



Enhancing Student Learning Motivation Through the Implementation of Project-Based Learning (PJBL) with Interactive Digital Books

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ABSTRACT

The study presents the use of interactive digital books that are focused on project-based learning to boost the motivation of students to learn. One of the required subjects for students enrolled in the English education study program at the Catholic University of Saint Thomas Medan is teaching English as a foreign language. The following issues were discovered during observations conducted in the class of 2020 students enrolled in the English Education Study Program at the Catholic University of Saint Thomas Medan. Students are completing courses on teaching English as a foreign language. Low student motivation for learning is demonstrated by the student's inability to comprehend the lecturer's explanations of the material. Their laziness comes from studying and reluctance to read the material they have acquired. And their boredom comes from listening to the lecturer explain the material. Using digital books is one strategy professors can employ to boost student motivation for learning. Students are required to have the motivation or drive to complete learning activities in higher education in order to meet their desired learning objectives, thanks to the digital book. Descriptive qualitative research is what this study was. A questionnaire was used as the data collection method, and 32 students responded to it. The usage of interactive digital books based on Project Based Learning (PJBL) has been shown to boost student learning motivation, according to the study's findings. 96.37% of the results are extremely high.

Keywords: *student learning motivation, project-based learning (PJBL), interactive digital books*

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INTRODUCTION

One of the required courses for students enrolled in the English education study program at the Catholic University of Saint Thomas is Teaching English as a Foreign Language. This course helps students use the elements of classroom management and teaching and learning interactions, as well as practice creating lesson plans (RPP). It also helps them select and try out techniques, methods, models, and tools that can be utilized in teaching a certain subject. The following issues were discovered based on observations made in the 2020 class of students enrolled in Teaching English as a Foreign Language courses at the University of PGRI, West Sumatra's English Education Study Program: low student motivation to learn, which is evident from the students' inability to comprehend the explanation of the material. provided by the speaker, the students become tired listening to the lecturer describe the subject matter, they become lethargic when studying, and they refuse to read the content they have learnt during the learning process. (Johnson & Cuevas, 2016) asserts that learning motivation plays a critical role in facilitating the successful completion of the learning process. Motivating kids keeps them moving, points them in a specific direction, and keeps them moving. Motivation is something that energizes, drives, and sustains behaviour.

Teachers and lecturers must be able to fulfil their duties in the learning process, which includes serving as motivators for students (Kurniasih, 2022). Motivation is one of the key dynamic components of teaching and learning activities, as demonstrated by the teacher's function as a motivator (Rodríguez-Peñarroja, 2022). Less capable students frequently suffer from a lack of enthusiasm to learn, which prevents them from using all of their ability and leads to their classification as underachievers. The position of the teacher as an evaluator, wherein the teacher plays a part in gathering data or information regarding the success of the learning that has been carried out, means that teachers must be creative in order to boost their learning motivation. The elements of the 2013 curriculum advocate learning that helps students reach their maximum potential and sparks enthusiasm by using a scientific approach (Nainggolan et al., 2020). Creating a welcoming and productive learning environment is one of a teacher's responsibilities as a skilled educator in order to maximize the potential of their students.) A mental state known as motivation promotes activity and gives energy that results in meeting demands and correcting or lessening imbalances. According to (Safaruddin et al., 2020) the findings of the interviews, students also reported having trouble grasping the subject because there were no handbooks available for it. Additionally, students only use online reading materials in the form of blog entries. There exist students that solely depend on the lecturer's power points. Because of this, students are unable to experiment with, select from, and create models, approaches, techniques, and tactics for the learning tools they create.

Students in the English education studies program at Catholic University of Saint Thomas who had attended courses in Teaching English as a Foreign Language also experienced the same issue. Neither instructors nor students have, however, used modules in lectures. Additionally, because they had no interest in the printed teaching materials that the lecturers utilized, it was discovered that there was an issue with their lack of drive to read and comprehend the course materials for Teaching English as a Foreign Language. Using digital books is one strategy lecturers and teachers can employ to boost student motivation for learning. Due to the availability of digital books, students are expected to be motivated to complete their coursework at colleges and universities in order to meet their desired learning objectives. Motivation is the result of that drive (Saad & Zainudin, 2022).

Several studies have highlighted issues similar to those observed in this research, particularly related to student motivation and the effectiveness of teaching methods in Teaching English as a Foreign Language (TEFL) courses. One of the most common challenges identified is the low level of student motivation and engagement. This problem has been widely discussed, with Johnson & Cuevas (2016) asserting that motivation plays a crucial role in learning, as it drives students to actively participate. However, when students are subjected to passive learning environments, such as lecture-based sessions, they often become fatigued and disengaged, showing little interest in reviewing or understanding the material presented. These observations closely align with the issues identified in the TEFL course, where students appear tired and unmotivated during the learning process.

A study by Nainggolan et al. (2020) also shed light on a significant gap between the intended curriculum and its implementation. Despite the 2013 curriculum's emphasis on a scientific and student-centered approach, teachers often struggle to adopt these strategies effectively. As a result, students are not given the opportunity to actively engage in the learning process, which leads to underachievement and limited exploration of teaching techniques. This reflects the situation in this research, where students fail to experiment with, choose, or design their own methods and tools due to a lack of motivation and appropriate guidance.

Another recurring issue is the over-reliance on inadequate learning materials. In the observations made, students frequently depend on the lecturer's PowerPoint slides or surface-level online sources, such as blog posts, for their learning. This is consistent with Safaruddin et al. (2020), who found that students often rely on minimalistic resources that do not provide the depth or interaction necessary for thorough comprehension of the subject matter. This lack of comprehensive and engaging materials leaves students unprepared and demotivated, which mirrors the difficulties observed in the TEFL courses.

Moreover, Campos-Roca (2021) emphasized the challenge of promoting critical thinking and active learning in environments where innovative teaching tools, like e-modules or digital books, are not integrated. Traditional methods, such as printed materials or purely lecture-based approaches, do not inspire students to engage deeply with the content. This aligns with the findings of this research, where students in TEFL courses demonstrated little interest in printed materials and had difficulty understanding the course content without digital support.

In addition, Simbolon & Koeswanti (2020) highlighted that the absence of Project-Based Learning (PBL) in teaching limits the development of students' problem-solving and critical thinking skills. Without PBL or similar interactive approaches, students are less likely to express enthusiasm or creativity in their learning. This is particularly relevant to this research, where it was found that the lack of project-based or digital tools has led to students' lack of engagement and lower learning outcomes.

These problems, frequently cited in previous research, reinforce the significance of addressing student motivation, the accessibility of appropriate learning resources, and the integration of interactive digital tools in modern teaching methods. Without innovations such as project-based digital books, students are unlikely to experience the kind of engagement and learning outcomes that lead to success in TEFL courses.

Students' excitement for learning, critical thinking abilities, and concern for the learning process can all be enhanced by this endeavour (Campos-Roca, 2021). Project-based E-books are a useful tool for lecturers to boost their students' enthusiasm for learning. Based on Wetland Environment on Environmental Care Attitudes" came to the conclusion that applying the E-module with the PBL model had a beneficial impact on environmental care attitudes and critical thinking abilities. This study is unusual in that it incorporates the wetland environment into the teaching process through the use of E-modules as instructional resources. The focus of the learning process is on the impact of acid-base solutions on students' attitudes toward environmental care and critical thinking abilities (Simbolon & Koeswanti, 2020). The PBL approach can enhance analytical, creative, critical thinking, and environmental awareness. The goal of this study is to use interactive digital books that are focused on project-based learning to boost students' enthusiasm to learn.

METHOD

This research employed a qualitative descriptive approach, with the aim of collecting and analyzing primary data related to the learning motivation of students enrolled in the 2023 English Education study program at the Catholic University of Saint Thomas. It was conducted in fourth semester academic students of English Education Study Program. The population was 24 students and so the sample was. The primary data were gathered through the administration of a learning motivation questionnaire. The detailed steps in the research procedure are outlined as follows:

Preparation of the Questionnaire

The research tool consisted of a learning motivation questionnaire, which was structured based on a 0–4 point Likert scale. The questionnaire included statements with the following answer options:

- 4 = Always
- 3 = Sometimes
- 2 = Rarely
- 1 = Never

The statements were designed to assess various aspects of student motivation, including interest in the subject, effort put into learning, and engagement during classroom activities.

Distribution of Questionnaires

The learning motivation questionnaire was distributed to all participants, who were students in the English Education program (class of 2023). Each respondent received their own copy of the questionnaire, either in printed or digital format, depending on the mode of delivery preferred during the actual data collection process.

Respondent Instructions

Respondents were provided with clear instructions on how to complete the questionnaire. They were required to read each statement and indicate their response by marking (√) in the appropriate column on the answer sheet, reflecting the extent to which the statement applied to their motivation for learning.

Data Collection

After the respondents completed the questionnaire, their responses were collected for analysis. The responses were measured on a 0-4 scale, where a higher score indicated a higher level of learning motivation. Respondents were encouraged to answer honestly based on their real experiences.

Data Analysis

Once the data had been collected, it was analyzed descriptively. The researchers tabulated the scores, calculated averages, and assessed the overall trends in student motivation based on the questionnaire responses. The analysis focused on identifying common patterns, levels of motivation, and areas where student engagement was lacking.

Presentation of Results

The analyzed data were presented in both tabular and narrative formats, providing a clear depiction of the motivational levels of the students. The results were compared with previous research on student motivation in TEFL contexts and were discussed in terms of their implications for teaching practices in the English Education program.

The following formula was used to analyze the learning motivation questionnaire score as a percentage:

$$P = F \times 100\% \quad (1)$$

Information:

P = Percentage number

F = Frequency being searched for the percentage

N = Number of Frequency/respondents

Table 1. Students' Learning Motivation Levels

Achievements (%)	Criteria
81 - 100	Very high
61 - 80	high
41 - 60	Currently
21 - 40	Low
0 - 20	Very low

RESULTS AND DISCUSSION

Based on the findings of the student learning motivation survey, which was administered to 32 students enrolled in the English education study program at the Catholic University of Saint Thomas the Teaching English as a Foreign Language course, the survey was given to students studying English as a foreign language. There are fourteen statements in the student motivation questionnaire. With extremely high

requirements, the average student's motivation to learn is 96.37% overall. Table 2 displays the percentage for each statement.

Table 2. Research Findings

Statement Items	(%)
I am excited to take part in the lecture activities for teaching English as a foreign language with the goal of	95.31
I'm glad to arrive in class on time for the media lectures on English language learning.	95.31
I believe that employing digital books based on Project Learning (PjBL) makes teaching English as a foreign language lectures easier and more engaging.	98.43
Teaching English as a Foreign Language lecture activities using Project Learning (PjBL)-based digital books help me learn concepts more rapidly.	95.30
After finishing the Teaching English as a Foreign Language course, students can draw conclusions utilizing modules that are based on Project Learning (PjBL).	94.53
During lecture activities, I can respond to the lecturer's questions by utilizing a digital book that is based on Project Learning (PjBL).	89.84
Using Project Learning (PjBL)-based modules, I am happy with how I am able to carry out the lecture activities for Teaching English as a Foreign Language.	99.21
Students who use digital books based on Project Learning (PjBL) find that it is easier for them to absorb the material in lecture activities.	97.65
When the lecturer describes the method and structure of English learning in lectures, the students listen—they listen intently, sincerely, and with attention.	97.65
Students are inspired to take part in Teaching English as a Foreign Language courses utilizing Project Learning (PjBL) based modules	99.21
I'm inspired to study and comprehend the content in the module based on Project Learning (PjBL).	99.21
Students feel that the Project Learning (PjBL)-based digital book provided is appropriate and suitable for learning Teaching English as a Foreign Language activities	99.21
Students believe that using modules based on Project Learning (PjBL) during lecture activities on teaching English as a foreign language is highly practical.	97.65
During lecture exercises on teaching English as a foreign language, students voice their opinions.	90.62
Average	96.37%

The analysis of the motivational questionnaire administered to students in the 2023 English Education study program at the Catholic University of Saint Thomas yielded significant findings regarding their experiences with the use of Project-Based Learning (PjBL) digital books in Teaching English as a Foreign Language (TEFL) lectures. The average student response rate across all statements was 96.37%, indicating a high level of engagement, satisfaction, and perceived effectiveness of PjBL-based digital books.

Excitement and Timeliness in Participation

Students expressed high enthusiasm for participating in TEFL lectures, with 95.31% stating they were excited to take part in the activities and happy to arrive on time for media-related lectures. This suggests that the incorporation of PjBL-based digital books helped create a positive learning environment that fostered student interest and punctuality.

Engagement and Learning Effectiveness

A significant portion of students (98.43%) believed that using digital books based on PjBL made TEFL lectures easier and more engaging. Similarly, 95.30% of students reported that these digital books

helped them learn the course concepts more rapidly. These findings point to the effectiveness of PjBL-based digital books in facilitating student understanding and active engagement in the learning process.

Comprehension and Question Response

When it came to utilizing the digital books during lectures, 94.53% of students felt confident in drawing conclusions using PjBL-based modules. Furthermore, 89.84% indicated they were able to respond to lecturer questions more effectively due to the use of digital books. These results highlight the positive impact of PjBL-based materials in enhancing student comprehension and participation during lectures.

Satisfaction and Motivation

A particularly noteworthy finding was that 99.21% of students expressed satisfaction with their ability to carry out TEFL lecture activities using PjBL-based modules. This satisfaction was further reflected in their motivation levels, with 99.21% of students reporting that they were inspired to take part in the course and study the module content more deeply. Such high satisfaction and motivation indicate that the PjBL approach significantly increased student engagement and self-directed learning.

Practicality and Material Absorption

The practicality of using PjBL-based modules was acknowledged by 97.65% of the students, who felt that these modules were appropriate and well-suited for learning TEFL activities. Moreover, 97.65% of students stated that using PjBL-based digital books made it easier to absorb the lecture materials. This demonstrates that the practical nature of the digital books contributed to more effective learning experiences.

Student Interaction and Opinion Expression

Student interaction in the form of voicing opinions during lectures was reported by 90.62% of respondents, showing that while engagement levels were generally high, there is still room for improvement in encouraging more students to actively express their thoughts during lecture activities.

DISCUSSION

The findings of this research provide valuable insights into the effectiveness of Project-Based Learning (PjBL)-based digital books in enhancing student motivation and engagement in Teaching English as a Foreign Language (TEFL) courses. The overwhelmingly positive responses from the students in the English Education program at the Catholic University of Saint Thomas demonstrate the potential of PjBL to foster more dynamic and engaging learning environments, especially in language teaching contexts.

One of the key results from this study is the high level of enthusiasm and punctuality reported by the students. With 95.31% of students expressing excitement and satisfaction with arriving on time for lectures, this suggests that the use of PjBL-based digital books has a direct impact on student attitudes toward the learning process. This aligns with findings from earlier studies (e.g., Rodríguez-Peñarroja, 2022) which emphasize that increased motivation leads to better engagement and punctuality. The interactive and project-focused nature of PjBL likely contributed to students' heightened interest in the subject, moving beyond traditional lecture formats that often lead to student disengagement.

Another important finding is the positive effect of PjBL on learning comprehension. Nearly all students (98.43%) agreed that PjBL-based digital books made the learning process easier and more engaging, and 95.30% reported that these tools helped them learn concepts more quickly. This mirrors previous research by Simbolon & Koeswanti (2020), which indicated that PjBL enhances critical thinking and the absorption of course material. In the context of this research, the hands-on nature of PjBL, combined with the structured use of digital books, may have provided students with a more practical, real-world understanding of TEFL concepts.

The research also highlights the practicality and suitability of PjBL-based modules in enhancing the

learning experience. With 97.65% of students affirming the practicality of these digital books, it is clear that such tools are perceived as not only effective but also appropriate for TEFL instruction. This reflects the growing importance of digital and interactive materials in modern education, especially in fields that require constant practice and feedback, like language learning. The ability of students to utilize these digital books to respond to lecturer questions (89.84%) further emphasizes how PjBL encourages active learning, as students are more engaged and better prepared to participate in class discussions.

Additionally, the research confirms that PjBL-based digital books significantly impact student satisfaction and motivation. A remarkable 99.21% of students indicated that they were satisfied with the way they carried out TEFL lecture activities using PjBL-based modules. The students' high levels of satisfaction and motivation are key indicators of the success of this approach. As asserted by Campos-Roca (2021), motivation is crucial for effective learning, and PjBL provides a clear structure and goal-oriented tasks, which naturally increase student interest and enthusiasm for the subject.

However, while the overall results are highly positive, there is a slight gap in terms of student interaction and expression of opinions during lectures. Although 90.62% of students reported actively voicing their opinions, this leaves a small margin for improvement. The challenge of fostering more widespread active participation is consistent with research by Safaruddin et al. (2020), who pointed out that students sometimes hesitate to engage in classroom discussions, even when they are motivated. This indicates that, despite the high levels of motivation and comprehension facilitated by PjBL, additional strategies may be needed to encourage broader classroom interaction.

In summary, the findings of this research contribute to the growing body of evidence supporting the effectiveness of Project-Based Learning in language education. PjBL-based digital books not only improved students' engagement, motivation, and comprehension in TEFL courses but also offered practical, real-world applications that enhanced their overall learning experience. The slight challenges in fostering student participation in discussions suggest that combining PjBL with other interaction-focused strategies may further enhance the benefits of this approach. Overall, this research demonstrates that integrating PjBL into TEFL instruction is a highly effective way to improve student learning outcomes in higher education settings.

CONCLUSIONS AND RECOMMENDATION

This research concludes that the use of Project-Based Learning (PjBL)-based digital books in Teaching English as a Foreign Language (TEFL) courses significantly enhances student motivation, engagement, and learning outcomes. The students in the English Education study program at the Catholic University of Saint Thomas demonstrated high levels of excitement, satisfaction, and comprehension while participating in lecture activities utilizing PjBL-based digital books. The average response rate of 96.37% reflects the overall success of this instructional approach.

The findings show that PjBL-based digital books not only facilitated easier learning and quicker concept understanding but also contributed to a more practical and hands-on learning experience. Moreover, students expressed high levels of satisfaction with the PjBL approach, indicating that it provided an engaging, motivating, and effective learning environment. However, there remains a small area for improvement in encouraging broader classroom participation and interaction during lecture activities.

Based on the findings of this research, several recommendations are proposed:

1. Wider Implementation of PjBL in TEFL Courses

Given the success of PjBL-based digital books in this study, it is recommended that PjBL approaches be more widely implemented in TEFL courses. Expanding the use of interactive digital materials across different language teaching courses could further enhance student engagement and motivation.

2. Incorporate Additional Interaction Strategies

Although the PjBL approach improved student comprehension and satisfaction, efforts should be made to foster greater classroom participation and interaction. Instructors could incorporate group discussions, peer feedback, or collaborative tasks to encourage more active student involvement during lectures.

3. Continuous Evaluation and Improvement of PjBL-Based Tools

To maintain the effectiveness of PjBL-based digital books, it is important to continuously evaluate and refine the content, design, and implementation of these materials. Feedback from both students and instructors should be collected regularly to ensure that the digital books meet evolving educational needs and teaching goals.

4. Provide Training for Lecturers

To maximize the potential of PjBL-based digital books, it is recommended that lecturers receive additional training on how to effectively integrate these materials into their teaching. Workshops or seminars could be organized to help lecturers develop best practices for using PjBL-based resources in their classes.

REFERENCES

- Campos-Roca, Y. (2021). Multidisciplinary project-based learning: Improving student motivation for learning signal processing. *IEEE Signal Processing Magazine*.
<https://ieeexplore.ieee.org/abstract/document/9418540/>
- Gómez-Pablos, V. B., Pozo, M. M. del, & ... (2017). Project-based learning (PBL) through the incorporation of digital technologies: An evaluation based on the experience of serving teachers. *Computers in Human ...* <https://www.sciencedirect.com/science/article/pii/S0747563216308056>
- Johnson, S. A., & Cuevas, J. (2016). The effects of inquiry project-based learning on student reading motivation and student perceptions of inquiry learning processes. ... *Educational ...* <https://digitalcommons.georgiasouthern.edu/gerjournal/vol13/iss1/2/>
- Kurniasih, T. (2022). Implementation of Electronic Student Worksheets with the Project-Based Learning (PjBL) model to Improve Motivation and Learning Outcomes. In *Jurnal Ilmiah Pendidikan Fisika*. scholar.archive.org.
<https://scholar.archive.org/work/yubrnii7crd7jdbpbljh2myhva/access/wayback/https://ppjp.ulm.ac.id/journals/index.php/jipf/article/download/4859/pdf>
- Kwietniewski, K. (2017). Literature review of project-based learning. [digitalcommons.buffalostate.edu](https://digitalcommons.buffalostate.edu/careereducation_theses/1/).
https://digitalcommons.buffalostate.edu/careereducation_theses/1/
- ..., Marini, A., Sagita, J., Safitri, D., & Soraya, E. (2022). E-Book with Problem Based Learning to Improve Student Critical Thinking in Science Learning at Elementary School. In ... *Journal of Interactive ...* [researchgate.net](https://www.researchgate.net/).
https://www.researchgate.net/profile/Sufyan-Al-Janabi/publication/364978323_Valid_Blockchain-Based_E-Voting_Using_Elliptic_Curve_and_Homomorphic_Encryption/links/636688b82f4bca7fd034b260/Volid-Blockchain-Based-E-Voting-Using-Elliptic-Curve-and-Homomorphic
- Nainggolan, B., Hutabarat, W., Situmorang, M., & ... (2020). Developing Innovative Chemistry Laboratory Workbook Integrated with Project-Based Learning and Character-Based Chemistry. *International Journal of ...* <https://eric.ed.gov/?id=EJ1259673>
- Ngereja, B., Hussein, B., & Andersen, B. (2020). Does project-based learning (PBL) promote student learning? a performance evaluation. In *Education Sciences*. [mdpi.com](https://www.mdpi.com/2227-7102/10/11/330). <https://www.mdpi.com/2227-7102/10/11/330>
- Pratiwi, C. P., Andayani, S. S., & ... (2022). A Project-Based Digital Book: Its Influence on Students' Writing Skills. *Journal of Positive School ...* <https://www.journalppw.com/index.php/jpsp/article/view/8400>
- Rodríguez-Peñarroja, M. (2022). ... PROJECT-BASED LEARNING, TASK-BASED LANGUAGE TEACHING APPROACH AND YOUTUBE IN THE ESP CLASS: A STUDY ON

STUDENTS' MOTIVATION. Teaching English with Technology.
<https://www.ceeol.com/search/article-detail?id=1063519>

Saad, A., & Zainudin, S. (2022). A review of Project-Based Learning (PBL) and Computational Thinking (CT) in teaching and learning. Learning and Motivation.
<https://www.sciencedirect.com/science/article/pii/S0023969022000224>

Safaruddin, S., Ibrahim, N., Juhaeni, J., & ... (2020). The effect of project-based learning assisted by electronic media on learning motivation and science process skills. ... in Educational and
<http://jiecr.org/index.php/jiecr/article/view/5>

Simbolon, R., & Koeswanti, H. D. (2020). Comparison of Pbl (Project Based Learning) models with Pbl (Problem Based Learning) models to determine student learning outcomes and motivation. ... of Elementary Education. <https://ejournal.undiksha.ac.id/index.php/IJEE/article/view/30087>