
Teachers Encounter in Project Based Learning Context: Challenges and Strategies

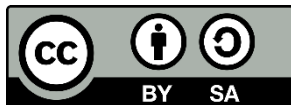
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Abstract

Project Based Learning is a teaching method that teachers can use and can provide various benefits for students. Of course, in implementing the Project Based Learning method, teachers will be faced with challenges that will occur. To face this challenge, teachers must of course use relevant strategies. This research was conducted at one of the international schools in Gianyar, Bali, namely Pelangi School Bali. The classes taken were grades 1 and 2. The observation checklist was used to see what challenges and strategies teachers faced when implementing Project Based Learning. Researchers also conducted interviews with two teachers in each class to strengthen the observation checklist used.



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INTRODUCTION

In teaching and learning activities there must be a process carried out with various factors that can determine the success of a lesson. Of course, in every school, teachers will use teaching methods when carrying out teaching and learning activities in class. Teaching methods are the steps and procedures used by teachers to realize learning objectives. There are many teaching methods that teachers can use, one of which is Project Based Learning.

Project-Based Learning is learning that focuses on students by involving students in solving a problem with a product as the final result (Widiyati & Pangesti, 2022). According to Kimsesiz (2017) Project-Based Learning as a learning method requires students to be more active so that the teacher's job is only to provide direction and assess students. So, at school students do not do monotonous learning such as just reading books and doing assignments from the teacher, but students will learn how to work together with their friends to complete a project

and of course can train students' thinking abilities. Almulla (2020) state that Project-Based Learning has been proven by research that this learning can significantly increase student involvement in the English language learning process by exchanging information and knowledge from discussions to obtain a final solution. Project Based Learning certainly has characteristics that are certainly different from other teaching methods. According to Hidayah et al., (2021) the differences between project based learning and other learning are:

1. In this Project Based Learning method, students are fully required to become problem solvers.
2. The activities or case studies given to students in the Project Based Learning method are adapted to actual situations.
3. Learning using the Project Based Learning method focuses more on asking questions or providing case studies that direct students to find solutions using relevant scientific concepts.
4. Learning using the Project Based Learning method is the center of learning
5. In this Project Based Learning method, students are required to be independent in building their knowledge by carrying out investigations.

In implementing Project Based Learning teachers will encounter challenges when carrying out projects. Teachers will certainly use strategies to minimize the occurrence of these challenges. The challenges teachers face will vary. Likewise with the strategies used by teachers. This article will discuss what challenges and strategies teachers use when carrying out projects with students. This will help teachers when using the Project Based Learning method when carrying out learning activities in class.

METHOD

This research use a case study with a qualitative descriptive approach method. This research was conducted at one of the international schools in Gianyar, Bali, namely Pelangi School Bali, with teachers in grades 1 and 2 at elementary school level. This school was chosen because this school is an international school that uses Project Based Learning as their teaching method, as well as using the IPC curriculum. The IPC curriculum or International Primary Curriculum is a curriculum that uses projects in its learning. This IPC is also combined with an merdeka curriculum, namely by implementing Project Based Learning as a teaching method. In this research the researcher took two topics in each class. Namely, in the first grade they take the topics "Earth Day makes photo hangers from used paper" and "Living and Non-Living Things" and in the second grade they take the topics "Earth Day makes pencil holders from used bottles" and "Light Sources ". This research focuses on what challenges teachers face and what strategies they have to overcome the challenges that occur.

Data was collected by conducting observations in classes 1 and 2 and using an observation check list to see what challenges and strategies teachers used when teaching in grades 1 and 2. Interviews were also conducted to support the data collection carried out by researchers.

1. Participants

Two teachers in grade 1 and two teachers in grade 2 were used as a subject of this research in this research to help achieve the research objectives. The school

principal also plays a role in permitting data collection at the school, such as what the situation of the school is and what the character of the students at the school is.

Instrument

Researchers use three instruments to collect data in order to obtain relevant data from the research sample. The three instruments are:

a) Observation

Observation is the first thing carried out in this research. Observation can be defined as the process of gathering information through observation, which involves paying close attention to the people and environments in which the research will actually take place (Ahmad et al., 2019).

b) Observation Checklist

An Observation Checklist was also carried out in this research to see how teachers carry out learning using the Project Based Learning method. An Observation Checklist was also carried out to see the challenges and strategies that teachers face when using this method. Observation checklists can also be used to identify specific good teaching practices that, although observed, are not included in the checklist, thereby adding additional good practice items to the checklist.

c) Interview

Interviews were also conducted in this research to strengthen the data. Interviews were conducted with two teachers in first grade and two teachers in second grade. Researchers used an interview guide as a reference in conducting interviews with teachers.

2. Procedures of Data Collection

Before conducting research, researchers need to follow several procedures in collecting the data. Researcher ask permission from the school principal, contacting the teacher in grade 1 and grade 2, conducting research observation, conducting an interview with the teachers, and administering the data from observation and after doing interview.

RESULT AND DISCUSSION

The following are the result that researchers obtained when conducting research at Pelangi School Bali in grades one and two when the teacher applied the Project Based Learning method according to the topic being taught.

Table 1. Challenges of Project-Based Learning

Observation Checklist Rubric for Challenges in Implementing Project Based Learning in Grades 1 and 2 at Pelangi School

No.	Syntax	Description	Grade 1	Grade 2
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			Earth Day (Photo Hanger)	Living and Non Living Things	Earth Day (Pencil Case)	Lights
1.	Difficulty of mastering the project (Cintang et al., 2018)	1. Facing difficulties in starting the project	X	✓	X	X
		2. Experiencing difficulties in mastering PjBL method	X	X	X	X
2.	Time management (Syahlan et al., 2023)	1. Having difficulties in time management	X	X	X	X
		2. Mismatching of time management with learning activities	X	X	X	X
3.	Technical difficulties of project implementation (Cintang et al., 2018)	1. Paying attention with teacher instruction	✓	✓	✓	✓
		2. Having difficulty in managing student attention	X	X	X	X
		3. Students' understanding affect the project results	✓	✓	✓	✓
4.	The project result is not maximal, particularly on the type of	1. Students' project results are not maximal	X	X	X	X

	project that produces real products (Cintang et al., 2018)					
		2. Lack understanding impact project results	✓	✓	✓	✓
		3. Understanding the project takes a lot of time	X	X	X	X
		4. Impacting on cost for the project results	X	X	X	X
5.	Manage group work (Nurkhamidah, 2023)	1. Facing difficulty in group division	X	X	X	X
		2. Dividing group based on students' capabilities	X	X	X	X
6.	Inadequate facilities (Syahlan et al., 2023)	1. Struggling to provide materials for the project	X	X	X	X
		2. Facing difficulty in managing costs for project facilities	X	X	X	X

Table 1 shows the results of observations about challenges in implementing Project Based Learning in grades 1 and 2 at Pelangi School Bali made by researchers using an observation checklist.

Table 2. Strategies of Project-Based Learning

The Rubric of Observation Checklist for Strategies in Implementing Project Based Learning in Grades 1 and 2 at Pelangi School Bali

NO	SYNTAX	DESCRIPTION	GRADE 1		GRADE 2	
			Earth Day (Photo Hanger)	Living and Non Living Things	Earth Day (Pencil Case)	Lights
1.	Project Modification (Cintang et al., 2018)	1. Modifying the project	X	X	X	X
		2. Modifying helps students to complete the project	X	X	X	X
2.	Limited time (Cintang et al., 2018)	1. Combining more than 1 theme for a project	X	X	X	X
		2. Increasing students' participation	✓	✓	✓	✓
3.	Financial (Cintang et al., 2018)	1. Having limit cost project	X	X	X	X
		2. Using class cash for project	X	X	X	X
		3. Using learning media funds	✓	✓	✓	✓
4.	Grouping (Bagheri et al., 2013)	1. Grouping the students as a strategy	✓	✓	✓	✓
		2. Having maximal project outcomes in every group	✓	✓	✓	✓
5.	Lack of facilities (Syahlan et al., 2023)	1. Using school sources	✓	✓	✓	✓

		2. Utilizing other equipment that students bring	X	X	X	X
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Table 2 shows the results of observations about strategies in implementing Project Based Learning in grades 1 and 2 at Pelangi School Bali made by researchers using an observation checklist.

Next is discussion section that the research results that have been described in the findings section. This aims to find out how the research results answer the research questions and how they are consistent with theories from other researchers.

Challenges of Implementing Project Based Learning in Pelangi School Bali

Implementing PjBL in grades 1 and 2 definitely encounter several challenges. The following is a discussion related to the researcher's findings on the challenges faced by teachers when implementing PjBL.

The first challenge discussion was regarding the Difficulty of mastering the project. In this section there are two challenges studied in this case, namely facing difficulties in starting the project and experiencing difficulties in mastering project-based learning method. The first part is facing difficulties in starting the project, where starting a project or starting learning is quite important. Here, teachers will see how they start discussing the project, whether it is clear or not. Because this section determine how the project progress later. Of course, if learning activities are to go well, the teacher will definitely start learning well and with material that has been prepared optimally. The findings of this research, teachers in class 1 have difficulty starting learning in distributing groups to students. This is reinforced by the results of interviews with teachers in grade 1 who stated:

"Yes, definitely. The main difficulty is the random formation of group. If there are children who get a group that is not in accordance with the children's wishes, it will greatly affect their performance. Their motivation will be less to work"

This may happen quite often in small grades because students are comfortable working with certain friends because grade 1 is the first time, they meet new friends and of course they do not fully know the other friends. In contrast to teachers in grade 1, teachers in grade 2 did not experience difficulties in starting classes, and this was explained by grade 2 teachers in interviews that had been conducted:

"Rarely experience that because for projects, especially I have planned from the start, I have already planned if it happens, I already have a back up for my planning..."

In this case, the teacher in grade 2 is very prepared with the project plan that will be carried out, and has even prepared a plan. If plan A does not work, plan B will be used. This is reinforced by the opinion of Wulandari et al., (2020) A good English teacher prepares what is best for the students through certain learning strategies, especially strategies that can enhance students' motivation in learning English. So, by making good preparations you will minimize the many challenges that students and teachers will face.

Regarding experiencing difficulties in mastering project-based learning method, teachers in grades 1 and 2 did not experience difficulties in mastering project-based learning

method. This can be said if teachers in grades 1 and 2 have good skills and understanding of the PjBL method. A high-quality teacher would therefore ensure the students' quality (Wulandari et al., 2020)

The next challenge concerns difficulties in time management. teachers in grades 1 and 2 experience different difficulties when managing project completion time. Based on the results of interviews conducted, the class 1 teacher stated:

"Yes, definitely. Usually I modify the teaching module, I use 2 meetings for 1 meeting. Because 1 meeting is used, the time is very short. Especially to complete the project"

This means that teachers in grade 1 have difficulty completing the project because the project completion time is quite long. Teachers in class 2 also experience difficulties, but these difficulties come from teacher expectations that do not match the students' abilities. This is in accordance with interviews conducted with teachers in grade 2 said:

"The difficulty is that planning sometimes changes depending on the situation. Sometimes my expectations are too high in teaching children"

Similar to Mismatching of time management with learning activities, teachers in grades 1 and 2 have both experienced this. Usually this happens outside the teacher's control. The teacher has made a structured plan but due to unfavorable circumstances this can mean that time does not match in learning activities.

However, in the next project, namely the Light Sources project and making a pencil case from used bottles, the teacher in grade 2 did not experience any difficulties because the situation and conditions went well and according to the plans made. Regarding time management, this is a difficult thing. Sometimes there are several unexpected things that make the project completion time not according to plan.

The next challenge is technical difficulties of project implementation. In this section, three things are discussed, namely Paying attention with teacher instruction, having difficulty in managing student attention, and Students' understanding affects the project results. The first challenge is Paying attention with teacher instruction. In this section, teachers in grades 1 and 2 do not experience difficulties regarding Paying attention with teacher instruction. However, in grade 1, the teacher several times found students who were not paying enough attention to the teacher. This is reinforced by interviews conducted with teachers in class 1 who stated:

"It depends. Because in grade 1. There are those who pay good attention, there are those who play who still need to be reminded to listen"

This is definitely quite difficult, especially in grade 1 because grade 1 is a transition period from kindergarten, which in kindergarten they play more often. Because the environment in elementary schools is different from the environment in kindergartens (Hasmalena et al., 2023). The second challenge is related to Having difficulty in managing student attention. Teachers in grades 1 and 2 also had no difficulty in attracting students' attention. This is because teachers in grades 1 and 2 both have their own tricks to get students' attention. In accordance with the results of an interview conducted with the teacher in class 2 who stated:

"So far, no, because we already have our own tricks, by patting, giving speech feedback and then he responds back."

In accordance with observations made by researchers, teachers always use quite fun tricks to attract students' attention, especially as these young students really like fun things. If the teachers cannot teach the children appropriately, the children may not enjoy their learning. (Wulandari et al., 2020). The third challenge is related to Students' understanding affect the project results. If students understand the explanation given by the teacher well, the result will be that the project they work on will be optimal. On the other hand, if they do not hear the teacher's explanation well, the project they do will not be optimal. This is in accordance with interviews conducted with grade 2 teachers who said:

"Usually yes. Therefore, when we know there are children playing around, we call them by name, they will definitely come back and listen to the teacher's instruction."

So, teachers always remind students to listen to instructions carefully so that the project runs optimally.

The next challenge regarding the project result is not optimal. Teachers in grade 1 did not experience student project results that were not optimal. The students have worked well according to the interview conducted with the grade 1 teacher who said:

"Overall, they have worked very hard. And ibu Ami was happy to see their results. At their age, making poster projects and working with the group is already very good according to ibu Ami."

This really needs to be appreciated because grade 1 students can carry out projects optimally. In contrast to grade 2, there were times when project results were less than optimal because it was caused by students doing the project carelessly. According to the results of the interview with the teacher in grade 2 said:

"Never. So, they just thought it was random. Because they want to finish quickly, want to rest quickly. 'Usually, I give the response to the children, 'This is not optimal, Ibu Evi can't accept it yet, please do it again.' I return it to them to complete the project."

So, there were students in class 2 who worked on projects haphazardly, not according to the instructions given by the teacher.

Projects that are not optimal are influenced by students' lack of understanding. Teachers in grades 1 and 2 also agree with this. This was reinforced by an interview with the teacher in grade 1 who stated:

"Yes, definitely. So, if there is a problem, the student doesn't understand what he is doing, and experiences problems there, maybe Mrs. Ami will repeat it again, such as giving a power point. So, in this case the teacher will always go around guiding and providing assistance to students who experience problems."

The teacher in class 2 also said the same thing during the interview

"Yes, it has an effect. 'That's why, when they don't understand, the teacher accompanies them, telling them it should be done like this, like this' so they will gradually understand."

So, it can be said that students' understanding greatly influences the results of the projects they create. This can also be influenced by students' different understanding which causes project results to be less than optimal. It is highly recommended for teachers to create interesting, fun, enjoyable and fun lessons for young learners. This is because young learners have a quite short attention span and are easy to get bored (Juhana, 2014: Wulandari et al., 2020).

Then, if students lack understanding regarding the project explained by the teacher, then the project completion time will definitely take longer. This was the same thing that teachers in grades 1 and 2 said in the interviews that were conducted:

"Yes, it has an effect. It will definitely take longer to complete."

Regarding the challenge of costs for projects, namely if the costs provided are inadequate then the project carried out will be less than optimal. The teacher in grade 1 said:

"Influencing. If the costs are there, then the materials we use are also available in good condition, according to what we hope the project will run well. If there is no cost, it won't be possible"

The teacher in grade 2 also said the same thing:

"If the costs are less, yes. But so far we have never experienced problems with costs."

At Pelangi School Bali, the costs for making projects have been budgeted directly by the school and so far, the costs for making projects have not been a problem in grades 1 and 2.

The next discussion is related to Manage group work. In this case there are two parts, namely Facing difficulties in group division and Dividing groups based on students' capabilities. Teachers in grades 1 and 2 do not always provide projects with groups. There are several projects that are carried out individually. Teachers in grades 1 and 2 experienced difficulties in dividing groups, but this could be overcome because the teachers already knew what children's characters were like and what solutions they could take if there were students who protested regarding group divisions and this was in accordance with interviews conducted with teacher in grade 2 who said:

"At the beginning, yes, because I didn't know what the child's character was like. But after so many months, we know what the character of our students is, therefore teachers really need to know the character of our students"

This is also supported by the opinion of Estari (2020) One of the benefits when teachers recognize and understand students' character is that the teaching and learning process takes place better. Next is related to Dividing groups based on students' capabilities. Teachers in grades 1 and 2 do not divide students according to the same abilities. Teachers in grades 1 and 2 divided students randomly. Based on the conclusions from interviews conducted with teachers in grades 1 and 2, it was stated:

"So, they are equalized. In the way we distribute mixed groups. So those who are capable are paired with those who are less able, so that they complement each other there"

So, it can be said that teachers in grades 1 and 2 divide students randomly and do not group students according to their abilities. This is quite good to do so students can practice how to work together.

The next challenge is related to inadequate facilities. Of course, when carrying out a project you will use certain facilities and materials to support the project implementation process. The more adequate the materials and facilities, the better the project that will be produced. Teachers in grades 1 and 2 do not have too much difficulty regarding facilities and materials for making projects because the materials are completely available at school. Also, regarding the costs provided by the school, teachers do not feel any difficulty because the school has allocated sufficient funds for the project to be carried out. So, teachers in grades 1 and 2 do not need to worry about project costs.

The final challenge is related to other challenges that teachers face in the classroom. Each teacher in grades 1 and 2 has different problems. In accordance with the observations that have been made, it is true that there are some children who are too eager to grab the teacher's attention when other friends are answering the teacher's questions. Character education that includes values such as respect, mutual respect and empathy is important in shaping students' attitudes and behavior. This lack of understanding can lead to impolite attitudes (Diantami et al., 2023). Another challenge faced by teachers in grade 2 according to interviews conducted stated:

"Other challenges are usually more towards children who talk a lot but don't work. Just talking. So, children like this must be accompanied by a teacher. Or paired with the active and quiet. So, no one responds to what they say"

So, in grade 2, the challenge that teachers experience is students who talk a lot but don't do their assignments and of course the teacher in grade 2 already has a solution to this problem. A good teacher who is ready for learning activities will definitely have prepared strategies that will be used to overcome challenges that may occur. This section will discuss the strategies that teachers use to overcome challenges when implementing PjBL. Based on research findings, teachers in grades 1 and 2 have implemented several strategies so that students' projects run optimally.

Strategies for Implementing Project-Based Learning in Pelangi School Bali

The first strategy that teachers use is modifying the project. Modifying the project can occur if the plans we have made have problems. In accordance with an interview with a teacher in grade 2 who said:

"There have been times when we couldn't get materials, for example we planned it, but it turned out the materials weren't available in Bali, for example. So, we can change it. It will be adjusted if conditions do not support it."

So, modifying the project in grade 2 has occurred if the materials are not available in Bali and this can change the entire project. In contrast to grade 2, the results of interviews conducted in grade 1 said:

"Definitely yes. Usually, we make plans. Of course, every plan has an input. Sometimes we have our own knowledge, after we discuss with the children there is input. This is where the children's creativity will develop and they will also provide input"

This is also quite good to do, namely by providing opportunities for students to work creatively with their teams. This will make students happy because they are also invited to express their opinions regarding the project that will be carried out. In accordance with what Wulandari et al., (2020) said: On the other hand, an English teacher for young learners must be creative in order to provide quality learning, it is highly recommended for teachers to create interesting, fun, passionate and motivating learning for young learners. Regarding modifying the project, whether it can cause the project they are working on to be optimal depends on the performance of their team and so far, the projects produced have been fine.

The next discussion is about strategies in a limited time. Time greatly influences project implementation activities. If the time given is not enough, then the student project results may be less than optimal. Usually to shorten time, 2 themes are usually combined into 1. However,

at Pelangi School Bali, especially in grades 1 and 2, the teachers never combine two themes into one. In the interview the teacher said:

"It usually takes a long time. So, because this is a small class, we try to focus on one theme. So, we make one project with one theme, rarely do we combine one project for two themes."

Combining two themes into one is not effective in small grades because they will be confused and this was made clear in an interview with the teacher who said:

"Because the children are in a small grade, they are more confused. So, if we give them more input, they will forget the output"

So, the teacher will finish one theme first and then move on to a new theme. This will make students in small classes less confused and more focused on working on projects.

Next is a strategy related to Financial. In making a project, of course costs are needed to make the project successful. Cost is a measure of the success of a project. Regarding fees such as fee limits, how to manage class fees at Pelangi School has been regulated by the school. Teachers in grades 1 and 2 do not need to think about how to manage finances because the class money has been given by the school. Therefore, the implementation of project-based learning at Pelangi School Bali uses learning media funds as a strategy in the field of financing.

The strategy that will be discussed next is related to Grouping. There are some projects that require students to form groups. For IPC, students are usually divided into groups randomly, namely using sticks. In accordance with an interview conducted with a teacher in class 1 who said:

"The groups we make are based on sticks. If the IPC is more open, we use a stick."

Using sticks allows students to learn to work together with friends who have different abilities than them. In grade 2, the teacher also distributes students randomly.

"We are always random. So those who are capable can sit with those who are less able. So, they can sit together."

This strategy also maximizes the results of the projects carried out. The final discussion is related to strategies related to lack of facilities. When making a project, of course adequate facilities and materials are needed. So, teachers have to think about what materials and facilities can support the project they are working on. Facilities and infrastructure are very vital and very important things in supporting the smoothness or ease of the learning process, in relation to education which requires facilities and infrastructure and also their utilization both in terms of intensity and creativity in their use by teachers and by students in learning activities. teaching (Agustina et al., 2022). Based on findings and interviews, teachers in grades 1 and 2 use school sources. Teachers in grades 1 and 2 also use tools that are already available in the classroom such as scissors, paper, glue, and others. Teachers also do not use tools brought by students because tools such as colored pencils, pencils, erasers are also provided at school and students just need to take them from their respective lockers.

Another strategy that teachers in grades 1 and 2 use is to help students if they find it difficult. Based on interviews that have been conducted, the teacher in class 1 said:

"Here we guide children to socialize, work as a team to accept each other's opinions. And reach a point where they want to make what kind of project."

The strategy that teachers in class 1 use is to always guide students when students find it difficult. Teachers also guide students when they have difficulty getting material, namely taking them to the library or using laptops in class to look for material they don't understand

"If they have difficulty finding information, we have books in our library on Fridays to pick up books. When there is a project, we will provide resources to children by reading. Or maybe there is a laptop here, we will search for information"

Just like in grade 1, teachers in grade 2 also guide students if they find it difficult. Based on the discussion above, it can be said that teachers will always guide and help students if they experience difficulties in class. The teacher must have chosen this strategy carefully so that the students' projects can run well and optimally.

CONCLUSION

There are several challenges that teachers face when implementing projects, namely students who join in talking when the teacher is explaining the material. This is because students are too excited about the topic that will be discussed and they can't wait to express their curiosity. There are also students who like to talk too much. Even when working on a project, he talks more often than working on the project. Apart from that, the challenge faced by teachers when implementing Project Based Learning is when group division takes place. Sometimes, students want to be in a group with certain friends because they feel familiar with only certain friends. However, teachers can overcome this with the strategies they have prepared.

Some of the strategies that teachers use to deal with students are based on research conducted, namely that teachers have tricks to silence students who prefer to talk rather than focus on what the teacher is explaining. Teachers in grades 1 and 2 have special jargon to attract distracted students' attention. Teachers also always give praise and appreciation to students so that students always feel confident. Teachers also always use lottery when distributing groups. This aims to encourage students to mingle and discuss with other friends and not just certain friends. Apart from that, this can also motivate lazy students to be more diligent when carrying out projects.

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