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Analysis of Project-Based Learning Conducted in Bina Nusantara University Bandung

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Abstract

Project-Based Learning (PjBL) is an innovative pedagogical approach that emphasizes student-centered learning through active engagement in real-world projects. In this educational model, students tackle complex problems or challenges, working collaboratively in groups to explore, research, and develop solutions. Bina Nusantara University in Bandung has implemented PjBL as part of its curriculum, integrating it with character building courses under the Character-Building Development Center (CBDC). The program aims to provide students with practical learning experiences aligned with the community's needs while fostering essential skills such as critical thinking, time management, and teamwork. Throughout the PjBL process, students are involved in formulating project proposals, conducting research, implementing projects in the community, and presenting their findings. Challenges encountered by students include time management, group dynamics, and adapting to real-world constraints. However, the experience offers opportunities for personal growth and skill development. The analysis of participants in PjBL at Bina Nusantara Bandung reveals the significance of this educational approach in enhancing students' academic motivations, problem-solving abilities, and sense of ownership in their learning. The collaboration between students and community partners fosters mutual learning and contributes to community development. As PjBL continues to evolve, further research and refinement of this approach are necessary to optimize its effectiveness in preparing students for the challenges of the future.

Keywords: Project-Based Learning, Educational Model, Teaching and Learning Strategies

Abstrak

Pembelajaran Berbasis Proyek (PjBL) merupakan pendekatan pedagogi inovatif dengan penekanan pembelajaran yang berpusat pada siswa melalui keterlibatan aktif dalam proyek dunia nyata. Dalam model pendidikan ini, siswa mengatasi masalah atau tantangan yang kompleks, bekerja secara kolaboratif dalam kelompok untuk mengeksplorasi, meneliti, serta mengembangkan solusi. Universitas Bina Nusantara Bandung telah menerapkan PjBL sebagai bagian dari kurikulumnya, mengintegrasikannya dengan mata kuliah pembentukan karakter di bawah Character-Building Development Center (CBDC). Program ini bertujuan untuk memberikan siswa pengalaman belajar praktis yang selaras dengan kebutuhan masyarakat sambil mengembangkan keterampilan penting seperti berpikir kritis, manajemen waktu, dan kerja tim. Sepanjang proses PjBL, mahasiswa dilibatkan dalam merumuskan proposal proyek, melakukan penelitian, melaksanakan proyek di masyarakat, dan mempresentasikan temuannya. Tantangan yang dihadapi siswa antara lain manajemen waktu, dinamika kelompok, dan beradaptasi dengan kendala dunia nyata. Namun, pengalaman tersebut menawarkan peluang untuk pertumbuhan pribadi dan pengembangan keterampilan para siswa bersangkutan. Analisis terhadap peserta PjBL di Bina Nusantara Bandung mengungkapkan pentingnya pendekatan pendidikan ini dalam meningkatkan motivasi akademik siswa, kemampuan pemecahan masalah, dan rasa memiliki dalam proses belajar. Kolaborasi antara mahasiswa dan mitra masyarakat menumbuhkan pembelajaran timbal balik dan berkontribusi terhadap pengembangan masyarakat. Seiring dengan terus berkembangnya PjBL, penelitian lebih lanjut dan penyempurnaan pendekatan ini diperlukan untuk mengoptimalkan efektivitasnya dalam mempersiapkan siswa menghadapi tantangan masa depan.

Kata Kunci: *Pembelajaran Berbasis Proyek, Model Edukasi, Strategi Belajar-Mengajar*

INTRODUCTION

Education plays a crucial role in shaping a society, where education itself can influence various values, beliefs, and the development of society. The main functions of education can be manifested in several forms such as the accumulation and dissemination of knowledge, the development of personalities crucial to shaping individuals' roles in society, and as a platform for identifying and enhancing solidarity within a prevailing value system in society (Aran et al., 1972). Along the way, individuals who's exposed to education will exert influence according to their skills, fields of expertise, and the values they uphold. This will bring forth developments in culture, economy, politics, and ethical dimensions within a society. Educated individuals will contribute to their personal development and to the development of society.

However, as we know, not all elements of society can enjoy education at a higher level, either due to choice or economic issues. This has an impact on the segmentation of society in various dimensions. For example, individuals who undergo formal education will have specific knowledge bases that those without such experiences will not possess. This leads

to differences in job opportunities for these individuals, which subsequently contributes to the formation of disparities in socioeconomic status within society. This refers to education's position as a mechanism for providing "allocation" or roles to individuals in society. Education is a series of institutionalized rules that have legitimacy and authority to place individuals within specific segments of society (Meyer, 1977). This example can be seen in the job market, where employers require certain levels of education for specific positions and do not provide opportunities for those with lower levels of education or without education. And even at some professional levels, it has become part of the law; professionals such as doctors need to have appropriate education (Undang-Undang Nomor 30 Tahun 2014, 2014).

Considering this phenomenon, a process where knowledge exchange occurs between individuals with access to higher education and the community is significant. This is not only beneficial for students but also for the surrounding community, with realization, that higher education institutions are an integral and inseparable part of the surrounding community. In several writings, it is emphasized that the connection between students and society is significant. Students not only need to acquire knowledge but also need to understand their surrounding environment (McDonald & Dominguez, 2015). Moreover, the community service program carried out can serve as a positive impulse where students can reflect on the academic topics they have learned and experience a deeper integration with the community beyond academia (van Goethem et al., 2014). This enables students to achieve holistic learning process where students are involved in the process of understanding, integrating, and applying the knowledge they possess.

The Community Service activities at Bina Nusantara University, in collaboration with Teacher for Indonesia (TFI) Binus, share the same spirit. These activities are packaged in the form of Project Based Learning directly integrated with the character-building curriculum under the auspices of the Character-Building Development Center (CBDC). This article will discuss how these activities are carried out, the challenges faced by students, and the impact on students and the community. This article is expected to provide information, learning materials, and program improvisations in line with future needs.

METHODS

The research in this paper will be conducted using the qualitative method with a phenomenological approach. According to Creswell (2023), qualitative research methods have a different approach compared to quantitative ones. Although the processes involved are somewhat similar, qualitative research relies on texts and visual data, has unique data

analysis methods, and provides diverse perspectives. It is further stated that qualitative research involves readers in the model and purpose used, discussions on the samples used, and further evolves into data analysis steps and methods used to present the data, which offer potential outcomes of the research. Unlike other methods, qualitative research involves comments on the author's role and personal reflections, as well as the qualitative strategies employed. (J. W. Creswell & Creswell, 2023). Meanwhile, according to Creswell (2013), the phenomenological approach in qualitative research describes the common meaning of several individuals based on their life experiences as a concept or phenomenon. Creswell further explains that the basis of the phenomenological approach is to reduce individual experiences through a described phenomenon into universal essences (J. Creswell, 2013).

The main participants of this research are 50 first-semester students of Binus Bandung which are divided into 6 groups. Throughout the process, both parties will undergo a combination of objective and individual reality experiences. Data collection is conducted through interviews, observations, study of proposals and activity reports, as well as other documentation such as photos and videos of the activities. Participants are given two main questions related to their experiences with the implemented activities, and the contexts and situations influencing those experiences. Data analysis is conducted from these two main questions, which are then selected to form significant statements (horizontalization), further developed into clusters of meaning to construct a theme (J. Creswell, 2013). The author compiles significant statements to describe the factors influencing participants' experiences with the phenomenon (structural description). These will then be synthesized into a written description showing the essence of the phenomenon. A visual representation of the research design will be presented in Figure 1 below.

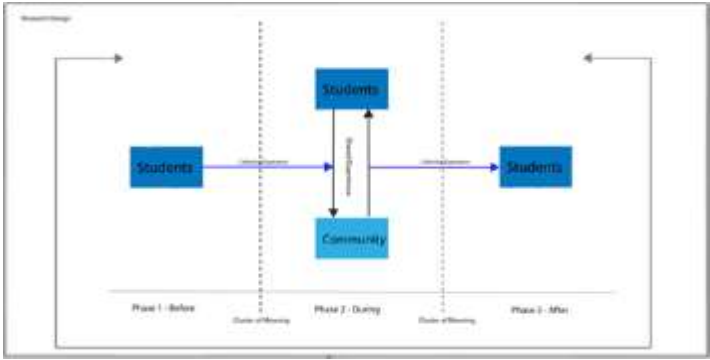


Figure 1. Research Design

RESULTS AND DISCUSSION

Project Based Learning

Project-Based Learning is a method of learning where participants are given a period of time to produce and develop practical or real world products (Guo et al., 2020). Models of learning like this give a greater role to participants in their learning process, thereby eliminating the notion where educators are primarily providers of materials or main learning inputs (Alorda et al., 2011). This approach provides participants with the opportunity to directly confront real problems rather than engaging in classroom simulations or traditional case studies.

Project Based Learning conducted at Bina Nusantara University is part of the character-building curriculum under the auspices of the Character-Building Development Center. This program is integrated into the assessment of students' grading during lectures to replace final semester exams. The activities are conducted in groups of 5-8 students. Students are given the option to choose a theme for their project based on the course they are taking. The theme options provided are religious moderation and anti-corruption character. The duration of this program spans one semester, divided into several phases.

The first phase involves the creation of a proposal, which lasts for 5 lecture sessions. During this phase, students are required to determine the title, background, literature review, and project implementation method. In this phase, the lecturer guides the proposal writing process and gives approval if the proposal is deemed appropriate and feasible. The criteria for approval include alignment with the theme, coherence of the chosen problem background, relevance of the literature review, feasibility of the implementation method, and whether the proposed activities can generally be feasibly carried out under specific timeframe. The second phase is the implementation of the project itself. This phase must be conducted offline to facilitate physical interaction between students and the target community. During this phase, students visit the community to conduct campaigns or deliver materials as proposed in the previous phase. The second phase needs to be completed by students within 5 sessions, from the 6th to the 10th session. The third and final phase of this project is the presentation of the activity results in the classroom. In this phase, students are required to present their activity report, which includes a description of the actual project implementation, reflection and evaluation of the activity results, and documentation attachments containing photos and videos of the activity results.

Phase 1 – Student Phenomenon (Before)

In this phase, author is involved in the formulation of proposals during the review and approval process. This process requires students to have a critical attitude in identifying gaps (problems) in society and critical thinking in formulating the issues and materials to be addressed. Proposal development is an important part of the series of activities, especially in terms of critical thinking. Critical thinking itself can be defined as "thinking about your own thinking," where students need to have the ability to become evaluators of information, opinions, processes, including their own process (Matteo Socciarelli in *Lingua Modena et al.*, n.d.). Based on the proposals provided, it can be concluded that students already have some sort of critical sensitivity to their surrounding environment. This is also supported by their skills in utilizing information technology. From the proposals received by the author, most of them already have a strong argumentative basis related to the title to be addressed. As well as a clear formulation of the problem based on sources that can be accounted for.

From the interviews regarding phenomenon experienced by students in preparing project proposals, the author found two points that can be categorized as challenges faced by the students, namely time management and group dynamics. Project-based learning activities are new to them, but this is not the main issue in time management. The main problem arises from time allocation for fulfilling other academic obligations. The transition from high school life to relatively more "freedom" in college life. This freedom is not rooted in the students' laziness but rather towards adapting to changes in the educational model, time frame for completing tasks, and social interactions. Students generally have standard after-school time from morning until afternoon in high school, but in college, class schedules can be highly dynamic. For example, classes may be in the morning, free in the afternoon, and then continue in the evening. Therefore, adaptation to changes in break times is needed to continue working on projects.

The process of formulating proposals feels abstract and time-consuming because students speculate about the theme to be addressed. The majority of sources used as references are literature studies from the internet, which are general in nature, thus creating a significant gap between what is written and reality. Next is adjusting the method of delivering materials to the demographics of the community to be visited. For students who choose schools as their preferred community, they generally do not encounter problems because they have just graduated from high school and still have some juniors there. However, students who choose communities with relatively diverse demographics such as orphanages or companies require planning for more dynamic methods of delivering

activities, such as adjusting the delivery of materials and implementation of engaging interaction models.

The second challenge is group dynamics. Project Based Learning is conducted in groups, so effective teamwork is required. This becomes a challenge when there are differences in communication styles, working hours, and commitment to the project. In relation to this, the author found a shared phenomenon present in each group, namely hierarchy. Here, hierarchy refers to whether there is an organized structure in completing the task, which includes task allocation and roles within the group. The existence of structure within the group also prevents the emergence of individual egos in formulating activities, where activity planning becomes subjectively idealistic, ultimately leading to tasks not being completed within the time constraints. This phenomenon aligns with the view that social structure is a natural process arising from the needs of a larger systemic system, but it can also occur artificially, where social structures are constructed to achieve specific goals (Ward, 1905). This phenomenon occurs in three variations within groups. The first is a naturally formed structure with a de facto group leader, ensuring role distribution and workload distribution. The second is where the leader is directly appointed through a democratic process and allocates tasks and roles accepted by all group members. The third situation is where there is no clear structure and task distribution. This is indicated by the delayed submission of proposals and complaints from students who bear a heavier workload.

Phase 2 – Student and Community Shared Phenomenon (During)

In creating the proposal, students are asked to find a community to carry out the project. The challenge faced by students and the visited community, which then becomes a shared phenomenon, is time constraints. Students who choose schools as their target community will encounter time constraints due to the school's teaching and learning schedule. This also affects the number of students who can participate in the activities planned by the students, adding complexity to the activity timeframe if the designated time coincides with exam periods. Meanwhile, for students who choose non-school communities, they do not face such issues, they relatively have more flexibility in determining the timing of activities. The determination of activity timing affects the availability of students to participate in the activities. In the worst-case scenario encountered by the author, some students were unable to attend campus lectures or were late in conducting activities due to a lack of schedule planning. From the community's perspective, the arrival of students has become routine, so students are well-received as

long as they follow the schedule and regulations provided by the community. Generally, the community provides facilities and infrastructure for students to conduct their activities, such as rooms, sound systems, and projectors.

Based on the interviews conducted with community members, the community, in general, feels supported by the arrival of students who can serve as examples to its members. The most significant significance of the arrival of students is to bring specific material related to the cases of religious moderation and anti-corruption character. However, this does not mean that the community does not receive such material in its daily learning process, but the material provided by the students is more specific. What the author realized from the interviews on both sides is the teacher-student relationship model, where there are two minimal conditions that must be met, which can be naturally fulfilled by the students due to generational closeness. These conditions are the presence of a figure who can manage interaction patterns where there is an assessment and evaluation process of individual character, which then gives output to the group's acceptance, manifested in either acceptance or rejection, inclusion or exclusion. The figure model presented by the students will determine the sense of belonging in the interaction pattern, which then accepts or rejects each role within the community (Johnson & Miller, 1993).

Additionally, the second point conveyed by Johnson (1993) is the affective relationship between students and the community that forms effective bonding based on the similarity of values, needs, preferences, and goals of individuals as part of a collective group. Upon further examination, it is true that the students do not present activities formally but use a relatively semi-formal language style and jokes that are appropriate for the target community. This allows for the fulfillment of both conditions, which then creates a good interaction pattern between students and the community in delivering material. This is also supported by the feedback from the community leaders and representatives, where they feel the absence of boundaries when delivering material. As for the criticisms conveyed by the community, they are similar to what the author presented in phase 1, namely the lack of practical explanations regarding how the material presented can be implemented in daily life and the long-term impact of the activities carried out.

Phase 3 – Student Phenomenon (After)

The third and final phase of the Project Based Learning undertaken by the students is the preparation of the final report containing reflections from the students and the presentation of the final report. The author has found several significant aspects of the students' journey in carrying out this activity.

Firstly, it is the self-maturation of the students in the problem-solving process. Problem-solving is one of the fundamental skills required by individuals today, but acquiring this skill requires a transition from class problems to real-world problems, which makes the acquisition of problem-solving skills comprehensive, stemming from theory acquired in class and practical application in the field. Here, it can be said that problems become good teachers for the students. Quoting Mandeville (2015), problems can be stepping stones for students if the problems presented are within a context, where problems have the nature of limiting but demanding solutions to the restrictions within that context. This is significant in the transition process from class problems to real-world problems, therefore, a degree of limitation on the solutions that students can take in formulating solutions is needed. If students are allowed to take unlimited solutions, it will reduce effort and interest in the problem-solving process (Mandeville & Stoner, 2015). From the first phase to the third phase of this project-based learning process, students are faced with various problems, both internally within the group and externally towards the target community. Students are required to transform the condition from abstract (chaos) to organized and establish harmony between both parties. From the reflections and interviews with the students, the author found that not everything planned by the students went as expected. The students formulated solutions deemed appropriate and adjusted them when these solutions were considered ineffective.

This extends to the ownership of learning, where students receive direct lessons from what they have formulated. Here, students strive to provide solutions within narrow constraints with the resources available within that timeframe. When students can overcome these problems, they gain a sense of accomplishment that motivates them to continue learning. Naturally, project-based learning is a semi-decentralized activity where the lecturer does not become the central figure in the students' learning process but rather acts as an advisor. Therefore, students gain direct experience in solving problems on the spot, with reflection tools naturally available there. For example, if community members find what the students present to be uninteresting or boring, the students reflect on this and directly formulate appropriate solutions to address it.

The third aspect is the enhancement of academic motivation. When students are confronted with an activity that holds meaning and interest for them, it has an effect on motivating their desire to learn. Motivation in learning is crucial for students to pursue their academic careers. In his writing, Rowell (2013) outlines the components that build this motivation, consisting of beliefs, goals, values, and intrinsic/extrinsic motivation. Beliefs are related to how students perceive their abilities to solve a problem. Students who have

confidence in their abilities tend to take on more challenges in their academic career development. This ultimately builds autonomy within students, where they have the authority to regulate the learning process and decision-making. When decisions made by students yield results, their enthusiasm for learning and completing other tasks increases (Rowell & Hong, 2013). This closely relates to the ownership of learning discussed above.

Next, Rowell (2013) wrote about goals. In the journey, students have already determined their preferred community and the strategies to carry out activities in that location. This affects how students can allocate roles related to the abilities of their group members. Performance mastery was found in the practice of students designing activities, executing them, and preparing final reports. Group members with the capacity to speak in public take on roles of public speaking, while those with planning and writing skills also play similar roles as their skills. However, due to group dynamics where each student is expected to evenly distribute tasks while maintaining group balance, students develop skills they feel are lacking. Group members who excel in public speaking also develop their writing skills, and vice versa. This builds intrinsic and extrinsic motivation within them, where intrinsic motivation is obtained from within oneself and the group, while extrinsic motivation is derived from interactions with the community.

Next, equally important is the aspect of values. In interviews conducted by the author with the students, this is a relatively easy aspect to attain in the project-based learning model. Values refer to how students perceive learning activities and the material provided. If students find the activities interesting, the time and effort they invest in them increases. In this regard, the author observes that the framework of values within students is not only internally driven, such as completing tasks. Rather, this framework of values also comes from external sources in the form of the joy of teaching. Students experience satisfaction in being able to deliver material to the community and being well-received, leading to the development of positive values among students in their learning process.

CONCLUSION

As a conclusion, the project-based learning activities conducted by the students have a positive impact on the students' learning curve. The author realizes that the activities carried out during the semester enhance various capabilities of the students, including critical thinking, time management, group dynamics, interpersonal relations, and academic motivations. Furthermore, this also develops the academic character of the students, especially concerning the constraints present in society, not all theory-based aspects can be directly applied, but there needs to be specific fine-tuning in formulating

the solutions. This has implications for changing the students' perspectives on problem formulation and solution creation. As of the writing of this piece, the designated themes are still limited to religious moderation and anti-corruption character. Therefore, it can be said that further exploration of the material and solutions will be related to these themes. However, considering the effectiveness of project-based learning on the learning curve, expanding the themes can be done to bridge the students' learning curve with the real environment. Ultimately, students can contribute to the community through the knowledge they possess.

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