning by highlighting the potential of PjBL as an innovative and effective teaching strategy. It emphasizes the importance of designing and implementing project-based activities that enrich students' learning experiences and prepare them for the complexities of professional translation work. However, the study acknowledges certain limitations, including its limited focus on a single educational context, which may affect the generalizability of the findings. Future research directions are suggested, including exploring the impact of PjBL in different educational settings and assessing its long-term effects on students' career readiness and professional development.

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## A. INTRODUCTION

In language translation learning, collaborative and critical skills are key elements that affect not only the quality of the translation, but also the efficiency and effectiveness of the translation process itself. Collaborative skills enable translators to work in teams, which is often necessary for large projects or for texts with specialized content that require particular expertise (Kelly, 2014). These skills facilitate effective communication and coordination between team members, allowing the exchange of ideas and strategies that can improve translation quality (Jiménez-Crespo, 2013; Pym, 2009).

Critical translation skills, on the other hand, involve in-depth analysis of the source text, understanding the context, and making decisions based on that understanding. These skills enable translators to overcome challenges such as cultural differences, linguistic nuances, and communicative context, all of which affect the way messages are translated from one language to another (Baker, 2018; Shreve & Angelone, 2010). Critical thinking helps translators focus not only on words and phrases, but also on the meaning and communicative purpose behind the text, which is a key aspect of quality translation.

The importance of collaborative and critical skills in translation is also emphasized in educational and professional frameworks, such as the European Translator Competencies, which recognize that the ability to work in teams and apply critical thinking are part of the core competencies that professional translators should possess (Network, 2017). Therefore, the development of these skills in translation education programs is essential to prepare students for the real challenges of translation practice.

Project-based learning (PjBL) has been recognized as an effective approach in translation education, providing students with opportunities to apply theory in practice through authentic and task-oriented learning experiences (Kiraly, 2014). This approach allows students to work on real or simulated projects that mimic the challenges faced by professional translators, thus facilitating the development of collaborative and critical skills essential to the translation discipline.

An example of the application of PjBL in translation courses is a collaborative translation project in which students are divided into teams to translate a complete document, such as a journal article, book or website material. The process involves several stages, from source text analysis to draft translation to editing and proofreading, all of which are done collaboratively (Davies, 2004). Through this type of project, students not only practice their translation skills, but also learn how to communicate

effectively, manage the project, and make decisions together, all of which strengthen their collaborative skills.

In addition, community-based translation projects, in which students work on materials needed by non-profit organizations or local communities, can provide valuable learning experiences. Such projects not only increase students' social awareness and responsibility, but also challenge them to apply critical thinking in understanding the needs of the audience and the broader cultural context (Kelly, 2014).

Project design in PjBL should take into account the stages of reflection and evaluation, where students and faculty review and discuss the work and collaborative process together. This allows students to critique their own and their peers' work and reflect on their learning experience, which deepens their critical skills (Kiraly, 2016).

Students often face specific challenges related to linguistic, cultural, and professional issues. Project-based learning (PjBL) offers a dynamic and interactive approach to addressing these challenges by providing practical experiences that prepare students for the realities of working in the translation field. One of the main challenges in translation is bridging the cultural gap between the source and target texts. Translators must be able to understand cultural and contextual nuances in order to produce translations that are not only linguistically accurate, but also relevant and acceptable to the target audience (Nord, 2014). Projects such as translating materials for multicultural communities or translating websites for international organizations can help students develop these skills. By working on real-world tasks, students are challenged to apply their cultural knowledge in a practical way, thereby enhancing their intercultural competence.

Another challenge is to develop technical skills relevant to today's translation industry, including mastery of CAT tools and other related technologies (O'Hagan, 2013). Projects involving the use of CAT software or online collaboration platforms can give students the opportunity to practice using these tools in a real-world context, enabling them to overcome the technical learning curve before entering the workforce.

In addition, students often face challenges in developing collaboration and project management skills, which are essential in large-scale translation projects. PjBL, with its emphasis on teamwork and collaborative problem solving, encourages students to work together to achieve a common goal, manage task sharing, and communicate effectively (Kiraly, 2014).

PjBL is based on the principles of constructivist learning theory developed by theorists such as (Dewey, 2009; Piaget, 1970; Vygotsky, 1978), who argue that the best learning occurs when students are actively engaged in the process of constructing their own knowledge through interaction with the surrounding world. While there is evidence of the effectiveness of project-based learning (PjBL) in developing collaborative and critical skills across a range of higher education disciplines, there is a significant gap in the literature that specifically examines the impact of this method in the translation learning process. (Kiraly, 2014) and (Davies, 2004) have highlighted the potential of PjBL in translation education, but more in-depth research on how PjBL specifically affects collaborative and critical skills in translation is still needed.

Most research on PjBL in translation focuses on learning outcomes in general or on the development of technical skills, with a lack of emphasis on collaborative and critical aspects (Bell, 2010; Thomas, 2009). Therefore, this study aims to fill this gap by exploring how PjBL affects the development of students' collaborative and critical skills in translation courses.

## B. LITERATUR REVIEW

1. Project Based Learning (PjBL)

   Project Based Learning (PjBL) has been recognized as an effective method for promoting 21st century skills, including collaboration and critical thinking. (Thomas, 2009) defines PjBL as a learning model that allows students to explore real-world and complex problems and develop deeper understanding through active learning. In translation, PjBL offers students the opportunity to engage in projects that simulate real-world translation challenges, enriching their learning experience through real-world practice (Davies, 2004).

2. Collaborative skills

   Collaborative skills are an important aspect of translation that enable translators to work effectively in teams. (Kiraly, 2014) argues that collaboration in translation is not only about working together, but also about building knowledge and skills through social interaction. Research by (Brown, 2018) shows that collaboration can improve the quality of translation and the efficiency of the translation process,

highlighting the importance of creating a collaborative learning environment in translation education.

3. Critical thinking

Critical thinking in translation involves critically evaluating the source text, identifying translation problems, and making appropriate decisions. (Shreve & Angelone, 2010) argue that critical thinking is essential in translation because it enables translators to navigate between the source and target texts by considering various factors such as context, culture, and communicative purpose. This is supported by (Pym, 2009) who states that critical thinking enables translators to make informed and reflective translation decisions, which is the key to quality translation.

4. Translation learning

Integrating PjBL into translation education provides a framework for developing collaborative and critical thinking skills. (Kiraly, 2014) emphasizes that this pedagogical approach prepares students for the professional reality of translation, where collaborative and critical thinking skills are essential. Research by (Kelly, 2014) supports this, showing that PjBL can enhance students' understanding of the translation process and improve their overall professional skills.

## C. RESEARCH METHOD

This study adopted a quasi-experimental one-group pretest-posttest design, which involved only one research group, namely students of the English Language Education program at Universitas Graha Nusantara who took the translation course, a total of 22 people. At the beginning of the course, the students took a pretest to measure their initial proficiency. The same group of students then experienced the learning process through project-based learning method. This study used several instruments to collect data. Validated pre- and post-tests were used to measure students' collaborative and critical skills before and after the intervention period. A questionnaire survey was also conducted to explore students' perceptions of project-based learning and its impact on their level of motivation and engagement in the learning process. Data analysis was conducted using descriptive statistics to analyze the pre-test and post-test scores. In addition, t-test statistics were used to determine any significant differences before and after the implementation of the project-based learning method. To measure the improvement of students' skills in translating using a rating scale with a range of 1-5 as in the following table:

Table 1

Rating Scale for Students' Skills in Translating

| Indicators | Values | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Translation Accuracy | Very inaccurate, many basic errors in translation. | Less accurate, some basic errors that affect the meaning. | Quite accurate, but there is still room for improvement. | Accurate, with only minor errors that do not significantly affect the meaning. | Very accurate, with no translation errors. |
| Appropriateness of Style and Register | The style and register do not match the target text at all. | Style and register are less appropriate to the target text. | The style and register are quite appropriate, but could be better. | Style and register are appropriate for the target text, with only minor improvements needed. | The style and register are fully appropriate to the target text. |
| Terminology Consistency | Terminology is very inconsistent, many errors. | Some inconsistencies in terminology. | Terminology is fairly consistent, with some errors. | Terminology is consistent with only a few errors. | The terminology is completely consistent, with no errors. |
| Smoothness and Naturalness | Unnatural translation, a lot of rigidity. | The translation is less natural, there is rigidity. | Translation is quite natural, but could be smoother. | The translation is natural and smooth, with little room for improvement | The translation is very natural and smooth. |
| Contextual Understanding | Does not show contextual understanding. | Minimal contextual understanding. | Demonstrates sufficient contextual understanding. | Demonstrates good contextual understanding. | Excellent contextual understanding. |
| Analysis and Problem Solving Skills | Unable to solve translation challenges. | Difficulty solving translation challenges. | Able to complete translation challenges | Able to effectively solve translation challenges. | Solve all translation challenges innovatively. |


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| | | | | | |
|---|---|---|---|---|---|
| | | | with assistance. | | |
| Creativity and Adaptation | There is no creative effort or adaptation. | Little creative effort or adaptation. | Enough creative effort and adaptation. | Good creativity and adaptability. | Very high level of creativity and adaptability. |
| Use of Reference Sources | Reference sources are not or rarely used. | Minimal use of reference sources. | Use reference sources quite well. | Use reference sources effectively. | The use of reference sources is very effective. |
| Reflection and Self-Evaluation | There is no meaningful reflection or self-evaluation. | Limited reflection and self-evaluation. | Reflection and self-evaluation are sufficient. | Good reflection and self-evaluation. | Deep reflection and self-evaluation. |
| Coherence and Cohesion | Incoherent and non-cohesive, difficult to follow. | Less coherent and cohesive, somewhat difficult to follow. | Quite coherent and cohesive, but could be better. | Coherent and cohesive, easy to follow. | Very coherent and cohesive, very easy to follow. |

(Delizée, 2011; Lee, 2002; Mei & Chen, 2022)

Then, the instrument used to measure student perceptions of project-based learning (PjBL) and its influence on motivation and engagement in learning, the questionnaire contains the following indicators.

Table 2

The Questionaries to measure student perceptions of project-based learning (PjBL)

| Indicator | Survey Question |
|---|---|
| Perception of PjBL | How would you rate your experience with project-based learning in this course? To what extent do you feel project-based learning is relevant to the learning objectives of this course? Do you feel project-based learning provides a better opportunity to put theory into practice? |
| Learning Motivation | To what extent has project-based learning increased your motivation to learn in this course? Has project-based learning made you more eager to complete assignments in this course? How has project-based |

| | |
|---|---|
| | learning affected your interest in continuing to study related topics outside of class? |
| Engagement in Learning | How often did you actively participate in group discussions and activities during the project? Did you feel more engaged in learning when working in team-based projects compared to other learning methods? How did project-based learning affect your ability to cooperate with your peers? |
| Collaborative Skill Development | To what extent has project-based learning helped you develop collaborative skills? Give examples of how project-based learning has improved your ability to communicate and work in teams. Has project-based learning provided valuable experience in resolving conflict and reaching consensus in teams? |
| Critical Thinking Development | How effective was project-based learning in improving your critical thinking skills? In what aspects did project-based learning improve your analytical skills the most? Give an example of a situation in the project where you had to apply critical thinking to solve a problem. |

Each question in the questionnaire was answered using a Likert scale, for example from 1 (Strongly Disagree) to 5 (Strongly Agree), to facilitate data analysis and interpretation.

## D. RESULT AND DISCUSSION

1. The Result of Research

In this study, the effectiveness of project-based learning (PjBL) in improving the collaborative and critical skills of translation students was tested through the use of pretest and posttest. Details of the pretest and posttest results are presented below:

a. Pretest Results

At the initial stage, a pretest was administered to the students to measure their level of collaborative and critical skills before the learning process with the PjBL method. The average score for collaborative skills on the pretest was 60 out of 100, indicating a moderate initial understanding of the concept of collaboration in translation. Meanwhile, the average score for critical thinking skills was 65, also indicating a moderate level of understanding of critical analysis in translation.

b. Implementing the learning process through PjBL

In the learning process through project-based learning (PjBL) in translation courses, focusing on the project "Collaborative Translation for Multilingual Online Publication". A series of structured activities designed to enhance students' collaborative and critical skills were carried out through the following activities

1) Orientation and team building

The learning process started with an orientation session where the instructor introduced the project, its objectives and expected outcomes. Students are divided into teams based on their expertise and interests. This activity facilitates the formation of balanced teams, where students get to know their team members and begin to discuss their individual skills and roles in the project. In the early stages, some students struggled with team formation, especially with regard to group dynamics and role distribution. Some students were unsure of their roles and how they could effectively contribute to the team's goals. In addition, there were challenges in establishing effective communication between team members, especially for those who were not used to working in a collaborative environment.

2) Project Planning

Once teams are formed, students are instructed to develop a project plan. This includes task assignment, scheduling, and team communication strategies. Instructors provide guidance on how to plan the project effectively and ensure that each team member has a clear understanding of their responsibilities. During the implementation phase, the main difficulties faced by the students were related to researching the cultural context and terminology. Some students felt overwhelmed by the amount of research needed to accurately translate the articles. In addition, the peer review process was challenging, especially giving and receiving constructive criticism. Some students felt uncomfortable giving negative feedback to teammates, while others had difficulty accepting criticism of their work.

3) Project Implementation

Next, students implemented the project by researching cultural context and terminology, translating articles, and conducting peer reviews. Instructors provided resources, guidance, and monitored the progress of the project to ensure that students applied critical approaches to the translation process and team collaboration.

4) Reflection and evaluation

Once the project is completed, the instructor organizes a presentation session where teams present their work and receive feedback. This activity allows students to reflect on the challenges they faced during the project, evaluate their personal and team contributions and learning, and gain new perspectives from their peers and instructors.

5) Publication of the project

The final stage of the learning process is to prepare the translation for publication. Students finalize the translation based on feedback received and prepare their work for publication on an appropriate platform. Teachers provide support and guidance throughout this process, ensuring that the translation meets high publication standards. This is a challenging phase for students. The process of final editing and adjusting the translation based on feedback requires a high level of attention to detail, which some students find tedious. In addition, navigating the online publication process and ensuring that all aspects of the translation met publication standards was challenging and confusing for some teams.

In this study, instructors played the role of facilitator and mentor, evaluating team and individual work based on clear criteria. Students, on the other hand, took an active role as team members, developing translation, collaboration, and critical skills.

c. Posttest Results

After going through a series of learning processes through PjBL, a post-test was given to the same students. The post-test results showed significant improvement in both skills measured. The average score for collaboration skills increased to 85, indicating a significant improvement in the students' ability to work effectively in teams. The average score for critical thinking skills increased to 90, indicating that students had developed better skills in analyzing and solving complex translation problems.

d. Statistical Analysis

To determine the significance of the improvement in scores between the pre-test and post-test, statistical analysis was performed using the paired samples t-test. The results of the t-test showed a p-value of $<0.001$ for both skills, meaning that the improvement in scores from pretest to posttest was statistically significant. This confirms that PjBL has a significant positive impact on the development of students' collaborative and critical skills in translation courses.

The results of a survey designed to measure students' perceptions of project-based learning (PjBL) and its impact on motivation and engagement in learning showed an overall positive response. The survey was designed with indicators such as perceptions of PjBL, motivation to learn, engagement in learning, development of collaborative skills, and development of critical thinking. Each question was answered on a Likert scale from 1 (strongly disagree) to 5 (strongly agree).

In general, students rated their experience with PjBL very positively, with an average score of 4.2. Students felt that PjBL was very relevant to the learning objectives of the course and provided better opportunities to put theory into practice (mean score 4.1).

PjBL successfully increased students' motivation to learn, with a mean score of 4.3. Students felt more eager to complete assignments and showed more interest in continuing to learn related topics outside of class (mean score 4.2).

Student engagement in learning increased significantly when working on team-based projects, with an average score of 4.4. Students actively participated in group discussions and activities and felt that PjBL positively affected their ability to work with peers (mean score 4.3).

PjBL was considered effective in developing students' collaborative skills, with a mean score of 4.5. Students provided concrete examples of how PjBL improved their ability to communicate, work in teams, resolve conflicts, and reach consensus (mean score 4.4).

Students rated PjBL as very effective in improving their critical thinking skills, with a mean score of 4.6. They felt that PjBL significantly improved their analytical skills and provided real-life situations in which they had to apply critical thinking to solve problems (mean score 4.5).

The survey results showed that PjBL successfully increased students' motivation and engagement in learning and significantly developed their collaborative and critical thinking skills.

The observations and in-depth interviews conducted during this study revealed various aspects of students' and teachers' experiences, challenges and successes in implementing project-based learning (PjBL) in translation courses. Students consistently reported that PjBL provided them with a valuable opportunity to put translation theory into practice by working in teams, which increased the dynamism and interactivity of the learning process. Although they faced challenges in terms of

coordination and communication - especially when there were disagreements about the appropriate translation - students saw this as an important lesson in the importance of negotiation and reaching consensus within a team.

One of the most memorable moments of success for the students was when they managed to translate a complex article while retaining the cultural nuances and context of the original, which not only gave them personal satisfaction but also boosted their confidence in their translation skills.

From the instructors' perspective, there has been a significant increase in student engagement and enthusiasm for the course, as PjBL allows students to become more actively involved and see the direct relevance of the material to real-world applications. However, instructors also recognize that the main challenge in implementing PjBL is ensuring equal participation and learning for all students, which requires careful planning and mentoring to ensure the effectiveness of group dynamics.

Success in implementing PjBL, according to teachers, is often seen when teams of students are able to overcome differences of opinion and produce high quality translations. This demonstrates not only their mastery of translation skills, but also other important skills such as teamwork, communication, and flexibility.

2. The Discussion

The results of this study show how project-based learning (PjBL) supports the development of translation students' collaborative and critical thinking skills, in line with the existing literature. The findings that PjBL enhances these skills are consistent with the views of (Davies, 2004; Kiraly, 2016), who emphasize the importance of collaboration and critical thinking in translation education. PjBL provides an environment conducive to the development of such skills, enriching students' understanding through the dynamics of teamwork and project-based tasks. The findings also support constructivist learning theory, as described by (Vygotsky, 1978), which states that the best learning occurs when individuals actively construct their own knowledge through experience. PjBL facilitates this process by allowing students to apply translation theory to real-world projects, reflect on their experiences, and develop a deeper understanding of the material.

In addition, this study highlights the effectiveness of PjBL in developing critical thinking, in line with the critical thinking framework proposed by (Paul & Elder, 2006). Through PjBL, students engage in the process of clarification, analysis, and

evaluation, which are key elements of critical thinking. This process strengthens the argument that PjBL can be an effective tool in teaching students to think critically and independently, skills that are crucial in translation.

However, this study also acknowledges limitations, including a limited sample and a focus on one aspect of education, which may affect the generalizability of the findings. Nevertheless, this study provides preliminary evidence to support the implementation of PjBL in the translation curriculum and offers insights for further research.

Based on these findings, several recommendations can be identified for educators in the use of PjBL. In-depth and authentic project design, facilitation of effective collaboration, and encouragement of critical reflection are necessary to support student learning. In addition, the use of technology can enhance collaboration and efficiency. For successful implementation, institutions should provide faculty training, develop appropriate assessment systems for PjBL, and provide strong institutional support, including adequate resources and infrastructure.

The results of this study confirm the importance of PjBL in translation education and show how this approach can enrich students' learning experience by developing key skills required in professional translation practice.

## E. CONCLUSION

This research has successfully explored the influence of project-based learning (PjBL) in the field of translation, particularly on the development of students' collaborative and critical thinking skills. The results confirm that PjBL plays a significant role in facilitating active and student-centered learning, bringing together theory and practice in a cohesive learning platform, and increasing the level of student engagement in the learning process. By engaging in challenging, real-world projects, translation students not only sharpen their technical skills, but also hone their ability to work in teams and apply critical thinking in decision-making, aspects that are crucial for navigating the complexities of the professional translation world.

The contribution of this research to the field of translation education cannot be underestimated. The findings enrich the existing literature by highlighting the effectiveness of PjBL as an innovative learning strategy, and offer guidance to educators in designing and implementing projects that not only enrich students' learning experiences, but also prepare them fully for the challenges of a translation career.

However, this study is not without its limitations. The focus on one educational context raises questions about the generalizability of the findings to other contexts. In addition, further research is needed to explore the influence of group dynamics and individual student characteristics on the effectiveness of PjBL. Given these gaps, future research directions could include evaluating the effectiveness of PjBL in different translation classes, taking into account different cultural and linguistic factors. Longitudinal research assessing the long-term impact of PjBL on students' work readiness and career development would provide valuable additional insights. A mixed-methods approach can reveal how students overcome specific challenges in PjBL and its impact on their career development. It is recommended that future studies explore the use of digital technologies and online collaboration tools to support PjBL, strategies to increase inclusivity and access in PjBL, and the role of critical reflection in the learning process. This will broaden our understanding of PjBL and its potential to enhance learning and professional development in the field of translation.

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