



Vocational High School Teachers' Perception of Project-based Learning Method in English Language Teaching: A Case Study

Melvira Tanila^{1*}, Sri Sulastini², Imas Wahyu Agustina³

^{1,2,3}English Language Education Study Program, Universitas Negeri Jakarta, Indonesia

Submitted: 12 Feb 2024
Revised : 21 Apr 2024
Accepted : 31 May 2024

Abstract

As Vocational High School (VHS) students are prepared to work in certain fields, project-based learning (PjBL) becomes one of the teaching and learning methods that teachers can use to meet the expectations in the work field. Even though the effectiveness of PjBL implementation is related to how the teacher perceives the method, less attention is given to studies that focus on teachers' perceptions of the principles of PjBL. Therefore, this study aimed to investigate the English teachers' perception of the PjBL method in terms of the objectives, principles, and teachers' roles. The descriptive case study was employed as the research design to answer the formulated research questions. Semi-structured interviews with English teachers at SMKN 26 Jakarta were conducted to collect the data. The findings show that all teachers have a good perception of the objectives of the PjBL method. Most teachers fully understand their role in the PjBL method. However, there was some misunderstanding in teachers' perception of the principle of challenging problems/questions and public products. 75% of the teachers did not see sustained inquiry and reflection as the principle of the PjBL method. Therefore, teacher professional development training related to the principles of the PjBL method needs more attention.

Corresponding e-mail:
*)viratanila@gmail.com

Keywords: Principle of PjBL; Project-based learning; Teacher's perception; Teachers' role in PjBL; Objective of PjBL; Vocational high school.

INTRODUCTION

Problem-solving, reflection, creativity, critical thinking, metacognition, risk-taking, communication, collaboration, innovation, and entrepreneurship have become some of the key competencies for life and work in the 21st century (Scott, 2015). These competencies are not only desirable but also essential for success in an increasingly complex and dynamic world. On this basis, the development of teaching and learning in vocational high schools must be adapted to the conditions and needs of the workplace. To effectively prepare students for these demands, educational strategies must go beyond traditional methods to provide opportunities to develop these skills. PjBL has become one of the most effective methods for vocational education, which emphasizes the integration



of various disciplines and practical skills based on industry needs to find solutions to challenges in real-world scenarios (Chiang & Lee, 2016).

PjBL is an instructional approach that encourages students and teachers to explore the concepts, insights, and disciplines of a field of study in depth in which the project itself serves as a means for acquiring knowledge and cultivating a deep understanding of the subject matter (Larmer et al., 2015). PjBL is student-centered teaching that occurs over a long period of time, where students select, plan, investigate, and produce products, presentations, or performances that answer real-world questions or respond to authentic challenges (Holm, 2011). Further, this approach seeks to enhance learning by enabling students to apply their knowledge to different situations and problems and to effectively utilize their knowledge in practical contexts (Chiang & Lee, 2016). Thus, PjBL engages students with real-world issues to develop critical thinking and problem-solving skills essential for their future careers and cope with continuous challenges.

Larmer, et al. (2015) present the concept of the Gold Standard PBL in which objectives, principles, and teachers' roles serve as guidelines for learning method activities and project designs. The objectives allow students to learn deeply to *master knowledge and concepts*, in which project activities serve as the means while knowledge and understanding are the goals. *Transferring knowledge* in PjBL develops not only students' understanding but also their ability to use and apply that understanding in the future, applying what they have learned to new situations and problems. As they accomplish the learning goals for a project, they gradually develop critical thinking/problem-solving, collaboration, and self-management, *success skills* that are necessary for success in the modern workplace (Larmer, et al., 2015). PjBL requires students to allocate some time and effort to confront and resolve problems, and to work together, allowing them to recognize the pattern of solution and priority which then develops students' self-management skills, such as being able to organize time, tasks, work independently, handle stress, and take the initiative.

Larmer, et al. (2015) highlighted that the principles and the degree of their representation in the project determine the success of achieving the objectives. The project centers around a meaningful and appropriate *challenging problem or question* expressed through an engaging open-ended driving question. The project must involve in-depth and active research that spans over time, where students generate questions, utilize resources, ask additional questions, and develop their own answers generally with teacher guidance and assistance (*sustained inquiry*). The project must represent *authenticity*, situated within a real-world context (context authenticity), incorporating real-world processes and tools (task and tool authenticity), and quality standards leading to genuine impacts (impact authenticity), and may relate to students' own concerns, interests, and identities (personal authenticity). The project calls for students to *voice* their ideas and make *choices* in accomplishing the projects. Students have opportunities to *reflect* upon what they are learning, how they are learning it, the design and execution of the project itself, the obstacles confronted, and how they can overcome them in the learning process. *Critique and revision* were provided to enable them to revise their ideas and products or conduct further inquiry. *Public products* become the outcome, encouraging students to perceive their work as worthwhile and taken seriously by others, not just the teachers, by displaying and describing their products in an exhibition, at a community meeting, or online.

Finally, PjBL requires teachers to play four roles (Larmer, et al., 2015). Teachers can be *content experts* where with deep and thorough understanding they explain complex concepts clearly and make



instructional decisions. Teachers act as *mentors* or project managers, providing scaffolding to support and guide students throughout the project, monitoring the progress, and reminding them of the goals of the project. Teachers also act as *motivators*, building a supportive classroom culture, encouraging a growth mindset, and expressing recognition of effort and persistence. Finally, teachers act as *assessors* of learning, evaluating student performance and learning objectives accomplishment, including providing continuous feedback. Similarly, Cintang et al. (2017) categorized the roles into four: facilitator (guiding and supporting skill development), supervisor (overseeing and monitoring the progress), motivator (inspiring and encouraging engagement and commitment), and evaluator (assessing and evaluating the project execution).

Several previous studies showed that the PjBL brings positive effects on the language teaching and learning process. Levine (2004) reported that improvement of language skills was the most prominent because the students are encouraged to carry out communication using the target language to complete authentic activities in a relatively natural context. Likewise, research by Sari et al. (2021) shows that teachers believe that PjBL improves all four skills because this approach strengthens student engagement, encourages creativity, builds self-confidence, and fosters a sense of responsibility. Similarly, Kavlu (2017) added that PjBL application improves not only students' language skills but also their social communicative skills because PjBL shifts students from standard class monologues and dominant memorization systems towards modern real-life contexts and analytical, critical, and synthesis thinking. Students engage in communication to solve real-world problems or answer complex questions all of which in a certain period. Further, Amalina et al. (2023) highlighted that students will be more motivated and enthusiastic in the learning process because they do new things that they can feel, see, and make (learn in real-life conditions); thereby becoming self-regulated learners through individual or small group projects.

Despite the many studies conducted on PjBL, studies on teachers' perceptions of PjBL concerning the objectives, principles, or teachers' roles are scarce. Most previous studies explore teachers' perception of the advantages, disadvantages, and/or challenges of the PjBL method (Amalina et al., 2023; Baysura et al., 2016; Habók & Nagy, 2016; Sari et al., 2021). In fact, the success of PjBL implementation relies on the teachers' knowledge, skills, and competencies (Sartika et al., 2022; Alsubaie, 2016) since they are widely involved in various teaching and learning stages in PjBL and become the main executors. Therefore, it is important to know how they perceive the concept or theory of the PjBL method because it will certainly reflect or influence their practice in class. Bonner (2016) stated that perception and behavior greatly influence each other, practice without regard to perception can cause problems. If teachers' perceptions are fundamentally lacking or wrong, they may experience a lack of power to explain. Therefore, this present study intends to investigate vocational high school English teachers' perception of project-based learning concerning the objectives, principles, and teachers' roles. Perception here covers concepts, attitudes, values, and beliefs about judgments, all of which are formed by mental interpretations of perceived information and stimuli (Bonner, 2016).

RESEARCH METHOD

A descriptive case study research design was chosen to obtain an in-depth analysis of teachers' perceptions of the objectives, principles, and teachers' roles of the project-based learning method (Yin,

2018). Four SMKN 26 Jakarta English teachers who admitted to implementing project-based learning methods participated in this study. Semi-structured interviews with open-ended questions developed based on Larmer, et al. (2015) concept of the PjBL method were used to collect qualitative data. The interview was written in Indonesian to make the participants understand the question items more easily. At the beginning of the interview, the participants were given a piece of paper containing statements about the objectives, principles, and the teacher's role in project-based learning methods. Participants were asked to put a tick next to the statements that they thought were appropriate to the project-based learning method. They were also free to add statements that they thought were appropriate to the PjBL method but were not listed in the list. Then, the semi-structured interview began by following the interview protocol and according to the participants' answers on the previous sheet. During the interview process, the researcher recorded the participant's responses using an audio recorder. The researcher also took some brief notes regarding the responses of the participants. Lastly, the researcher completed the interview by thanking the participants and assuring them of the confidentiality of the responses. Then, interview results were analyzed and interpreted based on Larmer, et al. (2015).

RESULTS AND DISCUSSION

The findings generally showed that most participant teachers had a good understanding of the concept of the PjBL method concerning the objectives with an average score of 85%, principles with an average score of 68%, and teacher roles with an average score of 94%. Participant teachers had some insufficient knowledge of the principles of the PjBL method in English language teaching, especially concerning sustained inquiry and reflection.

Results

Teachers' perception of the objective of the project-based learning method

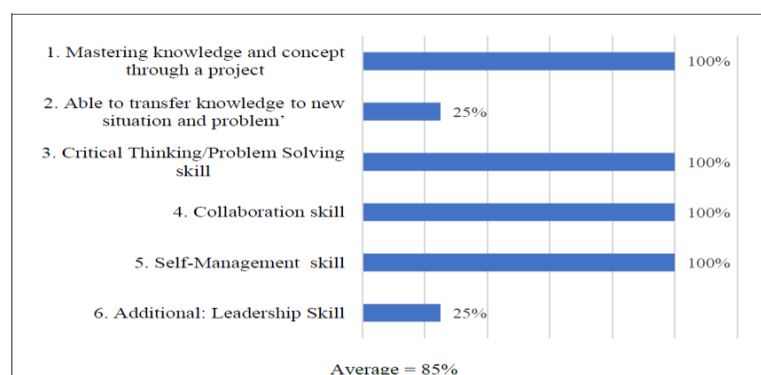


Figure 1. Teachers' perception of the objective of the project-based learning method

Detailed analysis of the teacher participants' perception of the PjBL objectives showed positive results with an average score of 85% for all the five PjBL method objectives proposed by Larmer, et al. (2015), as presented in Figure 1. This implied a strong alignment between the teacher's understanding and the intended goals of PjBL which in turn indicated that teachers were well-prepared to implement PjBL.

All teachers agreed that *Mastering knowledge and concepts through a project* is one of the objectives of the PjBL method. They stated that the goal of PjBL is that students can learn English as the target language through a project and the project itself functions as a learning vehicle consisting of activities that encourage students to learn and explore their English language skills independently. See the following interview statements.

"Peserta didik itu melakukan penilaian sendiri, menginterpretasikan suatu masalah melalui suatu proyek." (Translation: "The learner do self-assessment, interpret a problem through a project.") (Teacher 1)

"...Mendorong siswa dan guru untuk menggali secara dalam, konsep, pemahaman mendasar dan disiplin dari suatu mata pelajaran melalui suatu proyek." (Translation: "... Encourage students and teachers to dig deeply, concepts, fundamental understandings and disciplines of a subject through a project.") (Teacher 2)

Only one teacher participant mentioned that the PjBL objective covers the ability to *transfer knowledge* to new situations and problems while the others did not mention anything about it. Teacher 2 stated, *"Iya, karena mereka kan udah punya pengalaman, udah ada ilmunya. Mungkin nanti mereka bisa menggunakannya pas menghadapi masalah yang serupa."* (Translation: "Yes, because they already have experience, they already have knowledge. Maybe later they can use it when facing similar problems."). This statement signifies that the PjBL method encourages students to gain learning experience from learning concepts in the class so they can transfer their knowledge to future problems.

Next, all teachers held the belief that PjBL aimed to *develop critical thinking/problem-solving skills*, as shown by the statements below. This pointed out that PjBL helps foster essential cognitive skills that are crucial for students' success in real-world scenarios.

"...Mengembangkan critical thinking mereka, bagaimana mengembangkan pemahaman mereka terhadap suatu proyek yang saya berikan." (Translation: "...Develop their critical thinking, how to develop their understanding of a project that I give.") (Teacher 3)

"Tujuan dari project-based learning tersebut, salah satunya supaya anak itu bisa berpikir, atau kita mengasah critical thinkingnya." (Translation: "One of the objectives of project-based learning is students can think, or we hone their critical thinking.") (Teacher 4)

Teacher participants elaborated further on the reasons why they considered that the PjBL method helped develop these skills by stating that the process of finding solutions or completing the project helped students improve their critical thinking or problem-solving skills. Below are some of the statements.

"...Tentunya siswa ditantang untuk berpikir kritis, masalah apa ya yang ditemukan oleh siswa di kelas dalam kehidupan sehari-harinyayang perlu solusi dan tentunya ada problem solving skill karena dari masalah itu kita mencari solusinya." (Translation: "...Of course, students are challenged to think critically, what problems they found in class in their daily lives that need solutions and of course there are problem solving skills because from those problems we look for solutions.") (Teacher 2)

"Critical thinking itu, nah jadi sebelum mereka practice, sebelum ada hasil mereka harus, harus mencari, mencari dulu apa-apa sajayang harus mereka nanti tanya/jawab, bagaimana menjawab dalam sebuah job interview." (Translation: "Critical thinking is, so before they practice, before there are results they must, must search, first look for anything they have to ask/answer, how to answer in a job interview.") (Teacher 3)

All teachers also agreed on the statement that another objective of PjBL was to *develop collaboration skills*. The statements below showed that teachers believed that as students complete projects together, they would naturally collaborate through active discussion and exchange of ideas. See the participants' statements below.

"Ya (*ada collaboration skill*) karena misalnya mereka dikasih proyek, mereka harus mendiskusikan. Mungkin mereka dibagi per kelompok. Nah kelompok itu kita arahkan mereka harus berdiskusi satu sama lain dalam menyelesaikan masalah, jadi tidak ada yang diam semuanya harus aktif." (Translation: "Yes (it involves collaboration skills), for example they are given a project, they have to discuss. Maybe they are divided into groups. Well, we direct the group that they must discuss with each other in solving problems, so no one is silent, everything must be active.") (Teacher 1)

"...Lalu di situ ada karena bekerja sama dalam satu kelompok tentunya pasti ada *collaboration skill*." (Translation: "...Then, because they work together in one group, of course, there must be collaboration skills.") (Teacher 2)

All teachers also shared the same point of view that one of the PjBL's objectives is to *develop self-management skills*. They signified that the PjBL method helps develop students' ability to organize themselves. Teachers believed that students learned to manage themselves in the process of completing projects, starting from planning needs, activities, schedules, and tasks. This is represented by the following interview statements:

"...Lalu di situ akan dibuat perencanaan dan scheduling berarti disitu ada *self-management skill*." (Translation: "...Then there will be planning and scheduling means there are self-management skills.") (Teacher 2)

"Manajemen diri itu, karena pertama mereka sendiri dulu itu yang mencari. Mereka harus berusaha dulu, berusaha dulu mencari apa-apa saja sih nanti yang diperlukan dalam job interview." (Translation: "Self-management is, because first, they are the ones who searched. They have to try first, try first to find whatever is needed in the job interview.") (Teacher 3)

Apart from the five objectives of the PjBL method that have been listed by Larmer, et al. (2015), another objective added by Teacher 2, stating, "...Juga ada *leadership* karena ada pemimpin grup kelompok." (Translation: "...There is also leadership because there is a group leader."). PjBL encouraged the development of student's leadership skills because in completing projects in groups, there are students who act as group leaders, a finding in line with Hasanah et al. (2023). Moreover, these results emphasized similar findings as those of Morrison et al. (2021), who found that PjBL helps both present and former teachers set activities that develop the student's abilities in critical thinking or problem-solving, communication, collaboration, and management. Similarly, a study by Chiang & Lee (2016) highlighted the PjBL method to help students gain problem-solving abilities and transfer these abilities to practical situations in the future.

In short, teacher participants had a positive perception of the PjBL objectives, affirming that PjBL aims to encourage the ability to master knowledge and concepts, think critically or solve problems, collaborate with others, and manage themselves. Yet, they need to get more aware that PjBL also helps students transfer knowledge and lead a team.

Teachers' perception of the principles of project-based learning method

The findings of teachers' perception of the principles of the PjBL method was at a moderate level, shown by 68% understanding of the overall principles of the PjBL method. This scored the lowest among the three aspects of PjBL proposed by Larmer, et al. (2015). This suggests that while teacher participants recognize the importance of objectives and teacher roles in PjBL well, they displayed some gaps in understanding the principles of PjBL which might hamper implementation later. Figure 2 below illustrates the varied responses toward the seven principles.

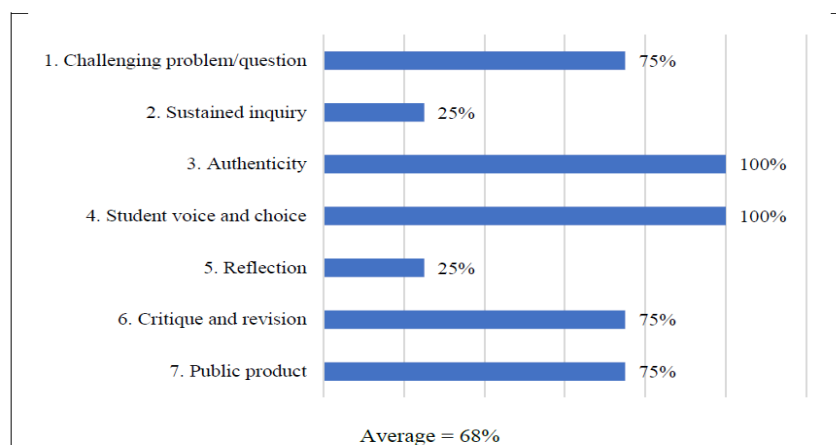


Figure 2. Teachers' perception of the principles of project-based learning method

As many as 75% of teacher participants admitted that providing *challenging problems/questions* is one of the PjBL's principles. When asked to explain further about what they understood by the principle of challenging problems or questions in PjBL, some answered that PjBL challenges students with real-world problems and questions that encourage exploration and critical thinking in practical situations. The following statements illustrated the teachers' opinions.

"Tahapan dalam project-based learning ini adalah yang pertama identifikasi masalah kita mulai dengan pertanyaan. Tentunya, di dalam proyek ini, jadi siswa harus mencari, ditantang untuk mencari masalah masalah yang ia dapatkan dalam kehidupan sehari-hari." (Translation: "This stage in project-based learning is the first to identify the problem, we start with a question. Surely. In this project, so students have to search, be challenged to find problems that they get in everyday life.") (Teacher 2)

"...anak di awal kita berikan dalam bentuk pertanyaan atau permasalahan. Nah mereka akan mencari tahu jawaban atau solusi dari pertanyaan atau masalah yang diberikan." (Translation: "...at the beginning, we give the students questions or problems. Then, they will find out the answer or solution to the question or problem given.") (Teacher 4)

When asked about their opinion about the purpose of the challenging problem/question principle, in brief, they said that this principle keeps the students engaged and focused on the project's learning goals as they must seek answers and solutions to these questions or problems. Here are some of the statements:

"...Biar mereka tidak keluar dari konteks atau dari yang harus dilakukan." (Translation: "...So they will not be out of context or out of what to do.") (Teacher 1)



"...Jadi untuk mendorong siswa fokus pada tujuan pembelajarandari proyek ini dan juga punya pengalaman belajar." (Translation: "...So to encourage students to focus on the learning objectives ofthis project and also have a learning experience.") (Teacher 2)

Next, only one teacher perceived the *sustained inquiry principle* as part of PjBL principles while the other teachers did not mention this. When asked what they understood by the principle of sustained inquiry in the PjBL method, Teacher 2 signified that the principle means that students carry out ongoing investigations where students must be disciplined in planning and projectscheduling up to the assessment or evaluation stage. This process is carried out under the supervision of the teacher within a certain period. Here is the statement.

"...Nah di situ berarti siswa harus disiplin terhadap rencana awal, lalu penjadwalan, action plannya kapan, sampai tahap monitoring dari guru, lalu tahap apa penilaian dan evaluasi. Pastinya ga satu pertemuan. Bisa 2 minggu atau 3 minggu, cukup lama" (Translation: "...That means students must be disciplined with the initial plan, then scheduling, the action plan when, until the monitoring stage from the teacher, then what stage is assessment and evaluation. Definitely not one meeting. It could be 2 weeks or 3 weeks, long enough") (Teacher 2)

All participants took *authenticity* as one of the PjBL principles. This reflects the participants' understanding that authentic tasks in PjBL, which mirror real-world practices, are crucial in engaging students and making learning more relevant to their needs. Here are some of the answers.

"... Jadi pembelajaran dibuat seasli mungkin, seapa adanya sesuaidengan yang mereka lakukan sehari-hari. Yang apa adanya gitu pokoknya." (Translation: "... So learning is made as original as possible, as it is according to what they do every day. Which is what it is.") (Teacher 1)

"...Siswa jadi bisa memahami-memahami konsep atau teori yang dia terima dari gurunya, dari di kelas, dengan real live gitu. Jadi dikehidupan nyatanya seperti ini ternyata, ada hambatan-hambatannya, ada kelebihanannya. Jadi mereka akan mendapatkan sendiri gitu, dari proyek yang sedang mereka lakukan" (Translation: "... Students can understand the concepts or theories they receive from their teachers, from the classroom, in real live. So in real life itturns out like this, there are obstacles, there are advantages. So theywill get their own from the project they are doing.") (Teacher 2)

When asked to elaborate more on their opinion, the teacher participants showed that the principle of authenticity aligned learning with the student's daily activities and their majors. It involves incorporating real-life challenges into project activities, helping students understand and apply concepts in practical situations, and enabling them to apply acquired knowledge in the future. See some interview results below.

"Siswa jadi bisa memahami-memahami konsep atau teori yang diaterima dari gurunya, dari di kelas, dengan real live gitu." (Translation: "Students can understand the concepts or theories they receive from their teachers, from the classroom, in real life." (Teacher 2)

"Ya, pertama dulu untuk biar mereka nanti bisa menyalurkan ilmu yang mereka miliki. Walaupun seumpamanya mereka lari dari jalur,tetapi setidaknya ilmu dasar mereka sudah ada." (Translation: "Yes, first so that they can later channel the knowledge they have. Even if they run off the track, but at least their basic knowledge is inplace.") (Teacher 3)

Concerning the *student voice and choice* as one of the PjBL principles, all teachers responded positively by stating that PjBL provided students with time to generate and refine their own ideas. This, in turn, promotes creativity and independent learning as they are given the responsibility to contribute actively. Yet, Teacher 1 also stated his/her preferences for a combined one.

“...Ya kita memberikan waktu kepada mereka untuk mereka ngutarakan apa-apa ide-ide yang baru.” (Translation: "Yes, we give them time for them to come up with any new ideas.") (Teacher 3)

“...Jadi guru itu akan mengumpulkan ide-ide siswa apa untuk menentukan masalahnya. Siswapun ditantang untuk mencari sumber belajar selain dari gurunya” (Translation: "... So the teacher will gather what students' ideas are to determine the problem. Students are challenged to find learning resources other than their teachers.") (Teacher 2)

Some teachers also provided their views on the limitations of the principle of student voice and choice. Student voice and choice are allowed as long as those ideas are aligned with the project goals and subject matter. Despite its chance to promote engagement due to fresh insights, their ideas should adhere to norms and avoid divisive or offensive content. It can be seen from the following statements.

“...Bebas memilih topik tapi tidak lari dari jurusan mereka. Itu yang kita utamakan.” (Translation: "...Free to choose topics but not run away from their majors. That's what we prioritize.") (Teacher 3)

“...Intinya sih yang tidak bertentangan dengan norma dan tidak berbau sara atau apa pun itu yang memecah belah sebuah persatuan.” (Translation: "...The point is that it doesn't contradict the norm and sara or anything that divides a union.") (Teacher 4)

Only one teacher showed agreement of *reflection* as the PjBL principle while the other teachers did not mention this idea. Teacher 4 stated that reflection means teachers equally understood students and noticed to what extent the students understood the material, then did some review when necessary. This shows that teachers engaged in reflection to assess throughout the learning process and to ensure that all students had the same level of understanding. Reflection is also believed to reduce the likelihood of problems arising because students can help their peers who might be falling behind. Unfortunately, a similar opinion was not expressed by the three other participants.

Concerning *critique and revision* as one of the principles in PjBL, three teacher participants showed positive perceptions by highlighting that the implementation of PjBL required continuous monitoring and feedback where teachers gave guidance by offering inputs, criticism, and revisions throughout the process of project completion. Here are their statements:

“Mereka proyek berkelompok kan, mungkin ada yang agak kurang-kurang gitu ya diberikan masukan-masukan/arahan-arahan.” (Translation: "They have group projects, maybe there's something a bit lacking, so we provide input/directions.") (Teacher 1)

“Kritik dan revisi itu pasti ada waktu monitoring. Jadi on proses ya, jadi waktu proses berlangsung proyek ini, guru harus memonitor dan memberi masukan feedback kepada siswa.” (Translation: "Criticism and revision is in the monitoring session. So on process, during the process of the project, teachers must monitor and provide feedback to students.") (Teacher 2)

Lastly, analysis of the participants' perception of *public products* as the principle of PjBL, three participants responded positively by stating that projects involved students in product creations that are accessible to the public. It served as a valuable resource for others, showed the success of student projects, and provided samples for both students and teachers. The teacher also believed this motivated students to excel in their work, knowing that it would be showcased to the public. One participant preferred doing the assessment directly, concerning the time limitation. See the following answers.

“Produknya berarti kita bisa upload videonya ke Youtube atau ke Spotify. Siapapun bisa menggunakan karena berdasarkan eksperimen/penelitian.” (Translation: "The product means we can upload the video to Youtube or to Spotify. Anyone can use it because it is based on experiments/research.") (Teacher 2)

“Produk yang ditujukan untuk public ya misal kayak gini. saya memberikan proyek tentang suatu materi dan saya suruh anak menampilkannya dalam bentuk mading. Dalam bentuk mading itu kan

dapat dilihat oleh umum, dalam mading sekolah." (Translation: "Products intended for the public, for example, I give a project about a material and I tell the child to present it in the form of madding. In the form of madding it can be seen by the public, in school madding.") (Teacher 4)

In brief, teachers' perception was positive in most of the principles of the PjBL proposed by Larmer, et al. (2015) with varied responses to each principle. Agreement was displayed by all participants towards the use of authentic tasks and respecting students' voices and choices. These findings correspond to those of Amalina et al. (2023) who found that teachers perceived PjBL to emphasize the learning process in an authentic real-world context and encourage communication. Challenging problems or questions, critique and revision, and public products were considered important in PjBL implementation by 75% of respondents while sustained inquiry and reflection were approved only by 25% of them. This affirmed the study by Thuan (2018) who pointed out challenging questions or problems on topics of interest through hands-on collaborative activities and the use of authentic resources and technologies, supported by feedback from peers and facilitators.

These mixed responses towards the overall principles of PjBL indicated differences in implementation, thereby requiring further training or workshops for more uniform perceptions of how to apply PjBL in language classrooms.

Teachers' perception of the teachers' role in project-based learning method

The findings show that the teachers have a good understanding of their roles in the PjBL method, indicated by 94% average agreement toward all types of roles proposed by Larmer, et al. (2015).

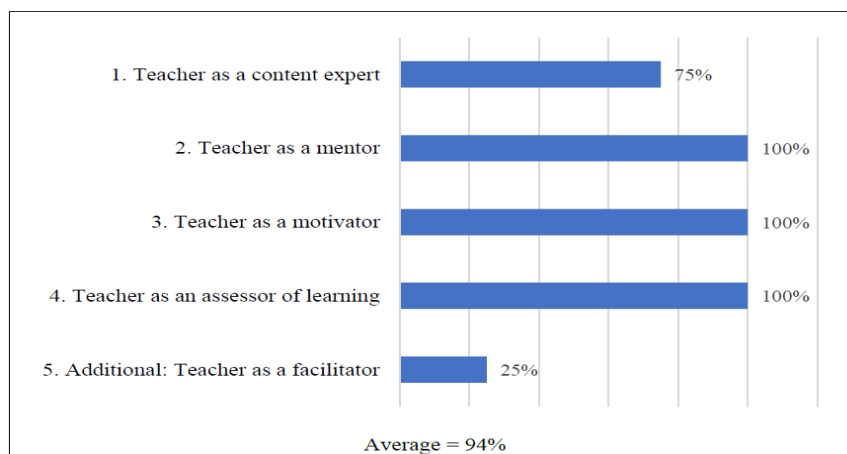


Figure 3. Teachers' perception of the teachers' role in project-based learning method

As illustrated in Figure 3, four teacher respondents displayed agreement with the teacher's role as the *content experts*, by saying that as content experts, they assist students in developing ideas and executing projects by sharing their knowledge and serving as valuable learning resources. This is shown by the following interview statements.

"Proyeknya didesign oleh guru dan siswa. Siswa pun ditantang untuk mencari sumber belajar selain dari gurunya. Jadi gurunya akan memberikan feedback berdasarkan yang sudah guru tersebut lebih tau lebih dulu daripada siswa gitu kan." (Translation: "The project is designed by teachers and students. Students are also challenged to find learning resources other than their teachers. So the teacher will give feedback based on what the teacher knows.") (Teacher 2)



“...Kita sebagai guru juga harus memberikan arahan 'oh begini naknih caranya seperti ini' jadi berdasarkan pengetahuan si gurunya tersebut gitu loh.” (Translation: "...We as teachers also have to give directions 'oh, this is how to doIt' so based on the knowledge of the teacher.") (Teacher 4)

All teacher respondents understood their role as *mentors*. This is supported by the following statements. Teachers act to supervise and guide students as they work on their projects to ensure alignment with their objectives, while also providing feedback and offering assistance when students encounter challenges. This guidance and monitoring helped maintain student commitment to their projects. Here are some of the teachers' statements.

“Jadi waktu proses berlangsung proyek ini, guru harus memonitor dan memberi masukan feedback kepada siswa.” (Translation: "So during the process of this project, teachers must monitor and provide feedback to students.")

(Teacher 2)

“...Pastinya kita sebagai guru juga tidak hanya meninggalkan begitu saja, tapi kita juga di sini kita membimbing anak, bagaimana dari awal dia membuat sebuah proyek, step-stepnya itu apa saja, kemudian juga sudah sejauh mana proyek itu dikerjakan, kemudian juga sampai akhirnya proyek itu selesai.” (Translation: "...Of course we as teachers do not leave it alone, but we are also here to guide students, how from the beginning they make a project, what are the steps, then also how far the project has been done, until finally the project is completed.") (Teacher 4)

All teacher respondents shared the same belief that teachers acted as *motivators* in the PjBL method. They said teachers inspire and support students by offering guidance, encouragement, and appreciation for their project work. Especially when students faced challenges, they provided emotional support through encouragement and feedback, recognizing students' efforts with praise and rewards. This can be seen in the following sentences.

“...Guru pasti berdasarkan pengalamannya akan memberikan motivasi. 'Ayo semangat nak! nanti caranya begini' berdasarkan pengalaman. Kalau pujian itu wajib ya. Terutama sih nilai itu nomor satu, nomor dua reward itu nanti ada sendiri.” (Translation: "... The teacher based on their experience will provide motivation. 'Come on, cheer up, kid! It will be this way' based on experience. Praise is mandatory. Especially the value is number one, the number two is reward.") (Teacher 2)

“Kita berikan arahan. Kalau mereka melakukan yang terbaik kita berikan applause, kita berikan pujian, kita berikan apa Namanya itu? Apresiasi dengan ucapan.” (Translation: "We give direction. If they do their best we give applause, we give praise, we give what is it called? Appreciate with words.") (Teacher 3)

The teacher's role as an *assessor* of learning was perceived by all teacher respondents as they evaluated both the progress and outcomes of students' projects. This assessment may involve using quizzes to gauge students' understanding and using assessment standards in rubrics to evaluate the quality of project work as referred by these interview statements.

“...Saya rasa penilaian itu kedua-duanya dong, dari awal ya. Bagaimana prosesnya, bagaimana hasilnya. Atau bisa jadi berbentuk kuis.” (Translation: "...I think the assessment is in both ways. From the start, the process, and the results. It could be in the form of a quiz.") (Teacher 1)

“...Dinilai mulai dari awal. Bagaimana cara mereka melakukan itu, bagaimana usaha-usaha mereka, dan bagaimana hasilnya. Itu dipadukan semua.” (Translation: "...Assessed from the start. How do they do it, what are their efforts, and what are the results. It's all combined.") (Teacher 3)

In addition, Teacher 2 added *facilitators* as another teacher role in PjBL, indicating the importance of supporting and enabling student learning throughout the learning process. This aligns



with studies by (Hamidah et al., 2020) and Cintang et al. (2017). In conclusion, the teacher participants perceived the teacher roles in PjBL positively, showing a strong alignment with the PjBL framework proposed by Larmer, et al. (2015). This implied that they showed a clear grasp of their responsibilities and were well prepared to implement this method effectively in their classrooms. As perception and behavior greatly influence each other, practice without paying attention to perception can cause problems (Bonner, 2016). If teachers have misperceptions about a concept, they may not be able to convey the material effectively, making it difficult to achieve the learning objectives that have been set and may cause learning difficulties or dissatisfaction with the learning experience for students.

CONCLUSION AND RECOMMENDATION

The findings revealed a promising result in which the majority of teacher participants have a good understanding of the objectives, principles, and teacher roles in the PjBL method. In terms of objectives, they positively affirmed four out of five PjBL objectives, in which transferring knowledge became the least. A relatively lower perception of the overall principles of the PjBL was revealed, which implied more attention to implementing sustained inquiry and reflection. Teacher roles appeared to be the most important aspect that the participants were aware of when implementing PjBL.

Despite the valuable detailed information concerning the teachers' perceptions of PjBL, room for improvement is still available to fill the limitation gaps. Since this study involved a very small sample size, the result cannot be generalized; thereby allowing future research in different contexts. Moreover, as the study only relied on a single method, which is an interview, further investigation is needed to see how PjBL is implemented and check if the perception affects the implementation. Schools and education/training institutions may also take part in training the implementation of PjBL that fulfills the expected method.

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