

## The Implementation of Technology-Based Project-Based Learning Model in Teaching English at University Level: a Need Analysis

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### ABSTRAK

Penelitian ini merupakan penelitian analisis kebutuhan mengenai pemanfaatan pembelajaran berbasis proyek berbasis teknologi. Tujuan dari penelitian ini adalah untuk membandingkan situasi saat ini dan situasi yang diharapkan terkait penggunaan Pembelajaran Berbasis Proyek Berbasis Teknologi di Monarch Singaraja. Penelitian ini menggunakan desain metode campuran eksplanatori dimana desain metode campuran dilakukan dengan menganalisis data terlebih dahulu secara kuantitatif kemudian menjelaskannya dengan metode kualitatif. Metode kuantitatif yang digunakan adalah kuesioner yang diberikan kepada sepuluh dosen pengajar Bahasa Inggris di Monarch Singaraja. Metode analisis kualitatif menggunakan wawancara dan analisis dokumen. Analisis dokumen yang digunakan adalah menganalisis silabus, RPP, dan sesi pembelajaran yang disediakan oleh kampus. Metode analisis kebutuhan yang digunakan adalah metode penelitian kombinasi antara model CIPP dan model OEM sehingga dapat ditemukan gap antara kondisi saat ini dengan kondisi yang diharapkan. Pada penelitian ini ditemukan kerangka konseptual untuk menggunakan pembelajaran berbasis proyek belum ditemukan, temuan lain adalah dosen sudah siap secara pedagogik untuk melaksanakan pembelajaran berbasis proyek berbasis teknologi, namun belum siap dalam bentuk kertas atau panduan belajar. Adanya kerangka konseptual sangat penting untuk memberikan landasan bagi dosen dalam melaksanakan pembelajaran kedepannya sehingga pembelajaran dapat terlaksana dengan baik di kampus ini. Demikian pula kesiapan dosen dan mahasiswa dalam pembelajaran sangat diperlukan agar pembelajaran berbasis proyek berbasis teknologi ini dapat berjalan dengan maksimal.

### ABSTRACT

This research is needs analysis research regarding the use of technology-based project-based learning. The purpose of this study is to compare the current situation and the expected situation regarding the use of Technology-Based Project-Based Learning at Monarch Singaraja. It used an explanatory mix-method design where it was carried out by first analyzing the data quantitatively and then explaining it with qualitative methods. The quantitative method used is the questionnaire which was given to ten English teaching lecturers at Monarch Singaraja. Qualitative analysis methods used interviews and document analysis. The document analysis used is to analyze the syllabus, lesson plans, and learning sessions provided by the campus. The needs analysis method used is a combination research method between the CIPP model and the OEM model so that gaps can be found between the current condition and the expected condition. In this study, it was found that the conceptual framework for using project-based learning had not been found, another finding was that lecturers were pedagogically ready to carry out technology-based project-based learning, but were not ready in the form of paper or learning guides. The existence of a conceptual framework is very important to provide a foundation for lecturers in carrying out learning in the future so that learning can be carried out properly on this campus. Likewise, the readiness of lecturers and students in learning is needed so that this technology-based project-based learning can run optimally.

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## 1. Introduction

Learning English in Indonesia which makes English an international language is learning that adheres to many methods. Learning English in Indonesia is carried out from elementary school to senior high school level. English is an international language that has many uses for communication, especially when it comes to someone's communication between countries. Every country has its own language, but it can use English to facilitate their communication with others abroad (Anwas et al., 2020). Learning English has a teaching base that is used to measure students' abilities. There are four basic skills needed by a student to be able to master English namely, writing skills, speaking skills, reading skills and listening skills (Shin, 2018). A person can be said to be fluent in English if the four basic language skills are well mastered. After understanding these four language skills, someone who is said to be a teacher or lecturer certainly has many methods of teaching English (Yu & Dong, 2022). Learning English for specific purposes such as on a tourism campus, namely teaching English to prepare graduates for work in the world of tourism. In the world of tourism, English is very important, as previously explained, English is a global language.

According to Giguere et al., (2022) a teacher becomes an important part of the learning system because a teacher must prioritize the name of the process in learning English. In the learning methods used to support the process, many methods can be used. One method that can be used is Project-Based Learning. Project-Based Learning has been used quite often but has a special focus especially in implementing it on tourism campuses. Project-Based Learning Learning is a learning method that has the end result of a project (Eliyasni et al., 2019). Project-Based Learning in its application prioritizes processes and results so that in practice, students must receive assistance from the teacher. Applying Project-Based Learning can be combined with using technology. Nowadays, the existence of technology is very commonly used as a container in the learning process. According to (Mellati & Khademi, 2018) today's technology has very much supported the continuity of education, including educational applications such as kahoot, quizziz, and others, especially when a school or college has its own learning management system.

Current learning prioritizes the role of technology in its implementation. This is related to the needs of students in learning to achieve 21st century skills. The 21st century skills are closely related to the 4C skills, namely skills consisting of the ability to collaborate, critical thinking, communication skills and also creativity (Erdoğan, 2019). That is why Technology-Based Project-Based Learning is needed in learning because Project-Based Learning can improve the four student skills with the role of technology in perfecting the learning process. This article discusses what is needed by agencies such as Monarch Singaraja in designing learning using Technology-Based Project-Based Learning in teaching English in certain specific midwives.

As in previous research which is related with this research, namely the Research on needs analysis in the PjBL method was conducted by Siregar (2021) entitled "Needs Analysis of Project Based Learning Model Development in Translation as Profession Course". The research conducted by Siregar, analyzed the needs for project-based learning where the research method used was qualitative using interviews. The results of this study indicate the needs of students in learning projects to improve their ability to learn in groups. The research that becomes the next reference is research by Dorr (2017), namely by research analyzing the

effectiveness of Project-Based Learning Using Digital Storytelling Technology on Second-Grade Students' Science Standards Performance in this research located in Florida by using a quantitative method approach, on In this research, an analysis of how technology-based learning projects are carried out so that the researchers of this article can find out the effect if implemented in a school. From the two studies that have been carried out related to how needs analysis is carried out to evaluate the needs needed to achieve certain goals and how actually project-based learning based on technology can have a very good impact on students. This is thus seen as an opportunity to measure the need for project-based learning based on implementation technology carried out in the Singaraja Monarchy as a learning method to achieve good student English skills.

## 2. Method

This research uses an explanatory mix-method in which a mixed-method design is carried out by first analyzing the data quantitatively and then explaining it with a qualitative method (McCrudden & McTigue, 2019). The quantitative method used is the questionnaire method which was given to ten English teaching lecturers. The questionnaire used is a questionnaire adapted from research conducted by Padmadewi (2022). Qualitative analysis methods using interviews and document analysis methods. This interview method was conducted with 10 English teaching lecturers at Monarch Singaraja, where each lecturer represented each study program at Monarch Singaraja such as Hospitality English for Culinary, English for Bar, Hospitality English for Food and Beverage Service and Hospitality English for Butlers. For needs analysis in this research, the authors use the CIPP analysis method and the OEM model by (Gupta et al., 2007) which this research was refined by (Sleezer et al., 2014). CIPP analysis consists of four parts, namely Context, Input, Process, Product. The purpose of carrying out this need analysis is to compare the current situation and the expected situation regarding the use of Technology-Based Project-Based Learning at Monarch Singaraja. By comparing the current conditions and the desired conditions, gaps will be found regarding deficiencies in a learning system used by an institution. This study was conducted at one of the private tourism sites located in Buleleng district, namely Monarch Singaraja. The reason for researchers doing research in this place is because this location is one of the best tourist sites in Singaraja so researchers are interested in carrying out research here.

Methods and techniques of data collection carried out in this study using triangulation method such as questionnaire as the quantitative instrument, interviews and document analysis as qualitative instruments. The questionnaire used by the researcher is a questionnaire from previous research conducted by Padmadewi (2022) where the questionnaire was created based on the need analysis method by Gupta et al., (2007). The interview method was carried out using ten questions related to CIPP and the OEM model, namely context, input, process and product. Interviews were conducted with ten English teaching lecturers. The document analysis method used was to analyze the syllabus, lesson plans and session plans provided by the Monarch Singaraja campus. In this analysis document, an analysis is carried out to find out whether the method used by Monarch Singaraja in teaching and whether Project-Based Learning is carried out on the campus.

### 3. Finding and Discussion

Based on the research has been carried out using two qualitative analysis methods, namely the interview method and document analysis. CIPP and the OEM Model by (Gupta et al., 2007) namely Context, Input, Process, Product. Below is the result of finding data from the monarch of Singaraja;

#### 3.1 Context

This stage involves assessing the context in which the educational program or intervention will take place, including the need for the program, the target audience, and the resources available. Below is a table of current conditions and desired conditions regarding the results of the analysis that has been carried out by the method of questionnaires, interviews and document analysis;

**Table 1. Context**

Present Situation	Expected Situation
According to the examination of surveys, interviews, and document analysis, Monarch Singaraja did not yet have a conceptual framework for adopting PjBL in teaching english skills.	Monarch Singaraja is expected to be able to implement Technology-Based Project-Based Learning and to have a strong conceptual framework in order to do so.

Based on the table above, it can be concluded that in the context evaluation it was found that Monarch Singaraja did not yet have a plan in their syllabus or lesson plan to implement Technology-Based Project-Based Learning in teaching English at their institution. So that for the current conditions a conceptual framework and planning are needed in implementing Project-Based Learning. In line with the conditions desired by the lecturers at Monarch Singaraja so that later Technology-Based Project-Based Learning can be carried out at Monarch Singaraja in accordance with the rules set by the institution.

#### 3.2 Input

This step entails assessing the educational program or intervention's design, including its goals, objectives, and techniques. However, for this research what is targeted is how the readiness of learning exists whether from the readiness of the institution such as the technology being prepared, the readiness of the lecturers such as the lecturer's understanding of Project-Based Learning and the readiness of students such as how their learning abilities are. Below is a summary of the Input Evaluation results through Questionnaires, Interviews and Analysis Documents that have been implemented;

**Table 2. Input**

Present Situation	Expected Situation
The campus is technologically ready to support learning, lecturers are pedagogically ready to implement Project-Based Learning but are still constrained by existing learning plan resources. The readiness of students is still lacking because on this campus there are still students who do not fully understand English.	All levels of lecturers, students and institutions are ready to carry out Technology-Based Project-Based Learning in teaching English skills pedagogically and technologically.

Based on the summary table above and based on the research results through questionnaires, interviews, along with analysis documents, it can be found that the Monarch Singaraja institution is ready to carry out Technology-Based Project-Based Learning because the technology that supports learning is available at Monarch Singaraja, namely a Learning Management System called ELMO or e-Learning Monarch. Pedagogically, lecturers are ready to carry out Project-Based Learning because according to them giving project assignments will be very good for the development of their students there, but they are constrained by the readiness of the institution regarding the availability of learning concepts so lecturers are still hesitant to implement it. The readiness of students to accept project-based learning based on technology is still lacking. This is because students who attend lectures at Monarch Singaraja come from different backgrounds so that their understanding of the material is still lacking. For the desired situation, it is hoped that all units such as institutions, lecturers, and students are ready to carry out this Technology-Based Project-Based Learning.

### 3.3 Process

This phase involves evaluating the implementation of the educational program or intervention, including program delivery, target audience engagement, and program activity quality. In the research that the authors carried out through questionnaires, interviews and document analysis, this analyzed the use of Project-Based Learning at the Monarch Singaraja campus, the use of technology, and the types of assessments that are usually used. The following is a summary of the results according to the process evaluation;

**Table 3. Process**

Present Situation	Expected Situation
Currently, only two lecturers use Project-Based learning, but their use is still arbitrary without using good planning, while students of eight lecturers use blended learning and task-based learning. The available technology is good enough with Monarch e-Learning. The assessment used is an authentic assessment method.	It is hoped that all lecturers can carry out Project-Based Learning in accordance with applicable regulations and maximized with technology and assessments that can be used.

Based on the summary table above, it can be found that the two lecturers who used Project-Based Learning in Hospitality English for Culinary lessons implemented this learning method without clear guidelines. Judging from the syllabus and lesson plans used, this campus uses task-based learning as its method so that many lecturers know the project learning method, but cannot use it. The technology used during the learning period has been used properly, namely the use of e-Learning Monarch which continues to be carried out for teaching needs. For the assessment system carried out, namely an authentic assessment system, namely by assessing students' skills in carrying out practices to achieve the best competencies when they enter the world of work. For the expected situation, all lecturers in Monarch Singaraja really want to implement learning project-based learning in accordance with the curriculum imposed by the institution and can be implemented using existing technology.

### 3.4 Product

This step includes assessing the educational program or intervention's outcomes, including the influence on the target audience and achievement of the goals and objectives. In the product evaluation phase, researchers used the same method, namely questionnaires, interviews and document analysis. In this finding, researchers analyze how the results of learning that are currently carried out have an effect on the development of student scores, 6c skills and 21st century skills. Below is a summary of the findings from researchers on product evaluation;

**Table 4. Product**

Present Situation	Expected Situation
In the current condition, Monarch Singaraja, which has not implemented Project-Based Learning, is learning with Task-Based learning, the results of increasing grades depend on how much effort the students have and improving 6C skills along with 21st century skills, are diverted due to lack of learning time because this campus focuses on training students who are immediately ready for the world of work.	Under the expected conditions, project-based learning that can be implemented can have a positive effect on student scores, and be able to improve 6c skills along with 21st century skills which can later be beneficial in the world of work and the lives of each student.

Based on the summary table above, it can be found that when Monarch Singaraja did not carry out Project-Based Learning, they used the Task-Based Learning method to increase student scores. In increasing student scores, lecturers put aside things that are currently quite mandatory, namely 6c skills and 21st century skills. The lecturers reasoned that Monarch Singaraja, which is a job training institution, has a very short time to implement them because the following semester students will carry out job training to each each hotel or restaurant. For future situations, it is hoped that project-based learning will be able to increase student scores, improve 6C skills, and 21st century skills which they can later use to navigate the vast world of work in the tourism sector.

In this discussion session, project-based learning can be found not implemented at Monarch Singaraja. The campus also does not yet have a conceptual framework for implementing project-based learning in accordance with the analysis researchers used in the syllabus and lesson plan. As is known, government regulations in Indonesia, namely the Minister of Education and Culture regulation number 3 of 2020 state that all learning methods can be implemented to accommodate student graduation (Widana & Parmithi, 2022). However, it could not be found at the monarch Singaraja according to the questionnaire that had been distributed and the interviews that had been conducted. So basically, the Monarch Singaraja campus needs a conceptual framework as a guide for lecturers in teaching students using technology-based project-based learning methods in teaching English. In implementing technology-based project-based learning readiness in learning also needs to be taken into account. In the finding results it was found that lecturers were pedagogically ready to carry out project-based learning, but were not ready in paper or in terms of the learning guide. This is of course intended so that later the conceptual framework created can be applied by lecturers in their lesson plans and session

plans so that they are ready to carry out project-based learning. The pedagogical readiness of students at Monarch was found to be quite lacking because students came from different backgrounds. Not all of the students studying here come from senior high schools, but there are also many from vocational schools whose English skills are still lacking. It is the duty of the lecturer to prepare the students, like it or not the students have to be ready in its implementation because this is for the development of students' language because as stated by Yustina et al., (2020) project-based learning can improve students' English language skills. In applying technology-based project-based learning, it is not far from the name technology. The technology used has been adequate on this campus with the existence of e-Learning Monarch which is a very good thing considering that not all private or state tourism campuses are able to run their Learning Management System. Now it depends on the execution carried out by lecturers and institutions at Monarch Singaraja because learning designs that include Technology-Based Project-Based Learning must be adapted to student abilities so it is very positive if this learning method can be used at Monarch Singaraja provided it is carried out according to the applicable foundation.

#### 4. Conclusion

Based on the findings and discussions that have been carried out, it can be concluded that Monarch Singaraja requires a conceptual framework in implementing Technology-Based Project-Based Learning in teaching English. The existence of a conceptual framework is very important to provide a basis for lecturers in carrying out learning so that learning can be carried out properly on this campus. Lecturers can present project-based learning in their lesson plans and can adjust to the technology used and adjust the assessments used. In addition to the necessary conceptual framework, Technology-Based Project-Based Learning also requires compliance with the readiness of lecturers and students to implement it. It must be ensured that lecturers are ready to carry out technology-based project-based learning in a pedagogical way and students must be ready to be given project-based learning. Conceptual and readiness frameworks are very much needed to carry out technology-based project-based learning at Monarch Singaraja, even though this campus is a job training institute campus, this learning is very much doable in order to achieve useful 21st century skills.

#### References

- Anwas, E. O. M., Sugiarti, Y., Permatasari, A. D., Warsihna, J., Anas, Z., Alhapip, L., Siswanto, H. W., & Rivalina, R. (2020). Social media usage for enhancing english language skill. *International Journal of Interactive Mobile Technologies*, 14(7), 41–57. <https://doi.org/10.3991/IJIM.V14I07.11552>
- Dorr, M. (2017). the Effectiveness of Project-Based Learning Using Digital Storytelling Technology on Improving Second-Grade Students' Performance of Science Standards. *Electronic Theses and Dissertations*, 37(No. 1/2), 1–27. <https://ci.nii.ac.jp/naid/40021243259/>
- Eliyasni, R., Kenedi, A. K., & Sayer, I. M. (2019). Blended Learning and Project Based Learning: The Method to Improve Students' Higher Order Thinking Skill (HOTS). *Jurnal Iqra': Kajian Ilmu Pendidikan*, 4(2), 231–248. <https://doi.org/10.25217/ji.v4i2.549>

- Erdoğan, V. (2019). Integrating 4C Skills of 21st Century into 4 Language Skills in EFL Classes. *International Journal of Education and Research*, 7(11), 113–124. <http://www.ijern.com/>
- Giguere, D., Dickson, D. J., Tulloch, M. K., & Hoff, E. (2022). Majority language skill, not measures of bilingualism, predicts executive attention in bilingual children. *Journal of Experimental Child Psychology*, 213, 105256. <https://doi.org/10.1016/j.jecp.2021.105256>
- Gupta, K., Sleezer, C. M., & Russ-Eft, D. F. (2007). *A Practical Guide to Needs Assessment*. Pfeiffer.
- McCrudden, M. T., & McTigue, E. M. (2019). Implementing Integration in an Explanatory Sequential Mixed Methods Study of Belief Bias About Climate Change With High School Students. *Journal of Mixed Methods Research*, 13(3), 381–400. <https://doi.org/10.1177/1558689818762576>
- Mellati, M., & Khademi, M. (2018). *Technology-Based Education*. December, 48–62. <https://doi.org/10.4018/978-1-5225-7010-3.ch003>
- Shin, M.-H. (2018). Effects of Project-based Learning on Students' Motivation and Self-efficacy. *English Teaching*, 73(1), 95–114. <https://doi.org/10.15858/engtea.73.1.201803.95>
- Siregar, M. (2021). Needs Analysis of Project Based Learning Learning Model Development in Translation as Profession Course. ... *Research and Critics in Linguistics and Education* ..., 4, 1288–1299. <https://doi.org/https://doi.org/10.33258/birle.v4i4.2877>
- Sleezer, C. M., Russ-Eft, D. F., & Gupta, K. (2014). *A Practical Guide to Needs Assessment*. In *Practical guide to dairying* /. <https://doi.org/10.5962/bhl.title.102958>
- Widana, I. N. S., & Parmithi, N. N. (2022). Resetting Pembelajaran Berbasis Proyek pada Implementasi Merdeka Belajar Kampus Merdeka. ... *Nasional Biologi Dan Pendidikan* ..., 76–88. <https://doi.org/10.5281/zenodo.7122412>
- Yu, Z., & Dong, Y. (2022). The Emergence of a Complex Language Skill: Evidence from the Self-organization of Interpreting Competence in Interpreting Students. *Bilingualism*, 25(2), 269–282. <https://doi.org/10.1017/S1366728921000870>
- Yustina, Syafii, W., & Vebrianto, R. (2020). The effects of blended learning and project-based learning on pre-service biology teachers' creative thinking skills through online learning in the COVID-19 pandemic. *Jurnal Pendidikan IPA Indonesia*, 9(3), 408–420. <https://doi.org/10.15294/jpii.v9i3.24706>