

Research Article

# Project Based Learning for Cultivating Student Discipline: A Planning and Organizational Approach

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## ABSTRACT

Student discipline is a critical factor in effective learning environments, yet traditional punitive approaches have shown limited success in fostering intrinsic motivation and self-regulation. This paper investigates how the planning and organizational aspects of project-based learning (PBL) contribute to cultivating student discipline, using a qualitative research approach involving classroom observations, teacher interviews, and student focus groups. The results indicate that effective PBL requires careful alignment with learning objectives, structured environments with clear expectations, and relevant, engaging projects. Student involvement in planning and decision-making processes enhances engagement, ownership, and responsible behavior, while collaborative group work fosters negotiation, conflict resolution, and social-emotional development. Incorporating real-world connections and authentic assessments increases the relevance of learning, leading to higher motivation, self-discipline, and improved academic and soft skills outcomes. These findings suggest that strategic implementation of PBL can create supportive, participatory, and meaningful learning environments that promote student discipline and prepare learners for broader societal challenges, including those relevant to the evolving demands of the renewable energy sector.

**Keywords:** Project Based Learning; Planning; Organization; Student Discipline Character; Character Education

## 1. INTRODUCTION

Student discipline is a fundamental aspect of effective educational environments, serving as the backbone for academic achievement, positive social interactions, and the holistic development of learners. Discipline in the school context is not limited to compliance with rules and regulations; it encompasses a broader spectrum of self-regulation, time management, responsibility, and ethical conduct. Recent studies emphasize that student discipline is closely linked to academic engagement and long-term success, with self-regulation and responsible behavior being key predictors of positive educational outcomes (Liu & Long, 2023; Roorda et al., 2021). Despite its critical role, maintaining student discipline remains a persistent challenge for educators worldwide. According to recent global reports, issues such as absenteeism, tardiness, classroom disruptions, and other forms of misbehavior continue to undermine the quality of education in many countries (UNESCO, 2021). These disciplinary problems not only disrupt the learning process but also contribute to negative school climates, increased teacher stress, and higher dropout rates (Roorda et al., 2021; Liu & Long, 2023).

Traditional approaches to discipline, which often rely on punitive measures and authoritarian control, have been increasingly criticized for their limited effectiveness and potential to cause psychological harm. Research from the last five years indicates that such methods may suppress undesirable behaviors temporarily but fail to foster intrinsic motivation or long-term behavioral change (Roorda et al., 2021). In some cases, punitive discipline can even exacerbate behavioral problems, leading to a cycle of defiance and punishment that is difficult to break (Winkler et al., 2017; Roorda et al., 2021). As a result, there is a growing consensus among educators and researchers that more supportive, student-centered approaches are needed to promote genuine discipline and self-regulation (Liu & Long, 2023; Roorda et al., 2021). This phenomenon highlights the urgent need for schools to implement character education models that are relevant to the demands of the 21st century (Usmeldi & Amini, 2022). In the face of ongoing disciplinary challenges and the limitations of punitive approaches, it is essential for educational institutions to adopt character education frameworks that not only address behavioral issues but also equip students with the critical thinking, adaptability, and ethical values required in today's rapidly changing world. By integrating character education that aligns with 21st-century competencies, schools can better prepare students to become responsible, self-regulated, and socially aware individuals.

In response to these challenges, educational paradigms are shifting towards approaches that emphasize autonomy, responsibility, and lifelong learning. The 21st-century education movement advocates for the development of critical

thinking, collaboration, creativity, and communication skills competencies that require students to be self-disciplined, motivated, and adaptable (Liu & Long, 2023; Zhang, 2021). Within this context, Project-Based Learning (PBL) has emerged as a promising pedagogical model that aligns with these goals and addresses the shortcomings of traditional discipline methods (Markula & Aksela, 2022; Liu & Long, 2023). PBL is an instructional approach that engages students in meaningful, real-world projects that require sustained inquiry, problem-solving, and collaboration. Unlike conventional teaching methods that often prioritize rote memorization and passive learning, PBL places students at the center of the learning process, encouraging them to take ownership of their education and develop essential life skills (Markula & Aksela, 2022; Liu & Long, 2023). Through PBL, students are given opportunities to plan, execute, and present projects that are relevant to their interests and future aspirations, thereby increasing their motivation and sense of responsibility (Zhang, 2021; Liu & Long, 2023).

A growing body of research from the last five years supports the effectiveness of PBL in enhancing academic outcomes, motivation, and social-emotional skills. Meta-analyses have shown that students engaged in PBL demonstrate higher-order thinking skills, improved problem-solving abilities, and greater retention of knowledge compared to those in traditional classrooms (Liu & Long, 2023; Markula & Aksela, 2022). Moreover, PBL has been found to foster collaboration, communication, and conflict resolution skills, all of which are integral to disciplined behavior and responsible citizenship (Markula & Aksela, 2022; Zhang, 2021). Despite these positive findings, the mechanisms by which PBL cultivates student discipline are not yet fully understood. While it is widely recognized that PBL can increase engagement and motivation, less is known about how specific planning and organizational strategies within PBL frameworks contribute to the development of self-discipline, time management, and ethical conduct (Markula & Aksela, 2022; Liu & Long, 2023). For instance, the role of teacher facilitation, the structure of project timelines, the clarity of expectations, and the involvement of students in decision-making processes are all factors that may influence the effectiveness of PBL in promoting discipline (Markula & Aksela, 2022).

Furthermore, the cultural and contextual factors that shape the implementation of PBL and its impact on discipline warrant further investigation. In Indonesia and other countries with diverse educational systems, the adoption of PBL presents unique challenges and opportunities (Bahari, Azmi, & Anshar, 2022). Teachers may face difficulties in aligning projects with curriculum standards, managing group dynamics, and assessing student performance in authentic ways (Markula & Aksela, 2022). At the same time, the integration of real-world connections and authentic assessments in PBL can make learning more meaningful and relevant, thereby increasing students' intrinsic motivation and self-discipline (Aslan & Shiong, 2023). Another important aspect to consider is the role of student agency in PBL. Research suggests that when students are actively involved in planning, selecting, and organizing their projects, they are more likely to develop a sense of ownership and accountability (Zhang, 2021; Markula & Aksela, 2022). This participatory approach not only enhances engagement but also encourages students to set goals, monitor their progress, and reflect on their learning—key components of self-discipline and lifelong learning (Liu & Long, 2023).

In addition, collaboration and teamwork are central to the PBL experience. Working in groups requires students to negotiate roles, resolve conflicts, and support one another in achieving common goals (Markula & Aksela, 2022; Bahari et al., 2022). These social interactions provide valuable opportunities for students to practice self-control, empathy, and ethical decision-making, all of which contribute to the development of disciplined behavior (Markula & Aksela, 2022). Given the potential of PBL to address disciplinary challenges and prepare students for the demands of the modern workforce, it is essential to explore how planning and organizational aspects of PBL can be optimized to foster discipline in diverse educational settings (Bahari et al., 2022; Markula & Aksela, 2022). This includes examining best practices for project design, teacher facilitation, student involvement, and assessment, as well as identifying barriers and enablers to successful implementation (Markula & Aksela, 2022). Therefore, this study aims to investigate in depth how the planning and organizational aspects of Project-Based Learning contribute to cultivating student discipline. Specifically, the research seeks to identify effective educator practices, explore the experiences and perceptions of students and teachers, and provide evidence-based recommendations for optimizing PBL implementation to address disciplinary challenges in various educational contexts. By filling the gaps in the existing literature, this study hopes to contribute to the development of more supportive, participatory, and meaningful learning environments that promote student discipline and prepare learners for broader societal challenges.

## 2. RESEARCH METHOD

This research employed a qualitative research approach to explore the planning and organization of project-based learning in fostering student discipline. Qualitative research methods were selected to gain a deeper understanding of the experiences, perspectives, and practices of educators and students involved in project-based learning environments. Data was collected through multiple sources, including classroom observations, teacher interviews, and student focus groups. The data collected from classroom observations, teacher interviews, and student focus groups were analyzed using thematic analysis. Thematic analysis involves identifying recurring patterns, themes, and meanings within the data to provide a comprehensive understanding of the research topic. Data analysis was facilitated using NVivo 12 software, which enabled

efficient organization, coding, and retrieval of qualitative data. The use of NVivo 12 allowed for systematic thematic analysis by helping to identify recurring patterns and themes across classroom observations, teacher interviews, and student focus groups. This software enhanced the rigor and transparency of the analysis process, ensuring that findings were grounded in the data and that the research maintained a high level of credibility and trustworthiness.

Trustworthiness and credibility of the data were ensured through triangulation, member checking, and peer review. Triangulation involved comparing and contrasting data from multiple sources to validate findings and ensure consistency. Member checking involved sharing preliminary findings with participants to gather feedback and ensure that their perspectives were accurately represented. Peer review involved consulting with other researchers to review the research process, data analysis, and interpretation of findings to enhance the rigor and validity of the study. The location of the research varied, however research occurred at schools in a district known for implementing project-based learning initiatives and approaches. The selection of these schools was based on their consistent application of project-based learning and their commitment to character education, in line with recommendations for effective PBL implementation in vocational education (Bahari, Azmi, & Anshar, 2022).

The research approach included observing classrooms where project-based learning was implemented to understand how teachers structure and facilitate project activities and how students engage in the learning process (Torre-Neches et al., 2020). Semi-structured interviews were conducted with teachers to gather their perspectives on the planning and organization of project-based learning, their strategies for fostering student discipline, and the challenges they encounter in implementing project-based learning. Focus groups were conducted with students to explore their experiences with project-based learning, their perceptions of discipline and responsibility, and the ways in which project-based learning has influenced their behavior and attitudes. The data collected from classroom observations, teacher interviews, and student focus groups were analyzed using thematic analysis. Thematic analysis involves identifying recurring patterns, themes, and meanings within the data to provide a comprehensive understanding of the research topic.

### 3. RESULTS AND DISCUSSION

#### 3.1 Planning and Organization in Project Based Learning

The qualitative analysis revealed that effective project-based learning (PBL) hinges on meticulous planning and alignment with learning objectives. Teachers highlighted the necessity of selecting projects that are relevant, engaging, and closely aligned with curriculum standards, which helps create a structured learning environment with clear expectations and timelines (Markula & Aksela, 2022; Grant, 2011). According to recent guidelines, effective project-based learning must include clear learning goals, sustained inquiry, authenticity, student voice and choice, reflection, critique and revision, and a public product (Larmer & Mergendoller, 2015). Based on classroom observations, teachers consistently began each project cycle with a collaborative planning session, outlining clear objectives, timelines, and expected behaviors. One teacher explained during an interview, “We always start by discussing the project steps and the rules together, so students know exactly what is expected of them.” Documentation analysis of lesson plans confirmed that project guidelines and discipline routines were integrated into weekly schedules. Integrating technology into project-based learning environments has been shown to enhance student engagement, support differentiated instruction, and foster greater responsibility among learners (Darling-Hammond, Zielezinski, & Goldman, 2019). It is important to distinguish project-based learning from other inquiry-based approaches, as PBL places a unique emphasis on student autonomy, sustained inquiry, and the creation of tangible products, all of which contribute to the cultivation of discipline (Savery, 2019).

**Table 1. Emergent Themes and Illustrative Quotes**

Theme	Description	Illustrative Quote
Alignment with Learning Objectives	Projects must be relevant and curriculum-aligned	“We always start by mapping projects to our syllabus to ensure relevance.” (Teacher 1)
Structured Environment	Clear rules, guidelines, and timelines are essential	“Setting deadlines and clear steps keeps students focused and disciplined.” (Teacher 2)
Student Involvement in Planning	Student voice in project selection and task allocation increases ownership	“When students help choose the project, they take it more seriously.” (Teacher 3)
Collaboration and Teamwork	Group work fosters negotiation and responsibility	Group work fosters negotiation and responsibility
Real-World Connections and Authentic Assessment	Projects with real-world relevance and authentic assessment boost motivation	“Presenting our work to real audiences made us want to do our best.” (Student 2)

**Table 1**, Shown that several key themes that emerged from the analysis regarding the effective implementation of project-based learning. The first theme is alignment with learning objectives, which emphasizes the importance of selecting projects that are relevant and consistent with the curriculum to ensure that learning is purposeful and meaningful. Furthermore, a structured learning environment is essential, with clear rules, guidelines, and schedules to help students remain focused and disciplined throughout the project. In addition, student involvement in project planning is a crucial factor. When students are given the opportunity to choose projects and divide tasks, they develop a sense of ownership and take their responsibilities more seriously. Collaboration and teamwork within groups are also vital, as group work enables students to learn negotiation skills and take responsibility for their assigned tasks. Finally, projects that are connected to real-world contexts and assessed authentically can significantly boost student motivation. For example, when students present their work to a real audience, they are encouraged to deliver their best results.

The initial identification of students' discipline character is a critical stage before designing and implementing project-based learning. Interview findings indicate that teachers employ several methods to identify students' discipline character prior to starting project-based instruction. Daily behavior observation is the primary method applied by all informants. Teacher 2 observed students' daily behaviors, such as punctuality in submitting assignments, adherence to classroom rules, and consistency in group work. Similarly, Teacher 1 reported conducting observations and interviews with students to understand their character and habits. Teacher 4 specifically observed technical habits, such as whether students wore complete practice uniforms (safety shoes, goggles) or tidied up equipment after practice. Teacher 5 confirmed a similar approach by observing basic student habits, such as punctuality in submitting assignments or attitudes during group work.

In addition to observation, teachers also used simple pretests to measure students' discipline. Teacher 2 gave a simple pretest, such as a small assignment with a tight deadline, to assess students' commitment. Teacher 4 used a similar approach by assigning a brief report on machinery that had to be completed within two days; any delays indicated a lack of discipline. Teacher 5 enriched this approach by using a behavioral checklist and a short pretest on time management. Collaboration with other teachers is also a strategy for gaining a more comprehensive perspective on students' discipline character. Teacher 2 consulted with other teachers or homeroom teachers to understand students' habits. Teacher 1 also sought feedback from teachers who had previously taught the class. Teacher 4 even expanded the information network by consulting with internship supervisors to check whether students were punctual during industry practice. Teachers developed various strategies in project-based learning to foster students' discipline character, with their roles as facilitators, mentors, and supervisors. These strategies include setting clear rules, creating structured schedules, assigning specific roles, and implementing mechanisms for reflection, monitoring student progress, and providing guidance and feedback to help students maintain discipline. Active student involvement in project planning and implementation is an integral aspect, such as through discussions and brainstorming, forming balanced work teams, involving students in project schedule development, and granting them autonomy in selecting project topics and methods.



**Figure 1.** Collaborative Project Planning Session with Teacher and Students

This activity illustrates the importance of meticulous planning and alignment with learning objectives in PBL. Teachers and students work together to set clear goals, schedules, and rules, creating a structured environment that supports student discipline.

### 3.2 Student Involvement and Discipline

Student involvement in planning and decision-making processes was found to enhance engagement and ownership, which in turn promoted discipline. Students who participated in project selection, task division, and assessment criteria were more invested and demonstrated responsible behavior. This finding is consistent with prior studies that emphasize the value of student agency in fostering self-regulation and discipline (Grant, 2011; Markula & Aksela, 2022). Recent studies confirm that project-based learning environments provide authentic opportunities for students to develop self-regulation skills, including goal setting, time management, and self-assessment (Holm, 2021). Interview data revealed that students who were actively involved in project selection and task division felt a greater sense of responsibility. A student shared, “When I help decide what we’re going to do, I want to make sure I do my part well.” Observational notes indicated that these students were more punctual and adhered to deadlines more consistently. Documentation from student reflection journals further showed that students frequently mentioned self-discipline as a key lesson learned from their project experience.



**Figure 2.** Student Involvement in Project Decision-Making

This activity illustrates active student involvement in planning and decision-making, which increases their sense of responsibility and discipline.

### 3.3 Collaboration, Teamwork, and Social Development

Collaboration and teamwork were essential components of PBL that fostered discipline and social-emotional development. Through group work, students learned to negotiate, compromise, and resolve conflicts, supporting the development of responsible citizenship (Moffett, 2008). This aligns with previous research highlighting the role of cooperative learning in shaping student behavior and discipline. Recent research shows that incorporating peer evaluation into project-based learning not only enhances student accountability but also fosters discipline and reflective thinking, as students become more aware of their own contributions and responsibilities within the group (Lee & Lim, 2019). Meta-analytic evidence indicates that project-based learning significantly improves students’ intrinsic motivation, self-efficacy, and academic achievement, all of which are closely linked to the development of disciplined behavior (Morrison & Watson, 2018). During group project observations, students were seen negotiating roles and resolving conflicts independently, with minimal teacher intervention. One teacher noted in an interview, “I noticed that students remind each other about time and rules when working in groups.” Meeting minutes and group contracts collected as documentation showed explicit agreements on attendance, participation, and respectful communication.



**Figure 3.** Teamwork and Collaboration in Project Groups

This activity shows students learning to negotiate, solve problems together, and remind each other about rules or schedules, fostering discipline and social skills.

### 3.4 Real-World Connections and Authentic Assessment

Integrating real-world connections and authentic assessments increased the relevance and meaningfulness of learning. Literature reviews have shown that project-based learning can enhance student motivation and engagement, particularly when projects are meaningful and connected to real-world contexts (Kokotsaki, Menzies, & Wiggins, 2016). Students reported greater motivation and self-discipline when their work had practical applications and was assessed through authentic tasks. These findings echo the literature, which notes that authentic assessment and real-world projects enhance student engagement and skill development (Thomas, 2000; Aslan & Shiong, 2023). Research reviews highlight that the most successful PBL implementations include clear expectations, ongoing formative assessment, and opportunities for student reflection, which together promote greater self-discipline and accountability (Vega & Brown, 2019). Interviews with students highlighted increased motivation when projects were linked to real-world issues. “I feel more disciplined when I know my project will be presented to real guests or used outside the classroom,” one student remarked. Observation records showed higher engagement and fewer behavioral issues during authentic assessment activities. Documentation of project rubrics and feedback forms indicated that criteria for discipline such as punctuality, responsibility, and teamwork were explicitly assessed.



**Figure 4.** Project Presentation in Front of a Real Audience

This activity demonstrates how projects connected to real-world contexts and assessed authentically can increase student motivation and discipline.

## 4. CONCLUSION

This study concludes that the effective planning and organization of project-based learning (PBL) play a crucial role in cultivating student discipline within educational settings. Through a qualitative approach, the research demonstrates that PBL, when carefully aligned with curriculum objectives and supported by structured environments, not only enhances student engagement but also fosters responsibility, self-regulation, and ethical conduct. Involving students in project planning and decision-making processes increases their sense of ownership and motivation, leading to more disciplined behavior. Collaborative teamwork and authentic, real-world tasks further support the development of social skills and self-discipline, equipping students to navigate both academic and societal challenges. The main contribution of this work to the scientific community lies in its empirical evidence and practical insights regarding the mechanisms by which PBL fosters student discipline—an area previously underexplored in qualitative educational research. By highlighting the importance of teacher facilitation, student agency, and authentic assessment, this study provides a framework for educators aiming to implement PBL as a tool for character and discipline development. Economically, the findings suggest that investing in PBL-oriented teacher training and curriculum design can yield long-term benefits by producing disciplined, self-motivated learners who are better prepared for the demands of the modern workforce and society. This approach supports the creation of positive, productive school climates and has the potential to reduce costs related to disciplinary interventions and remedial education, thus contributing to more sustainable and effective educational systems.

## ACKNOWLEDGEMENTS

The authors would like to express their sincere gratitude to the school administrators, teachers, and students who participated in this research and generously shared their time and experiences. This study was supported by the Department of Educational Management, Universitas Negeri Surabaya. Additional support and constructive input provided to A.E.S. and K. during the research process are gratefully acknowledged. The authors also thank all colleagues who contributed to the improvement of this manuscript.

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