



## **Teachers' Practices in Implementing Project-Based Learning in Early Childhood English Classrooms**

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### **Abstract**

The purpose of this study is to describe variations in early childhood teachers' practices in English project-based learning (PjBL), analyze the advantages of implementing PjBL, and determine students' English abilities after teachers implemented PjBL. This study used a qualitative descriptive approach. Participants were three English teachers at TK IT AL IRSYAD Koto Baru, Dharmasraya Regency. Data were collected through observations, interviews, and documentation. The results showed that the teachers implemented six PjBL stages: (1) planning, (2) determining the assessment rubric, (3) designing the schedule, (4) monitoring, (5) assessment, and (6) evaluation. Five advantages were identified: increased motivation, stronger critical thinking, improved teamwork, enhanced creativity, and better English ability. Finally, after PjBL implementation, students achieved good English performance, classified as BSB (very well developed). These findings indicate that structured projects can guide teachers in delivering meaningful English activities and provide clear criteria for evaluating progress in kindergarten learners in this setting.

**Keywords:** project-based learning, teachers' practices, teaching English

### **Abstrak**

Tujuan penelitian ini adalah mendeskripsikan variasi praktik guru PAUD dalam penerapan Project Based Learning (PjBL) untuk pembelajaran bahasa Inggris, menganalisis kelebihan penerapannya, serta mengetahui kemampuan bahasa Inggris siswa setelah PjBL diterapkan. Penelitian ini menggunakan pendekatan deskriptif kualitatif. Partisipan penelitian adalah tiga guru bahasa Inggris di TK IT AL IRSYAD Koto Baru, Kabupaten Dharmasraya. Instrumen penelitian meliputi observasi, wawancara, dan dokumentasi. Hasil penelitian menunjukkan bahwa guru menerapkan enam tahapan PjBL, yaitu (1) perencanaan, (2) penentuan rubrik penilaian, (3) penyusunan jadwal, (4) pemantauan, (5) penilaian, dan (6) evaluasi. Ditemukan lima kelebihan penerapan PjBL, yakni meningkatkan motivasi, mengembangkan berpikir kritis, meningkatkan kerja sama, mendorong kreativitas, serta mengembangkan kemampuan bahasa Inggris siswa. Pada akhir penerapan PjBL, siswa memperoleh hasil bahasa Inggris yang baik dengan kategori BSB (Berkembang Sangat Baik). Temuan ini menunjukkan bahwa proyek yang terstruktur membantu guru menghadirkan pembelajaran bahasa Inggris yang bermakna dan memudahkan penilaian perkembangan siswa dalam konteks taman kanak-kanak.

**Kata kunci:** pembelajaran berbasis proyek, praktik guru, pengajaran bahasa Inggris

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## A. Introduction

The education system in Indonesia needs to prepare a generation that is able to respond to various challenges both nationally and globally (Halimatusyadiyah et al., 2022). In improving the quality of education in Indonesia, where produce by the generation that has good power, the government attended through a new curriculum (Nurhayati et al., 2022). The primary tool for conducting an effective teaching and learning process is the curriculum (Nursapia Harahap, 2022). Tutuli in Nurhayati et al. (2022) states that from Indonesia's independence, the curriculum has been revised about eleven times, including the 1947, 1952, 1964, 1968, 1975, 1984 (CBSA), 1994, and 1999 (supplementary curriculum), 2004 (KBK), Curriculum from 2006 (KTSP), the Curriculum from 2013 (K 13), and the current one is the Independent Curriculum.

Project-based learning (PjBL) is a learning model which highly suggested in the Indonesian present curriculum, that is the Independent curriculum (Halimatusyadiyah et al., 2022; Diana et al., 2021). Project-based learning (PjBL) forms an assignment or task that aims to have the students produce something themselves. It is a self or team project that deals with a time limit, a result of the product, and presentation (Ramadani et al., 2021). PjBL requires students to engage in a higher level of thinking (HOTS) (Condliffe et al., 2017; Farrell, 2020; Zulyusri et al., 2023; Junaidi et al., 2022). Similarly, Suherman et al. (2020) state that good learning can improve students' higher-order thinking skills (HOTS) and creativity. Project-based learning (PjBL) is useful for a teacher to improve the students' skills (Sepahkar et al., 2015). The teacher can increase students' critical thinking skills and their problem-solving skills (Nilsook et al., 2021; Jalinus & Nabawi, 2018). Thus, in doing a project, the students must produce something based on the learning material, so the project makes students improve their creativity (Siska et al., 2022; Wardani et al., 2021). Then, a research by Sari et al. (2020) explained that project-based learning can increase the students' learning achievement and it helps them be more creative in producing a project result (Puspitasari et al., 2023; I. K. Sari, 2018). Furthermore, project-based learning (PjBL) is a deep exploration of a topic or theme, an idea through activity for creating a product, which is done several times (Godfrey, et al., 2000). In other words, in doing a project, the students develop their idea based on the theme or topic from their teacher. The result of the project can be a product, an event, or students' performance. Then, the teacher gives several times to finish the project; it can be a week or a month (Nugroho & Dewi, 2022).

Besides, project-based Learning (PjBL) refers to a model by using projects or activities in the learning process (Prasetyo et al., 2023). PjBL learning employs the students centered learning in authentic situations (Minh, 2021). The students are given a project that is a complex task and quite difficult, but real (Velicanu et al., 2013; Gagnon et al., 2015). This PjBL is also designed to guide students through collaborative projects that show a variety of learning resources (materials), give students the opportunity to explore learning content (materials), and collaborate in carrying out experiments (Darmuki et al., 2023). In PjBL, the teacher acts as a facilitator and motivator, while students can rebuild the learning process (Kumar, 2021). Project-based learning (PjBL) is based on three principles: the use of real materials; student creativity or participation in the learning process; and skills development through collaboration (Hidayati et al., 2023). Numerous studies demonstrated the steps for implementing PjBL, the majority of which shared basic stages. The Ministry of Culture and Education (2013) outlined the six steps for using project-based learning in the teaching and learning process in Indonesia. These steps are: (1) establishing a critical question; (2) creating a project plan; (3) creating a fixed schedule; (4) keeping track of students' project progress; (5) evaluating students' project outcomes; and (6) evaluating students' experience (Wajdi, 2017; Asfihana et al., 2021). Then, Minh

(2021) describes the four phases of PjBL: initiating the project, developing it, reporting to the class, and evaluating it.

According to Riswandi (2019), the steps of project-based learning are: designing outcomes that are expected, designing standards that will be used to evaluate the project, clarifying deadlines, requiring students' progress, and assessing the result of the project. In addition, Kartikasari (2018) explains that the steps of project-based learning are : (1) Questioning, (2) Planning, (3) Researching, (4) Creating, (5) Improving, and (6) Presenting. Another step of implementing PjBL learning are: 1) Identify learning material; 2) Determined instruction for the project (name of the project, time to finish the project, aspect that can be assess, project report); 3) Determined scoring rubric to assess students project; 4) Assessing students project based on aspect or criteria in scoring rubric; 5) Give note for the students to repair their project; 6) Do analysis about result of the project; 7) Enter students score into book of assessment (Jalinus et al., 2017; Sepahkar et al., 2015). The researcher combines and modifies all of the theories as indicator of this research. There are six steps in implementing project-based learning: 1) planning; 2) determining a scoring rubric; 3) designing a schedule; 4) monitoring; 5) assessing; 6) evaluating (Wajdi, 2017; Asfihana et al., 2021; Jalinus et al., 2017; Kartikasari, 2018; Riswandi, 2019).

Additionally, project-based learning has several benefits for both teachers and students. First, through project-based learning, the teacher can motivate the pupils to develop their talents and problem-solving abilities. The teacher can also tell if a student has a skill by looking at the end product or project they produced. When students work on group projects, project-based learning can boost their self-esteem, encourage them, and help them become better at collaborating with others (Essien, 2018). Completely, Halimatusyadiyah et al. (2022) explain several advantages in the PjBL learning model, such as: (1) improving students' learning motivation. (2) improves students' ability to learn cooperatively and collaboratively, (3) increases students' creativity, (4) improves students' academic abilities, (5) improves students' communication skills, (6) improve problem solving skills, (7) create fun learning environment (Issa & Khataibeh, 2021). One model advised for use, particularly in English language instruction, is project-based learning (PjBL). PjBL is a teaching model that asks students to create, plan, and complete a project that results in a publicly displayed output, such as a thing, a book, a video, or a performance (Riswandi, 2019). PjBL allows students to work on a project that helps them to practice speaking and learn English while simultaneously developing a variety of other crucial skills like teamwork, critical thinking, and presentation.

Teaching English in early childhood education (ECE) presents several challenges, particularly in contexts where English is a foreign language. Young learners in preschool settings have limited attention spans, are still developing their first language, and require learning experiences that are concrete, playful, and meaningful. Many early childhood teachers also face constraints such as limited training in English pedagogy, a lack of age-appropriate teaching materials, and pressure to balance language learning with holistic child development. As a result, English instruction in early childhood settings often relies on rote vocabulary learning rather than communicative and experiential approaches that support children's cognitive, social, and emotional growth (Gagnon et al., 2015).

Project-Based Learning (PjBL) has been widely recognized as a relevant and promising approach for young learners because it emphasizes active learning, collaboration, and learning through real-life experiences. In early childhood contexts, PjBL allows children to explore topics through play, inquiry, and hands-on activities while naturally integrating language use. Despite the growing interest in PjBL for language learning, there remains a significant research gap. Existing studies tend to focus on learning outcomes or implementation at higher educational levels, while qualitative research

exploring the diversity of teachers' instructional practices in applying PjBL for English learning in early childhood education is still limited. This lack of in-depth qualitative insight highlights the need for further research to understand how early childhood teachers adapt and implement PjBL in English instruction within their specific classroom contexts

Based on the previous research by Wardani et al. (2021) found that project based learning for university level can improve the students wnglish writing ability. Then, Loyens et al. (2023) found that PjBL is effective in improving the students' English speaking ability at the senior high school level. The students can make a project video or practice a conversation. The differences with this research was this reseach impremented for kindergarden level, not for the high level. So, the novelty of this research was the project-based learning (PjBL) always used at the elementary school level, junior high school level, senior high school level, and university level, but in this reseach the researcher analyzes the implementation of project-based learning at kindergarden level. As is known, for children very difficult for children to do a project because they are still playing during learning. The teacher asked the students to do a simple project, such as drawing, coloring, adhere picture, that is interesting and does not make the students bored. Based on the researchers' pre-observation at TK IT AL IRSYAD, the researchers found that the English teacher has implemented project-based learning. To gauge how well the students understood the previously taught subject, the teacher asked them to create a product based on the learning material. There is no detailed explanation of how the English teacher at TK IT AL IRSYAD Koto Baru Dharmasraya implemented the project, even though the teachers use a project-based learning model to teach English. The ability of instructors to employ the project-based learning approach in the classroom will be enhanced if they are knowledgeable about how to do so. As a result, project-based learning will be productive and serve its intended goal, and the teacher will be able to see the benefits it offers pupils. Hence, the purpose of this research was to know about 1) how the teacher steps in implementing project-based learning at TK IT AL IRSYAD Koto Baru Dharmasraya, 2) what the advantages of implementing project-based learning are, and 3) how the students' ability is after the teacher implements project-based learning, looking from the teacher's score.

## **B. Research Method**

This study employed a descriptive qualitative approach to explore how project-based learning (PjBL) was implemented in English learning and to identify its perceived benefits and students' English outcomes. The study was conducted at TK IT AL IRSYAD Koto Baru, Dharmasraya Regency, during the first semester of the 2024/2025 academic year. The participants were three English teachers selected through purposive sampling. Although there were four English teachers at the school, only three regularly applied PjBL in their classroom practices; therefore, these three teachers were included as the main informants.

Data were collected using three techniques: observation, interviews, and documentation. Classroom observations were supported by an observation checklist and field notes to record the stages of PjBL, teacher–student interactions, learning activities, and students' participation. Interviews were conducted via phone using an unstructured format to obtain in-depth information regarding teachers' planning, assessment practices, perceived advantages, and challenges in implementing PjBL. Documentation was used to complement the data, including lesson plans, assessment rubrics, students' work/products, and records of students' English achievement. To ensure data credibility, triangulation across techniques (observation, interview, and documentation) was applied. Data analysis

followed four procedures adapted from Gay et al. (2012): reading/memorizing the data, describing the findings, classifying the data, and interpreting the patterns to conclude.

### C. Result and Discussion

This research aimed to analyse 1) how the steps of implementing Project-Based Learning (PjBL) in teaching English at TK IT AL IRSYAD Koto Baru Dharmasraya and 2) what the superiorities of implementing project-based learning (PjBL). Based on the research findings from observation (observation checklist and field note) regarding the steps of implementing project-based learning, the researcher found that one of the teachers implemented every step of project-based learning. The data displays following table below:

**Table 1. Steps of Implementing Project-Based Learning**

No	Steps of implementing Project-based learning		Teacher		
	Indicator	Sub indicator	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>
1	Planning	a. explains the project name	√	√	√
		b. describes the project outcomes	√	√	√
		c. shows the project report sample	√	√	√
		d. discusses the process of doing project's	√	√	√
2.	Determining Scoring Rubric	a. selects the scoring rubric		√	√
		b. provides the scoring rubric copy		√	
		c. explains the scoring rubric guidelines		√	
3.	Designing Schedule	a. establishes the project development deadlines	√	√	√
		b. sets the start time for the project	√	√	√
		c. establishes the time for project collection	√	√	√
4.	Monitoring	a. asks the students to report their progress in doing project (for longer project)	√	√	√
		b. provides note (written/oral) to repair project	√	√	√
		c. assesses the project progress	√	√	√
5.	Assessing	a. Enters the project final score	√	√	√
		b. Assess the orally by providing comments	√	√	√
6.	Evaluating	a. discusses what worked well and what needs to be changed	√	√	√
		b. exchange thought, feeling, and experiences.	√	√	√

#### 1. Planning

A sub-indicator of planning was present, which explained the project's name, objectives, sample project report, and process. The findings of the observation revealed that every participant had explained the purpose of the project, its goals, provided an example of a project report, and talked about how the project was carried out.

#### 2. Determining Scoring Rubric

Sub indicators of determining the scoring rubric were choose scoring rubric to evaluate students' projects, giving a copy of the scoring rubric to the students, explains the scoring rubric. Based on the observation, not all participants are implementing this step. The result showed that just the second teacher implemented all of sub indicators. Meanwhile, the first teacher did not implement the sub-indicator. Then, the third teacher just implemented sub indicator choose scoring rubric to evaluate the students' projects.

#### 3. Designing Schedule

Sub-indicators of the schedule's design include the teachers' deadlines for the students' projects, the start and end times of the projects, and the time at which the

projects will be collected. Every participant used this indicator, which was based on the observational findings.

#### 4. Monitoring

Sub-indicators of monitoring were asking the students to report their progress in doing the project (for a longer project), giving notes (written/oral feedback) to repair the project, and assessing students' progress. Based on the result of observation, in the teacher monitoring step, all of the teachers had implemented this sub-indicator.

#### 5. Assessing

Sub-indicators of assessing the students' project was the teacher gives final score and oral feedback on the students' projects. The result of observation showed that all teachers had implemented this sub-indicator.

#### 6. Evaluating

The result of observation showed that all teachers had implemented this sub-indicator of evaluating the student's project. The teachers discussed what worked well and what needs change. Then the teacher shares ideas, feelings, and experiences.

Based on the result of this research, the steps of implementing project-based learning were 1) planning, 2) determining a scoring rubric, 3) designing a schedule, 4) monitoring, 5) assessing, and 6) evaluating. This finding differs from a study (Minh, 2021) that only included four steps: starting the project, developing it, reporting to the class, and evaluating it. In addition, (Meier & Hendel, 2019) explains ten-step process for implementing project based learning; 1) start with science standards; 2) create a motivating question; 3) generate ideas for the final product; 4) employ learning methodologies; 5) build an argument supported by evidence; 6) create project designs; 7) ensure science safety; 8) evaluate; 9) integrate; and 10) final product.

Next, this research also aimed to find out the superiority of implementing project-based learning in teaching English. The researcher did phone interview with English teachers about the superiority of project-based learning, and the researcher got the data below:

**Table 2. Transcript Interview about the superiority of project-based learning**

Question	Transcripts of Interview
“What are the advantages of implementing project-based learning?”	Teacher 1: Miss D Project name: Animals <i>“PjBl can improve the student's motivation in learning English. The students become creative and active in teamwork. They also thinking critically about what are the characteristics of Animals”</i>
	Teacher 2: Mam L Project name: Fruits <i>“I think, PjBl very useful for increasing student, ability in learning English. It can improve the student's speaking skill. It can encourage them to speak English about fruits. They can reduce nervous while speaking because they speaking with groupwork”</i>
	Teacher 3: Miss S Project name: foods <i>“ PjBL very affective to be implemented in teaching English. It can make the students creative to write the label of product. They can creative writing, coloring the label, and presenting in front of the class ”</i>

The results of this current research are almost the same as the findings of other research about the advantages of implementing PjBL. Based on the interview's transcript, PjBL can be successfully used to teach English at TK IT AL IRSYAD. Applying project-based learning has five superiorities: 1) improving motivation, 2) developing critical thinking, 3) raising teamwork, 4) encouraging creativity, and 5) enhancing students' English-language abilities.

Lastly, this research also analyzes the English score of the student after the teacher implemented project-based learning. The researcher only analyzes from the document from the three teachers. So this research called as descriptive qualitative research. The researcher found that the score of student's English language ability also got significant improvement. The score from total students in three class are 45 students. There are 35 students got BSB and 10 students got BSH. It can be seen from the table below.

**Table 3. English Language Ability after Implementing Project Based Learning (PjBL)**

No	Name	Score	16	MR	BSB	32	AL	BSB
1	AMD	BSB	17	TY	BSB	33	OP	BSB
2	AAP	BSH	18	HM	BSB	34	FD	BSB
3	FR	BSH	19	JK	BSB	35	RS	BSB
4	KC	BSB	20	LN	BSB	36	D	BSB
5	KI	BSH	21	BV	BSH	37	WA	BSH
6	KPM	BSB	22	CX	BSB	38	WS	BSB
7	LRR	BSB	23	YZ	BSB	39	MS	BSH
8	MF	BSB	24	TT	BSB	40	TI	BSB
9	NJ	BSB	25	YU	BSB	41	JK	BSB
10	RSY	BSH	26	N	BSB	42	TRA	BSB
11	RVP	BSB	27	MF	BSB	43	ADB	BSH
12	PS	BSB	28	DAS	BSB	44	NH	BSH
13	SF	BSB	29	CVB	BSB	45	PR	BSB
14	RA	BSB	30	CNM	BSB			
15	ZR	BSH	31	R	BSB			

Source: TK IT AL IRSYAD Koto Baru Dharmasraya

From the table above, it can be concluded that PjBL can improve the students' ability in learning English and can also increase the students' English achievement. This study's findings are related to the findings from Halimatusyadiyah et al. (2022). The use of PjBL in teaching English was designed to make the students motivated in learning English (Fariasih & Fathoni, 2022). Asking students to work in groups can support students to involve actively in the classroom (Riswandi, 2019). Besides that, the students are creative and critical thinking making a project (Puspitasari et al., 2023; Condliffe et al., 2017). Lastly, the project-based learning process can achieve students' knowledge and understanding in learning (Widiyatmoko & Pamelasari, 2012; Sayuti et al., 2020).

The implications of using the Project Based Learning model in improving the English language skills of early childhood are 1) in implementing PjBL, teachers are required to understand the situation and condition of students, able to determine learning methods that include ways for students to not only receive raw material, but actively seek and find their own knowledge so that their knowledge is more meaningful. 2) The use of the Project-Based Learning model provides a fun and meaningful learning experience for students because it can stimulate student interest so that students can contribute actively and confidently. 3) Through the Project-Based Learning model, it also influences students' mindsets in facing everyday problems, obtaining information, and processing it into a project result.

Based on the researcher's direct experience in this research process, there are several limitations experienced, and there are several factors that can be paid more attention to by future researchers in further refining their research, because this research itself certainly has shortcomings that need to be continuously improved in future research. Some limitations in the study, among others: 1. Limited personnel and abilities of researchers, qualitative research requires good data analysis skills and effective data collection, so that limited personnel and abilities of researchers can affect the results of the study. Researchers should add research questions about students' English abilities before implementing project-based learning. 2. Limited sampling, researchers should be able to choose two or three schools as research sites so that the results are more representative.

#### **D. Conclusion**

Based on the observation and interview data, this study concludes that only one English teacher at TK IT AL IRSYAD Koto Baru, Dharmasraya Regency implemented all six stages of project-based learning: (1) planning, (2) determining the assessment rubric, (3) designing the schedule, (4) monitoring, (5) assessment, and (6) evaluation. The other two teachers implemented several stages but did not carry out the second stage, namely determining and communicating the assessment rubric. In practice, the teachers neither explained the rubric nor provided it to students as a reference for completing the project. Therefore, not all English teachers in this setting implemented the full set of PjBL stages. The implementation of PjBL was reported to offer five main benefits: increasing motivation, developing critical thinking, improving teamwork, encouraging creativity, and enhancing students' English ability. Finally, students' English achievement improved and was categorized as BSB (very well developed). A limitation of this study is that students' English achievement was examined only through document analysis. Future studies are recommended to assess students' performance more directly and to explore the implementation of PjBL in other developmental domains, such as cognitive, language, and social-emotional development.

#### **References**

- Asfihana, R., Salija, K., & Iskandar. (2021). Digital project-based learning for teaching english for islamic studies: learning from practice. *The Asian ESP Journal*, 17(7.2), 25–41.
- Condliffe, B., Quint, J., Visher, M. G., Bangser, M. R., Drohojowska, S., Saco, L., & Nelson, E. (2017). Project-based Learning: a Literature Review. *Mdrc : Building Knowledge to Improve Social Policy, P-12 Education*, 2. <https://www.mdrc.org/publication/project-based-learning>
- Darmuki, A., Nugrahani, F., Fathurohman, I., Kanzunnudin, M., & Hidayati, N. A. (2023). The Impact of Inquiry Collaboration Project Based Learning Model of Indonesian Language



- Course Achievement. *International Journal of Instruction*, 16(2), 247–266. <https://doi.org/10.29333/iji.2023.16215a>
- Diana, N., Yohanes, & Sukma, Y. (2021). *The effectiveness of implementing project-based learning ( PjBL ) model in STEM education : A literature review The effectiveness of implementing project-based learning ( PjBL ) model in STEM education : A literature review*. <https://doi.org/10.1088/1742-6596/1882/1/012146>
- Essien, A. M. (2018). The effects of project-based learning on students English language ability. *The 2018 International Academic Research Conference in Vienna*, 438–443.
- Farrell, C. (2020). Do international marketing simulations provide an authentic assessment of learning? A student perspective. *International Journal of Management Education*, 18(1), 100362. <https://doi.org/10.1016/j.ijme.2020.100362>
- Gagnon, G., Tsushima, W., & Lehner, A. (2015). Just Do It ! A Reflection of Motivation in Project-Based Learning. *Third 21st CAF Conference at Harvard*, 6(1), 125–134.
- Gay, Mills, & Airasian. (2012). An Introduction to Educational Research. In *British Journal of Educational Studies* (Vol. 17, Issue 3). <https://doi.org/10.2307/3119647>
- Godfrey, Paul C., Grasso, E. T. (2000). Document resume c?515 -. *Paper*. <https://eric.ed.gov/?id=ED417056>
- Halimatusyadiyah, N., Anasya, S. W., & Pajri, A. (2022). The Effectiveness Of The Project Based Learning Model In The Independent Learning Curriculum. *Jurnal Kewarganegaraan*, 6(2), 3.
- Henriksen, D., Richardson, C., & Shack, K. (2020). *Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID- 19 . The COVID-19 resource centre is hosted on Elsevier Connect , the company ' s public news and information . January.*
- Hidayati, D., Novianti, H., Khansa, M., Slamet, J., & Suryati, N. (2023). Effectiveness Project-Based Learning in ESP Class: Viewed from Indonesian Students' Learning Outcomes. *International Journal of Information and Education Technology*, 13(3), 558–565. <https://doi.org/10.18178/ijiet.2023.13.3.1839>
- Issa, H. B., & Khataibeh, A. (2021). The Effect of Using Project Based Learning on Improving the Critical Thinking among Upper Basic Students from Teachers' Perspectives. *Pegem Egitim ve Ogretim Dergisi*, 11(2), 52–57. <https://doi.org/10.14527/pegegog.2021.00>
- Jalinus, N., & Nabawi, R. A. (2018). Implementation of the PjBL model to enhance problem solving skill and skill competency of community college student. *Jurnal Pendidikan Vokasi*, 7(3), 304. <https://doi.org/10.21831/jpv.v7i3.14286>
- Jalinus, N., Nabawi, R. A., & Mardin, A. (2017). *The Seven Steps of Project Based Learning Model to Enhance Productive Competences of Vocational Students*. 102(Ictvt), 251–256. <https://doi.org/10.2991/ictvt-17.2017.43>
- Junaidi, A. M., Hamidy, R. R., & Karomi, K. (2022). Project Based Learning Menggunakan Pendekatan Higher Order Thinking Skills (HOTS) untuk Meningkatkan Kemampuan Mahasiswa Abad 21 di Universitas Gunung Rinjani. *Palapa*, 10(2), 361–375. <https://doi.org/10.36088/palapa.v10i2.2181>
- Kartikasari, N. (2018). The Implementation of Project Based Learning by Making Vlog in Teaching Speaking of Recount Text for Junior High School. *Retain*, 6(3), 124–133.
- Kumar, J. A. (2021). Educational chatbots for project-based learning: investigating learning

- outcomes for a team-based design course. *International Journal of Educational Technology in Higher Education*, 18(1). <https://doi.org/10.1186/s41239-021-00302-w>
- Loyens, S. M. M., van Meerten, J. E., Schaap, L., & Wijnia, L. (2023). Situating Higher-Order, Critical, and Critical-Analytic Thinking in Problem- and Project-Based Learning Environments: A Systematic Review. In *Educational Psychology Review* (Vol. 35, Issue 2). Springer US. <https://doi.org/10.1007/s10648-023-09757-x>
- Meier, R. M., & Hendel, S. A. (2019). A Project-Based Learning Unit Plan: An Inquiry into Frogs. *Open Journal of Social Sciences*, 07(11), 70–78. <https://doi.org/10.4236/jss.2019.711006>
- Minh, D. D. (2021). *Applying Project-Based Learning To English Classroom To Promote Students ' Autonomy , Collaboration*. 125(11), 93–98.
- Nilsook, P., Chatwattana, P., & Seechaliao, T. (2021). The Project-based Learning Management Process for Vocational and Technical Education. *Higher Education Studies*, 11(2), 20. <https://doi.org/10.5539/hes.v11n2p20>
- Nugroho, A. E., & Dewi, S. E. P. (2022). Implementation Of Project Based Learning (PjBL) Method On Music Learning In Junior High School Regina Pacis Surakarta. *Jurnal Seni Musik*, 11(1), 102–111. <https://doi.org/10.15294/jsm.v11i1.56645>
- Nurhayati, Jamaris, & Sufyarma Marsidin. (2022). Strengthening Pancasila Student Profiles In Independent Learning Curriculum In Elementary School. *International Journal Of Humanities Education and Social Sciences (IJHESS)*, 1(6), 976–988. <https://doi.org/10.55227/ijhess.v1i6.183>
- Nursapia Harahap. (2022). Action Plan Curriculum Freedom To Learn- Independent Campus Field Social Science Islamic Higher Education Institution (PTKIN) In Indonesia. *International Journal Of Humanities Education and Social Sciences (IJHESS)*, 2(3), 857–865. <https://doi.org/10.55227/ijhess.v2i3.316>
- Prasetyo, W. H., Sumardjoko, B., Muhibbin, A., Naidu, N. B. M., & Muthali'in, A. (2023). Promoting Digital Citizenship among Student-Teachers: The Role of Project-Based Learning in Improving Appropriate Online Behaviors. *Participatory Educational Research*, 10(1), 389–407. <https://doi.org/10.17275/per.23.21.10.1>
- Puspitasari, I., Juhanda, A., & Ratnasari, J. (2023). *Implications Project-Based Learning ( PjBL ) Assisted Flipped Classroom on Critical Thinking Ability of Gender-Based Students on the Concept of Water Pollution*. 21(3), 221–227. <https://doi.org/10.19184/bioedu.v21i3.41215>
- Ramadani, D., Limbong, E., & Wardani, I. (2021). 1 , 2 , 3. 4(2), 78–88.
- Ridzky Iklasul Fariasih, & Achmad Fathoni. (2022). Project Based Learning Model on Motivation and Learning Outcomes of Elementary Civic Education. *Jurnal Ilmiah Sekolah Dasar*, 6(4), 705–711. <https://doi.org/10.23887/jisd.v6i4.55782>
- Riswandi, D. (2019). the Implementation of Project Based Learning To Improve Student'S Speaking Skill. *PROJECT (Professional Journal of English Education)*, 2(3), 270. <https://doi.org/10.22460/project.v2i3.p270-274>
- Sari, I. K. (2018). The effect of problem-based learning and project-based learning on the achievement motivation. *Jurnal Prima Edukasia*, 6(2), 129–135. <https://doi.org/10.21831/jpe.v6i2.17956>
- Sari, R. P., Mauliza, M., Nazar, M., & Nahadi, N. (2020). The Implementation of Performance

- Assessment Through Virtual Laboratory to College Students' Creative Thinking Skills. *Jurnal Penelitian Pendidikan IPA*, 7(1), 5. <https://doi.org/10.29303/jppipa.v7i1.484>
- Sayuti, H. A. M., Ann, T. G., Saimi, W. M. S. A., Bakar, M. A. B., Dawawi, S. N. A., & Mohamad, M. (2020). Using Gold Standard Project Based Learning for Intermediate Year Three Pupils to Enhance English Speaking Skill: A Conceptual Paper. *Creative Education*, 11(10), 1873–1889. <https://doi.org/10.4236/ce.2020.1110137>
- Sepahkar, M., Hendessi, F., & Nabiollahi, A. (2015). Defining Project Based Learning steps and evaluation method for software engineering students. *International Journal of Computer Science and Information Security*, 13(10), 48. [https://search.proquest.com/docview/1786201589?accountid=14643%0Ahttp://mlbsfx.sibiusp.br:3410/sfxlcl41?url\\_ver=Z39.88-2004&rft\\_val\\_fmt=info:ofi/fmt:kev:mtx:journal&genre=article&sid=ProQ:ProQ%3Atechnology1&atitle=Defining+Project+Based+Learning+steps+an](https://search.proquest.com/docview/1786201589?accountid=14643%0Ahttp://mlbsfx.sibiusp.br:3410/sfxlcl41?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:journal&genre=article&sid=ProQ:ProQ%3Atechnology1&atitle=Defining+Project+Based+Learning+steps+an)
- Siska, S., Indah Rusli, T., & Rizky Alfiani Syuaib, N. (2022). Analysis of the Implementation of Project-Based Learning Method During the Pandemic Covid-19. *Jurnal Pendidikan Dan Pengajaran (JPP)*, 3(2), 101–105. <https://doi.org/10.51454/jpp.v3i2.480>
- Suherman, Prananda, M. R., Proboningrum, D. I., Pratama, E. R., Laksono, P., & Amiruddin. (2020). Improving Higher Order Thinking Skills (HOTS) with Project Based Learning (PjBL) Model Assisted by Geogebra. *Journal of Physics: Conference Series*, 1467(1). <https://doi.org/10.1088/1742-6596/1467/1/012027>
- Velicanu, A., Lungu, I., Diaconita, V., & Nisioiu, C. (2013). *The 9 th International Scientific Conference eLearning and software for Education*. 380–386.
- Wajdi, F. (2017). Implementasi Project Based Learning (Pbl) Dan Penilaian Autentik Dalam Pembelajaran Drama Indonesia. *Jurnal Pendidikan Bahasa Dan Sastra*, 17(1), 86. [https://doi.org/10.17509/bs\\_jpbs.v17i1.6960](https://doi.org/10.17509/bs_jpbs.v17i1.6960)
- Wardani, N. K. S., Artini, L. P., & Ramendra, D. P. (2021). Project-Based Learning in Teaching EFL Writing: An Analysis of the Effect on The 5 Dimensions of Writing. *Journal of Education Research and Evaluation*, 5(2), 243. <https://doi.org/10.23887/jere.v5i2.31597>
- Widiyatmoko, A., & Pamelasari, S. D. (2012). Pembelajaran berbasis proyek untuk mengembangkan ALAT peraga IPA dengan memanfaatkan bahan bekas pakai. *Jurnal Pendidikan IPA Indonesia*, 1(1), 51–56. <https://doi.org/10.15294/v1i1.2013>
- Zulyusri, Z., Elfira, I., Lufri, L., & Santosa, T. A. (2023). Literature Study: Utilization of the PjBL Model in Science Education to Improve Creativity and Critical Thinking Skills. *Jurnal Penelitian Pendidikan IPA*, 9(1), 133–143. <https://doi.org/10.29303/jppipa.v9i1.2555>