**Exploring the Success of Implementing Project-Based Learning in Accounting across Service, Trade, and Manufacturing Companies**

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| **Abstract:** The suitability of the learning model is a key factor in improving the success of the learning process by responding optimally to the characteristics of students and integrating methods relevant to learning objectives. This study aims to analyze the use of the Project Based Learning (PjBL) model in the elements of Service, Trade, and Manufacturing Company Accounting. The model used in this research is qualitative with a case study approach. This research selected one vocational school with high integrity, namely SMKN 1 Banyudono, with several informants consisting of students in Financial and Institutional Accounting classes, Accounting Teachers, and the School Principal. Data collection methods included interviews, observations, and documentation studies, with data validity tested through technique triangulation and source triangulation. The results show that PjBL has a positive impact on students' learning outcomes, the quality of learning, and learning motivation. However, its weakness lies in requiring longer project implementation time and preparation. Nevertheless, PjBL can create an innovative learning environment, make graduates more prepared for the industrial world, and have a positive impact on students' learning outcomes and the quality of learning. | **Article History**  Received: 2  Revised:  Published:.. 2017  **Key Words :**  Project Based Learning;  Learning Model;  Success |

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**Introduction**

Education serves as a benchmark for the progress of a nation. The primary task of education plays a crucial role in shaping and nurturing the national character, strengthening national identity, and solidifying the essence of a nation. (Kadi & Awwaliyah, 2017). It is a conscious and planned effort to create an environment and learning process where learners actively develop spiritual and religious strength, self-control, personality, intelligence, noble character, skills, and qualities needed by individuals, communities, nations, and the country (Walidah et al., 2020).

Education must be adaptable to changes to avoid disparities. Management, government and community roles, curriculum or teaching materials, teaching approaches and methodologies, human resources, school environment, funding, and accreditation are all components that are seen to change as time progresses (Sri Parnayathi, 2020). One government effort to improve education and adapt is through curriculum changes. The current curriculum in all academic units, including early childhood education, elementary school, middle school, high school, vocational school, and special education and equivalency, is the Merdeka Curriculum (Kasman & Lubis, 2022).

The use of the Merdeka Curriculum requires learning to focus on or be centered around children, with the goal of deepening their learning and strengthening their competencies. One implementation within the Merdeka curriculum that can maximize the development of pedagogical, social, and personal competencies of teachers is by using the Project-Based Learning (PjBL) model (Lestari, 2019; Nursalam et al., 2023). Project-Based Learning (PjBL) is a learning model that uses projects as a learning tool to achieve competency attitudes towards mastering concepts, creativity, leadership, knowledge, courage, and skills. Learners independently analyze their investigations to solve problems or draw conclusions by submitting project tasks or presenting them after building the necessary knowledge to organize their ideas and work (Bahari et al., 2022). This process is carried out through cooperative activities, process monitoring, and feedback on their activities. This learning is a substitute for teaching that always focuses on speakers (Shin, 2018; Zen et al., 2022).

The use of PjBL is beneficial in meeting students' expectations of real-life situations. The PjBL model can develop critical thinking in students to solve real-world problems as they engage in tasks in the real world (Becerra-Posada et al., 2022; Hasan et al., 2023; Santos et al., 2023). Learning connects knowledge and actions, allowing students to learn by applying knowledge related to real-world life (Baser et al., 2017; Rees Lewis et al., 2019; Mega Elvianasti et al., 2022). According to Cresswell-Yeager (2021) through project application, students acquire principles, learning becomes active, and students can communicate and reflect on their observations.

Schools bear the responsibility of equipping students to navigate transitions in their careers. The objective is not just to furnish students with theoretical knowledge but also to instill practical skills and sufficient competencies, ensuring their readiness to secure fitting employment opportunities in their professional journeys. (Maros et al., 2023). Innovative methods in teaching, designing the curriculum, and delivering lessons are necessary for students to master skills that can be applied in various domains and industries (Marnewick, 2023).

Several studies indicate an improvement in learning through the use of PjBL. According to Garmendia et al. (2021), the use of PjBL can improve academic results and contribute to the development of generic competencies. This is evident in independent learning processes, self-reflection, teaching skills, instructor roles, learner-focused learning, constructivism, group training, group activities, knowledge sharing, proposed activities, instructor evaluation, joint evaluation, and self-evaluation. In the study by Rahayu & Fauzi (2020), it is stated that the learning process, with the right choice of learning models, the use of information and communication technology in learning, and learner-centered learning, is engaging and involves students more effectively by incorporating individual or group projects that can have a positive impact on students' resilience despite online-based learning. The research by Pan et al. (2019) also shows that the PjBL model positively contributes to increasing student motivation in the learning process.

The integration of project-based learning has the potential to profoundly reshape the classroom dynamics for both educators and learners. It has the capacity to alter teaching methodologies, redefine learning approaches, and transform the dynamics of interaction between teachers and students. When forming project teams, teachers also need to consider their size. According to Chen & Yang (2019), they mention that having groups with three to six students promotes greater interpersonal engagement but extends the duration spent on communication and coordination. As the group size expands, it becomes more difficult to guarantee active participation from all members and maintain a significant presence in team discussions. This enables the emergence of other factors influencing the effectiveness of PjBL utilization. The success of employing a learning model is evident in the efficacy of instruction, student academic achievements, and alterations in student behavior encompassing both cognitive and psychomotor dimensions. The primary determinants influencing an individual's social conduct encompass (1) the behavior and traits of others, (2) cognitive processes, (3) environmental factors, and (4) culture. A person's social attitudes can also be manifested through their form and social conduct (Febriana, 2017). If the majority of students in a specific class exceed expectations on standardized achievement tests, the learning model is deemed effective, conversely, if most students perform below expectations, the learning model may be perceived as less effective (Maros et al., 2023).

One field of study with a relatively high level of complexity in understanding is Accounting. This is due to the fact that accounting education comprises both theoretical and applied aspects. With the rapid development of globalization and technology, mastery of accounting applications becomes crucial. Proficiency in theoretical accounting skills and the quality of applied accounting skills are closely related to the learning models adopted by students (Sumarna & Amalia, 2022). Common challenges faced by students when studying accounting include a lack of understanding of learning materials, lack of focus, and low learning motivation. Additionally, educators often fail to employ activities to explore and validate concepts in education. The lack of variation in teaching models according to the material taught results in students' low learning outcomes, as evidenced by their academic performance (Bahari et al., 2022). There is a need for creativity on the part of accounting teachers to make accounting education enjoyable and engaging in the classroom (Suyatmini et al., 2019).

The development of skills in accounting learning faces a significant shortage. Teachers are required to use models that align with accounting practices in professional performance training (Duarte Silva & Araújo Leal, 2021; Kim, 2022). The Project-Based Learning (PjBL) model can enhance students' problem-solving skills, critical thinking, as well as interpersonal skills in accounting learning (Carrasco et al., 2018). The use of PjBL is expected to assist teachers in improving education, especially in accounting learning. With quality education, it is hoped that competence and knowledge in the competitive Indonesian society can be enhanced (Nafisa et al., 2021).

This research aims to examine how the PjBL model can enhance the effectiveness, learning outcomes, and skills of students in accounting learning. By continually developing innovative learning models, we not only improve the quality of education but also provide better opportunities for students to compete in an ever-changing world. This research is compelling as it will provide valuable guidance for educators and curriculum planners in understanding whether PjBL is an effective approach in the context of accounting education. This study is not just about measuring the success of a particular educational approach but also about building a strong bridge between the education and industry worlds, helping students become more skilled, knowledgeable, and ready for success in their accounting careers. Thus, this research plays a significant role in evaluating the current education system.

**Research Method**

This research adopts a qualitative model with a case study approach. The case study approach is chosen because it can thoroughly, efficiently, and conclusively explain specific problems, incidents, and situations. This model is employed to address the researcher's focus on analyzing the success of using the Project-Based Learning (PjBL) model in the elements of Service, Trading, and Manufacturing Company Accounting.

The research object is SMKN 1 Banyudono located at JL. Kuwiran No. 3 Banyudono Boyolali, Kuwiran, Kec. Banyudono, Kab. Boyolali, Central Java Province. Key informants include students majoring in Financial and Institutional Accounting, Accounting Teachers, and the School Principal. The criteria for teacher informants are those who have implemented the PjBL learning model in the elements of Service, Trading, and Manufacturing Company Accounting. Meanwhile, student criteria include having experience learning with PjBL in the mentioned accounting elements.

Data collection techniques include observation, interviews, and documentary studies. Observation will verify and support interview results to ensure alignment with actual conditions. Documentary studies will also support how the interview and observation processes are conducted. Data validity is ensured through triangulation of techniques and sources. Triangulation of techniques means using different data collection methods to obtain data from the same source, while triangulation of sources means using different data collection methods to obtain data from various diverse sources. The collected data will be analyzed through three activities: data reduction, data presentation, and drawing conclusions or verification.

**Result and Discussion**

**Usage of Project-Based Learning**

Project-Based Learning (PjBL) becomes a distinctive feature of the Merdeka Curriculum due to its student-centered nature. SMKN 1 Banyudono employs this model due to curriculum demands and alignment with the school's vision of becoming a Vocational High School that produces graduates with character, competence, intelligence, and independence. Students at SMKN 1 Banyudono can practice reasoning to address problems, hypothesize solutions based on simple concepts, and enhance critical and contextual abilities.

The school plans and supports the implementation of the PjBL model in the curriculum and learning by preparing the curriculum, involving relevant parties, policy-making from the provincial education office, school committees, industry partners, teacher human resources, and infrastructure. The school also conducts In-House Training (IHT) by training educators and industry practitioners. The school collaborates with industry partners to align projects created by teachers with current industry needs.

In addition to the school, teachers, as facilitators of the learning process, prepare themselves by continuously understanding the curriculum through continuous training via the Merdeka Mengajar platform from the Ministry of Education and Culture of the Republic of Indonesia. Teachers engage in self-training, community collaboration, competence reflection, and engagement with community organizations to develop themselves. According to teacher interviews, effective school support enhances teachers' skills in understanding PjBL, such as through workshops on Merdeka Curriculum assessment with PjBL material. With such support, teachers can maximize the use of PjBL and reduce the likelihood of failures in its implementation.

**Implementation in the Elements of Service, Trading, and Manufacturing Company Accounting**

The deductive logic characteristic of accounting science necessitates practical application for students to understand concepts deeply. To reduce the risk of failure in PjBL implementation, teachers must conduct thorough planning. Before using PjBL, teachers calculate and predict the suitability of PjBL with students' understanding levels. Through this planning, the failure rate is expected to decrease and align with students' capabilities.

PjBL used in the elements of Service, Trading, and Manufacturing Company Accounting is still relatively straightforward. Students are divided into groups and asked to visit service businesses in the vicinity. Afterward, students request evidence of transactions, such as sales, which they then analyze and enter into journals corresponding to the transaction evidence. Thus, students can directly interact with external parties to obtain transaction evidence. Although the nature of the project is relatively simple, teachers express a desire to continue developing PjBL. In interviews, teachers state a willingness to maximize PjBL implementation through collaboration across subjects at SMK, such as collaboration between Accounting, Mathematics, or English. Such collaboration has been implemented in larger vocational schools and has produced a product. This collaboration can reduce costs, provide opportunities for students to enhance creativity in learning, and make it easier for other teachers to assess students.

**Assessment of Success Level**

The success level can be seen from the positive impact of the PjBL model on student learning outcomes and overall learning quality, such as report card results, student interactions, and student understanding of concepts. The school principal, in an interview, states that the positive impact of the PjBL model can be observed from a significant improvement in the school's quality report. This improvement has also increased community enthusiasm to enroll their children at SMKN 1 Banyudono after observing school graduates. The success of PjBL can be measured through high student motivation, active participation in learning, and the production of high-quality work.

PjBL brings substantial benefits in facilitating students' understanding of accounting concepts. This is because PjBL's nature is highly relevant to the real world. This practicality not only offers a profound view of theoretical concepts but also provides a concrete illustration of how students will face challenges in actual work environments. Student involvement in PjBL-guided projects also creates a strong understanding of how these concepts can be applied in an industrial context. By combining academic concepts with practical applications, PjBL brings students closer to the reality of work and provides a solid foundation for the development of their professional careers. Students are tasked directly with solving problems independently or in groups. Thus, PjBL stimulates the development of independent attitudes and critical thinking skills in students. Student testimonials also highlight the significant contribution of PjBL to their understanding, providing strong evidence of the effectiveness of this model.

In addition to assessing how students understand accounting concepts, teachers also measure criteria and indicators to evaluate the success of using PjBL in the elements of Service, Trading, and Manufacturing Company Accounting. Assessment indicators will be adjusted to the Learning Implementation Plan and syntax used in the project. Teachers view the success of this project in improving learning outcomes by stating that the results of yesterday's project were satisfactory and could be included in e-performance. Students also become more active, not solely dependent on teachers, and become independent and creative, improving the quality of students to enter the real world. The improvement in results is felt by students who are active in learning, as expressed by students who may not see significant grade improvements but feel an enhancement in learning outcomes.

Many demands are faced by teachers in presenting enjoyable, peaceful, child-friendly, and bullying-free learning. This aims to create a more open emotional closeness, facilitate the implementation of differentiated learning, and encourage increased student motivation. This model is often misunderstood as providing total freedom to students, whereas teachers still play the role of facilitators guiding students. In this context, students are encouraged to compete competitively between groups to achieve optimal learning outcomes. The importance of interaction between students becomes the focus of learning, indicating that the success and effectiveness of the PjBL model depend heavily on group dynamics. Teachers, as facilitators, convey that PjBL can boost students' confidence, promote independence, and empowerment. It is expected that through PjBL, students not only enhance self-confidence but also gain motivation to improve their aspirations for education or careers in the future. Therefore, teachers need to have effective facilitation skills so that the interaction between teachers and students can proceed as expected.

**Challenges Faced**

With the implementation of the PjBL model, several challenges arise that must be faced by schools, teachers, and students. These challenges involve various aspects of the learning process. Here are some challenges faced by schools, students, and teachers:

1. Time Consumption: Completing a project takes a considerable amount of time. Teachers will often request students to work on projects collaboratively, necessitating students to go into the field and engage in discussions.
2. Resistance to Change: Many teachers feel comfortable with traditional classrooms where educators play a central role. This is because teachers may perceive no significant difference between using the traditional model and the PjBL model.
3. Diverse Student Characteristics: Students have different characteristics, influencing the fair grouping of students. It's undeniable that students may complain about being in groups that do not align with their preferences. However, this will ultimately help students in learning to differentiate.
4. Lack of Student Motivation: Sometimes, students lack motivation in project work. Therefore, teachers continue to guide the project's progress to monitor and provide direction.

In the learning process, students may face difficulties when working in groups. To address this, teachers ask for documentation related to the project's implementation. Students are required to present the process through proposals, photos/videos during the process, step-by-step reports according to the requirements, and the final product. Meanwhile, teachers document this process through formative reports that align with the created project. Teachers explain that this documentation is stored in the teacher's e-performance. Through existing documentation, teachers can effectively monitor and evaluate group performance while students are working on the project. Teachers can also provide feedback in the form of more directed and specific guidance based on the available documentation. Conversely, students also have better access to understanding the assessment and expectations of teachers through this documentation. This provides a more holistic monitoring dimension, ensuring that project-based learning not only serves as an evaluation tool but also as a continuous development tool for each individual in the class.

**Discussion**

This research fundamentally focuses on analyzing the success of Project-Based Learning (PjBL) implementation at SMKN 1 Banyudono, aiming to produce graduates with character, competence, intelligence, and independence. Project-based learning demonstrates a moderate to substantial positive influence on students' academic achievements when compared to conventional teaching approaches (Chen & Yang, 2019). Project-based learning underscores an approach that inspires both educators and learners: education should be apparent, relevant to the community, tackle intricate and meaningful issues, and consistently portray learners as individuals with the potential for creativity, intelligence, and the ability for profound intellectual engagement (Miller et al., 2021). Through the PjBL model, students are engaged in reasoning exercises, hypothesis formulation, and the development of critical and contextual skills, aligning with the characteristics of accounting science. PjBL assessment provides students with opportunities to enhance interpersonal communication, information literacy, collaboration, active leadership, independence, and responsibility in the learning process (Widiana et al., 2021; Maros et al., 2023).

When educators opt for PjBL, they encounter distinct challenges, including embracing a constructivist approach, adopting novel teaching strategies, selecting curriculum and topics, managing and designing PjBL, and evaluating its collaborative nature (Rambe, 2018; Aditya Dharma, 2019). To address these challenges, comprehensive planning and support emerge from SMKN 1 Banyudono to implement PjBL. Support includes curriculum planning, with participation from various parties such as provincial offices, school committees, the industrial sector, teachers, and the provision of facilities. Teachers also undergo In-House Training (IHT) and training through the Merdeka Mengajar platform, serving as the main instruments to prepare the school for PjBL implementation. Learning preparation is a situation where educators can carefully plan everything to respond to students during the learning process, creating a comfortable, effective, and efficient learning atmosphere (Rohmah et al., 2019, 2021). Collaboration with the industrial sector and project adjustment to real situations is also a focus, demonstrating the commitment of the school to optimizing PjBL. The curriculum planning conducted by the school can help teachers master and apply teaching skills to achieve learning goals and implement PjBL (Rahmadany & Achadiyah, 2017; Amamou & Cheniti-Belcadhi, 2018; Wicaksono et al., 2021).

SMKN 1 Banyudono supports the use of PjBL in learning because of its relevance to real-world situations. PjBL, in the context of learning involving practice or practical activities, is an effective solution so that students involved can better apply their learning outcomes to the real world, serving as a good training ground for applying learning outcomes (Weber, 2016; Amamou & Cheniti-Belcadhi, 2018). Students involved in PjBL feel that they are developing instrumental, systemic, and interpersonal skills, especially related to decision-making and problem-solving. As a vocational school, SMKN 1 Banyudono is oriented towards equipping students with skills for the workforce, such as decision-making and problem-solving skills in accounting. Identifying and solving problems in the counseling process and in unusual situations, as well as the ability to apply problemsolving techniques in the consultation process, can enhance students' critical thinking.

In the elements of Service, Trading, and Manufacturing Company Accounting, the use of PjBL at SMKN 1 Banyudono is considered successful. This is because of the understanding of accounting concepts, improvement of skills, and perceived improvement in learning outcomes by the school, teachers, and students. This result is reinforced by the research of Indrayati et al. (2021), showing that the use of PjBL can improve accounting competence in understanding concepts, theoretical knowledge, and the practice or skills of problem-solving and communication with the real world. This research is also supported by Carrasco et al. (2018), stating that accounting must consider real situations, continuous changes in society and the environment, and adaptability, so that students can feel this approach in learning. Prasetyo & Hernando (2023) state that the effectiveness of PjBL stimulates students to be creative and innovative in solving problems to understand accounting concepts. Testimonials from teachers and students at SMKN 1 Banyudono also indicate that PjBL in Service, Trading, and Manufacturing Company Accounting makes a substantial contribution to understanding accounting concepts, equipping students with practical skills, and stimulating the development of independent attitudes and critical thinking.

The projects designed by teachers at SMKN 1 Banyudono for Service, Trading, and Manufacturing Company Accounting are still relatively simple. The projects require students to interact with the industrial sector to gather evidence of transactions, which are then analyzed and recorded in appropriate journals. Although simple, teachers express a desire to develop PjBL, including through interdisciplinary collaboration, such as between Accounting, Mathematics, or English. Collaborative learning utilizing technology and subjects can emphasize trust in group cooperation to achieve expected goals (Srivastava, 2020). Students acquire core learning concepts that require the application of contextual knowledge through collaborative projects. Projects involving multimedia and technology can be easily done in group work, encouraging collaboration and cooperation (Shin, 2018). Students at SMKN 1 Banyudono can learn about differentiation concepts by collaborating and cooperating in the teams structured by teachers in the project.

As accounting teachers who act as facilitators or instructors during the learning process, they not only need to actively accompany the learning process but also have a responsibility to oversee every activity. When PjBL takes place, the role of the teacher as a guide is crucial. Without adequate guidance from the instructor, PjBL implementation can fail. This is emphasized by Hamiza et al. (2017)and Garmendia et al. (2021), highlighting the importance of the instructor's influence in careful planning and good project management. In addition, the teacher's competence in applying question levels and questioning strategies plays a crucial role in motivating and encouraging student involvement. Reflianto et al. (2022) underline that the teacher's ability to motivate students in independent learning can enhance students' skills and knowledge.

In the learning process, the aspects of enjoyment, stimulation of interest, and motivation of students are key to the success of PjBL. From completing material tasks to independent practice at home, all learning activities must be designed to stimulate the interest and motivation of students. This aligns with Zen et al.'s (2022) findings on the importance of creating a fun and motivating learning atmosphere. Feedback given to students also has a significant impact on improving their performance. With prompt and accurate feedback, students can correct their mistakes in their learning in a timely manner. Henry et al. (2012) state that good feedback can help students apply their learning to the next problem module. Therefore, the role of SMKN1 Banyudono teachers in providing feedback on student project performance is key to ensuring the success of student learning.

To prevent incidents that make students inactive in the project, accounting teachers at SMKN 1 Banyudono document in various ways. Documentation of the project process through proposals, photos/videos during the process, step-by-step reports according to the requirements, and the final product is done by students. Meanwhile, teachers document this process through formative reports that align with the created project. Communication through this documentation will show progress and improve skills in various aspects. Communication is one of the skills that must be cultivated in the future professional accounting education so that they can make creative presentations, improve inductive and deductive reasoning, and critically analyze the use of active methodologies in complex accounting subjects (Carrasco et al., 2018).

By applying the Project-Based Learning (PjBL) approach, SMKN 1 Banyudono has not only succeeded in creating an innovative learning environment but has also produced graduates ready to face complex challenges in the industrial world. PjBL provides a foundation for students to develop practical skills and knowledge relevant to industrial needs. Through projects involving direct interaction with the working world, students not only gain a deep understanding of academic concepts but also sharpen soft skills such as problem-solving, critical thinking, teamwork, and communication. The development of soft skills in students needs to be enhanced so that students can manage themselves well and encourage hard skills to function in the workforce (Suranto et al., 2023). SMKN 1 Banyudono not only plays a role as an educational institution but also as a place that can shape graduates with high competitiveness and readiness to contribute to the dynamic industrial world. The PjBL approach is not only a learning model but also a philosophy inherent in every aspect of learning in the school, bringing positive impacts on the development of students' competencies and characters.

**Conclusion**

The utilization of Project-Based Learning (PjBL) at SMKN 1 Banyudono significantly enhances and improves students' learning outcomes, especially in the elements of Service, Trading, and Manufacturing Company Accounting. The success factors of PjBL include support in the form of infrastructure preparation, curriculum development, and policy-making involving relevant parties such as the provincial office, school committee, the industrial sector (DUDI), and teachers. The school also conducts In-House Training (IHT) for educators and industry professionals to assist teachers in designing PjBL to enable students to achieve learning objectives. The implementation of PjBL in the elements of Service, Trading, and Manufacturing Company Accounting, although still relatively simple, proves to be beneficial in helping students understand accounting concepts, improving students' learning outcomes, and enhancing both soft and hard skills. Challenges faced by both teachers and students can be overcome with strong support from the school and well-thought-out planning by teachers. Through the PjBL approach, the school successfully fosters innovation in learning, ultimately aiding students' readiness to face challenges in the industrial world. As a future research step, it is recommended to investigate more comprehensively the implementation of PjBL across various subjects, explore the long-term impacts on graduates' career success, and develop practical guidelines for teachers to design and implement PjBL more effectively, thereby bringing optimal benefits to students' learning outcomes across various curriculum elements. As a future research step, it is recommended to investigate more comprehensively the implementation of PjBL across various subjects, explore the long-term impacts on graduates' career success, and develop practical guidelines for teachers to design and implement PjBL more effectively, thereby bringing optimal benefits to students' learning outcomes across various curriculum elements.

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