Project-Based Learning for the 21st Century: skills for the future

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Abstract
One of the factors determining student success is the selection of the right method, the method that best suits the times in the 21st century is project-based learning (PjBL). PjBL is a learning approach that emphasizes learning through collaborative projects. This article discusses the implementation of Project-Based Learning (PBL) as a relevant learning method to develop skills required in the 21st century. PjBL not only helps students acquire knowledge, but also develop critical thinking skills, creativity, and teamwork. With a focus on developing 21st century skills, PBL provides benefits in increasing students' learning motivation and engagement in the learning process. This article also provides insights into the implementation of PjBL in classrooms and also identifies challenges that may be faced in implementing PjBL and offers solutions to overcome these challenges.

Keywords: Project-Based Learning; 21st Century; Critical Thinking Skills; Collaboration.

INTRODUCTION

In the world of education, many factors determine the success of learning. One of them is the teaching method. Choosing the right teaching method is the key to the success of the learning process. So teachers in choosing teaching methods must look at the needs and characteristics of students, especially in teaching learners in the 21st century. In the modern world of education, the concept and pattern of education in a conventional way is no longer considered sufficient. The challenges of the times with the current pace of technological activity can no longer be matched by rigid and linear ways of learning and educational concepts.

In the 21ˢᵗ century, education faces new challenges that require innovative approaches to prepare students for a changing world. One approach that is gaining popularity and proving effective is Project-Based Learning (PjBL). PjBL is a teaching strategy that allows students to actively engage in actual investigation of open-ended, real-world issues, Barak & Yuan, 2021 state (Haniah et al., 2021). In project-based learning, a project refers to a broad range of projects that incorporate language skills through various activities. The PjBL method encourages students to collaborate, solve problems, and conduct research to help solve problems or obstacles that arise in the real world. Students are encouraged to choose their methods of completing their work, and the teacher functions as a facilitator or project manager. According to Chen & Yang (2019) state in (Haniah et al., 2021), PjBL has the following essential components: 1) inquiry guided by central questions: pupils pose their own queries, do out background study, and provide answers; 2) Student voice and choice: students are invited to assume leadership roles in the execution of projects; 3) Revision and reflection: instructors can provide suggestions for improvement, and students are urged to assume accountability for the project's execution; 3) review and reflection: students may assess what they have learned and how they have learned it, and professors can offer input to better the final result; additionally 4) publicly presented product: Students showcase their products in public settings.

As technology and globalization evolve, the skills needed to succeed in the future are also changing. Amidst the rapid changes in the world of technology, 21ˢᵗ century skills have become very important. These skills include the ability to think critically, solve problems, communicate effectively, work together in teams, and have creativity and innovation (Lubis et al., 2024). According to Halim, (2022) in the world of 21ˢᵗ century education, there are four important parts of the competencies that must be prepared, namely critical thinking, creative, communicative, and collaborative. It is in this context that PjBL becomes very relevant. Through PjBL, students can develop these skills in a more interesting and meaningful way, compared to traditional learning methods that focus more on memorization and exams. PjBL allows students to engage in complex and challenging projects, which encourage them to think critically and creatively in finding solutions. In addition, PjBL also helps students develop important social and emotional skills, such as cooperation, communication, and self-management.

This research was conducted at Genta Saraswati & Montessori School because this school has implemented project-based learning. The curriculum implemented at Genta Saraswati & Montessori School is an independent curriculum. The English teachers at Genta Saraswati & Montessori School are English graduates. The researcher will take the 3rd grade subject for this study. This school is a Montessori school which is different from other elementary schools. According to Al et al., (2012)the Montessori method called free activity in a prepared environment can create a space that suits the needs of children of different ages. The Montessori system tries to make abstract knowledge concrete, more applicable in practice, and more physical.

The objectives of this research are 1) To find out the implementation of project-based learning as a relevant learning method to develop the skills needed in the 21ˢᵗ century, 2) to

find out the challenges that occur in implementing project-based learning as well as strategies to overcome the challenges.

METHOD

In conducting this study, the researcher use qualitative data where the researcher explains the data from his findings descriptively. Qualitative research is research that intends to understand the phenomenon of what is experienced by the research subject (behavior, perception, motivation, action, etc.) holistically and utilizing descriptions in the form of words in a special natural context and by utilizing various natural methods (Nasution, 2023). This qualitative study was used to see how project-based learning is implemented in teaching English to young learners in private primary schools in Bali.

The research was conducted at a private elementary school in Gianyar Regency, Bali Province. A private school will be used in this research, Genta Saraswati Bilingual & Montessori Bali School. The schools chosen are schools that implement Project-Based Learning in English language learning. The research subjects of this study are English teachers in grades 3A and 3B in private elementary schools at Genta Saraswati Bilingual & Montessori Bali School. Two English teachers in classes 3A and 3B gave their opinions on how project-based learning is implemented in English teaching for students in the 21ˢᵗ century.

FINDINGS AND DISCUSSION
The basic concept of project-based learning

The project-based learning model is an educational approach that emphasizes learning through practical experiences and real projects (Lubis et al., 2024). This approach allows students to understand the material more deeply, because students not only get theoretical knowledge but students are active in planning, implementing and evaluating projects that are relevant to the topics discussed.

The project-based learning model encourages the development of students' skills in critical thinking and problem-solving. In the project-based learning model, students identify phenomena that occur around them, making students learn through direct experience. The projects designed can increase student motivation and develop critical and collaborative thinking skills.

Implementation of project-based learning in developing collaboration and critical thinking skills

To find out about the implementation of PjBL at Genta Saraswati and Montessori Bilingual Elementary Schools, researchers conducted observations and interviews. Based on the theory from Fahlevi, (2022), it consists of 6 stages to determine the implementation of project-based learning implementation. The stages consist of 1) start with the essential question, 2) design a plan for the project, 3) create a schedule, 4) monitor students and the progress of the project, 5) assess the outcome, and 6) evaluate the experience.

The first stage starts with the essential question. In the observation, the researcher found that in grades 3A and 3B, every time the lesson starts, the teacher always asks questions to the

students. In the second stage, the teacher also invites students to discuss phenomena around the topic discussed. This is useful so that students can explore and understand the material to be discussed. As Fahlevi, (2022) said, this activity aims to motivate students and explain the learning model that will be applied. Teachers in grades 3A and 3B always invite students to discuss together, the teacher will involve all students to share knowledge.

The second stage is design a plan for the project. In giving projects, teachers give projects to students individually and in groups. Teachers give projects individually because teachers want to see how creative and critical-thinking students are in solving problems individually. Teachers give project assignments in groups so that students in the 21ˢᵗ century can communicate effectively, collaborate in teams, think critically, and have creativity. In the division of group members, teachers divide groups based on their ability level. So students who stand out are not put together in one group but are divided into other groups, this can be called heterogeneous group division. With such group division, all groups will be active and balanced. As Rahayu & Samsudin, (2019) said, if you are going to carry out learning in groups, the division of groups must be truly heterogeneous from various aspects and the tasks of each group must be clear so that good cooperation arises.

Before students work on the project, the teacher discusses planning the project. In this case, the teacher does not invite students to plan the project due to young learners. Planning a project is a very important thing to do because with good planning the project runs smoothly. With planning the teacher thinks about whether the project to be given is by the needs of skills in the 21ˢᵗ century, and according to the topic or not. According to Nurkhamidah, (2023) planning must be done to support organized and effective learning, teachers may need time to develop it.

The third stage is create a schedule. Creating a schedule is very important in implementing PjBL. With a definite schedule, the project will run well. The results of the interview, the teacher makes a schedule for one week and chapter only, so far the teacher has not made a special schedule for one month's learning. During the observation, the researcher found that the teacher always made a schedule for completing the project. In line with Nurkhamidah, (2023) as a facilitator, the teacher must be able to organize time to guide students in completing the project. Teachers always provide time for students to identify and work on projects. The teacher always determines how many minutes students have to complete the task. If the time given by the teacher is not enough, then the teacher continues the project the following week but students are only given 15 minutes to complete the project, and after that students present the results of their project. In the implementation of PjBl, students are asked to identify how the project must be done according to the schedule. In this case, students practice critical thinking skills in solving a problem.

The fourth stage is to monitor students and the progress of the project. In implementing project-based learning, the teacher acts as a facilitator. The teacher guides and monitors students in the learning process, the teacher provides support, and prepares students' needs in working on the project. When teachers facilitate the project, teachers spend more time interacting with students individually and in groups, and teachers can understand the skills of

each student. Teachers see every progress that students make. The teacher helps students who are having difficulty, the teacher will help and guide but not take over the student's work. So in this case students will have full responsibility in the project.

When students have completed the project, then students are asked to present the project that has been done. In this case, it can improve critical thinking skills and communication skills. After students present the results of their projects, the teacher will provide feedback to students. The teacher regularly assesses student progress, and provides constructive feedback.

The fifth stage is assess the outcome. Assessment is something that can be used to determine student progress in learning. In line with (Winaryati, 2018), assessment is a series of activities to obtain, analyze, and interpret data about student learning processes and outcomes that are carried out systematically and continuously so that they can become meaningful information in decision making. Assessment in project-based learning can be seen from the beginning of students working on projects until students present the project results. As students work on the project, the teacher monitors the progress of each student. After working on the project, students are given time to present the results of the project that students have done. After the students finish presenting, the teacher provides feedback on what the students have presented. The teacher asks questions about the material and projects that students have done. This is useful to measure the extent of students' understanding of the material that has been given by the teacher. The teacher responds to students' understanding but the teacher does not invite other students to respond to students who are presenting. This is because students are still too early in responding to other students' presentations. As the teacher said in the interview that giving feedback is only done by the teacher.

In the sixth stage, evaluate the experience. Evaluation is the stage where the teacher knows whether students understand the material well and whether students still have difficulties. According to Lukum, (2015), learning evaluation is an activity to evaluate things that are done in the learning process including planning, implementation, and assessment processes and their impact on students. The purpose of the teacher conducting an evaluation is so that the teacher can correct deficiencies in learning and make the basis of reference for the next learning process. During the observation, the researcher found that in each grade after completing the project presentation, the teacher guided the students to share their experience in working on the project. The researcher saw that the teacher fairly gave the opportunity to tell stories to all students. The teacher also asked whether the students thought they had done the project optimally. This is so that the teacher knows whether students enjoy the project and whether there are students who still find it difficult to understand the material and the project.

Challenges and Strategies in the Implementation of 21st Century Project-based Learning

21st century skills consist of four categories known as the 4Cs: critical thinking, creative thinking, collaborative thinking, and communication skills (Lubis et al., 2024). Implementing PjBL in the 21st century with these skills, it is certainly not very easy, and there are several challenges that will be experienced.

The first challenge is time management. In implementing project-based learning, the most necessary thing is time. Because students need a lot of time that students are able to produce maximum projects. To manage the time of teachers and students in implementing the PjBL method is very important because time management determines how maximal the project that students work on. This is in line with Santoso et al., (2021) time management skills are also very necessary for students to be able to complete the learning objectives to the maximum. This is reinforced by Setiawan et al., (2022), the application of PJBL and PBL learning models requires a long time for learning to be maximized. Therefore, teachers must be able to organize time well and effectively in the lesson plan (RPP). The teacher has a strategy for handling these challenges, which is to give additional time in the next meeting but the teacher only gives 10 minutes and after that the presentation. Sometimes teachers also utilize students' playtime to work on projects. This is so that the project is completed according to the schedule designed by the teacher.

The second challenge is that the project result is not maximized, especially on the type of project that produces real products. The application of the PjBL method in the 21st century is to adapt to new and often unfamiliar learning styles. Unlike traditional teaching methods, PjBL requires students to engage in independent learning, collaborate with peers, and apply critical thinking and problem-solving skills. In this case, it is very possible that students have not produced the project optimally. Teachers have strategies to overcome these challenges. The teacher gives time for students to adapt to the PjBL method, before students work on projects the teacher explains in detail related to the projects that students work on. Teachers give students time to identify projects and time to work on projects. Because 21st century learners must have collaboration and critical thinking skills, the implementation of the PjBL method will encourage students to get used to collaborating with peers.

The third challenge is managing group work. This refers to the projects that students produce. In the 21st century, collaboration skills are needed, but not all students have these skills well. Working effectively in teams in the application of PjBL can be a challenge for students. Issues such as unequal participation, conflicts between team members, and communication difficulties can arise, hindering the progress of the project. However, in this challenge, the teacher has a strategy that the division of groups is divided heterogeneously. Students will be divided equally so that all groups become balanced.

The last challenge is inadequate facilities. The implementation of project-based learning will require a lot of tools and materials in making projects. In this case, teachers at Genta Saraswati Bilingual and Montessori Primary school have no difficulty in providing materials for students' projects. From the interview results, the researchers found that the school provides complete facilities to be used in project work. Therefore, teachers have no difficulty in managing the cost of project facilities because all project costs are borne by the school. This makes teachers and students can focus on producing good and maximum projects.

CONCLUSION

It can be concluded that the implementation of project-based learning is suitable for developing 21st century learner skills. 21st century skills include the ability to think critically,

solve problems, communicate effectively, work together in teams, and have creativity and innovation (Lubis et al., 2024). PjBL is suitable for the 21ˢᵗ century because it encourages students to actively engage in actual investigation of real-world issues and encourages students to collaborate, solve problems, and conduct research to help solve problems or problems that arise in the real world.

The implementation of PjBL has a very good impact on students 21ˢᵗ century, and educators in small classes. The researcher found that the implementation of PjBL in English learning encourages students to be more active in learning Based on the theory from Fahlevi, (2022), it consists of 6 stages to determine the implementation of project-based learning implementation. The stages consist of 1) start with the essential question, 2) design a plan for the project, 3) create a schedule, 4) monitor students and the progress of the project, 5) assess the outcome, and 6) evaluate the experience. Teacher starts by giving questions that make students curious and it can encourage the development of students' skills in critical thinking and problem solving. In implementing PjBL the teacher acts as a facilitator so that it applies student-centered learning where students are more active during learning. In this case, PjBL has the potential to increase student engagement and motivation. In implementing PjBL, teachers guide students in the learning process, teachers provide support and prepare students' needs in working on projects. Using the PjBL method encourages students to collaborate with friends. By implementing PjBL students will often work in groups, in this case, able to develop communication skills and teamwork. In working on projects with groups, students learn to communicate effectively in English, express each other's opinions, and work towards a common goal. In this case, it shows that PjBL is a very effective method for 21ˢᵗ century students because implementing PjBL can develop various skills that students will need in the 21ˢᵗ century in the future.

There are 4 challenges in implementing project-based learning, namely limited time, the project result is not maximized, managing group work, and inadequate facilities. However, teachers also have strategies to overcome these challenges, such as limited time, teachers provide additional time for students to work on projects but do not change the schedule that has been made by the teacher. In the challenge of project results is not maximized, the teacher gives time to adapt to the implementation of the project-based learning method and the teacher gives time for students to identify the project. The teacher has a strategy in managing group work, namely the teacher divides the group heterogeneously and it makes the group equal and balanced. Teachers do not have challenges in inadequate facilities because Genta Saraswati Bilingual and Montessori Primary School has complete facilities for implementing PjBL.

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