

Project Based Learning To Develop Global Citizenship And Sustainable Thinking Among Students

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Abstract: This study examines the role of Project Based Learning in developing global citizenship and sustainable thinking among secondary school students. Global challenges require educational approaches that connect knowledge with real-world contexts and promote responsible action. A qualitative descriptive design was employed involving 30 students engaged in project-based activities addressing environmental and social issues. Data were collected through classroom observations, semi-structured interviews, and analysis of student project documents. Thematic analysis was used to identify patterns related to students' understanding of global citizenship, sustainability awareness, and collaborative problem-solving. The results indicate that students develop awareness of global interdependence, demonstrate empathy toward social and environmental issues, and propose solutions that consider long-term impacts. Students also show improvement in collaboration and problem-solving skills through active participation in group projects. Project Based Learning creates meaningful learning experiences that integrate cognitive, social, and ethical dimensions. The study highlights the potential of this approach to support the formation of responsible global citizens with sustainability-oriented perspectives.

Keywords: Project Based Learning, Global Citizenship, Sustainable Thinking, Student Engagement, Sustainability Education

INTRODUCTION

Global challenges continue to shape the direction of contemporary education. Climate change, cultural diversity, and social inequality demand individuals who are able to think critically and act with responsibility in complex situations. Educational institutions are expected to prepare students who are not only academically competent but also socially aware and environmentally responsible. The rapid transformation of global systems requires learners to understand interconnected issues and respond with informed actions. Education is positioned as a strategic space where knowledge, values, and skills converge to address these global concerns (UNESCO, 2017).

Global citizenship has emerged as a key concept in educational discourse. It emphasizes awareness of global interdependence, respect for cultural diversity, and commitment to social justice. Students are encouraged to recognize their roles as members of a global community. This perspective supports the development of empathy, ethical responsibility, and active participation in solving global problems. Educational practices that promote global citizenship enable students to engage with real-world issues and understand multiple perspectives across cultures and societies (Oxley & Morris, 2013). Learning experiences that connect local contexts with global realities contribute to deeper awareness and meaningful engagement.

Sustainable thinking represents another essential dimension of education in the twenty-first century. It involves the ability to evaluate the long-term impact of human actions on environmental, social, and economic systems. Students need to develop awareness of sustainability principles and apply them in decision-making processes. This form of thinking encourages reflection on resource use, environmental protection, and social equity. Educational approaches that integrate sustainability foster responsibility toward future generations. Students are expected to move beyond theoretical understanding and engage in practices that support sustainable development (Wiek et al., 2011). The integration of sustainability into learning experiences strengthens students' capacity to respond to global challenges.

Traditional instructional approaches often limit opportunities for students to engage deeply with complex issues. Teacher-centered methods tend to emphasize content delivery rather than active exploration. Students may struggle to connect theoretical knowledge with real-world contexts. This condition highlights the need for innovative pedagogical approaches that promote engagement, inquiry, and critical thinking. Learning environments that provide authentic experiences enable students to construct knowledge through interaction and reflection. Educational transformation requires approaches that align with the demands of global citizenship and sustainability education (Barron & Darling-Hammond, 2008).

Project Based Learning offers a student-centered approach that supports these educational goals. This approach engages students in investigating real-world problems through structured projects. Students collaborate with peers, explore relevant issues, and produce tangible outcomes

that reflect their understanding. Learning activities encourage inquiry, creativity, and reflection. Students are actively involved in identifying problems, designing solutions, and evaluating results. Project Based Learning creates a learning environment that promotes autonomy and responsibility. Students gain opportunities to apply knowledge in meaningful contexts and develop skills that are relevant to global challenges (Krajcik & Blumenfeld, 2006).

Engagement in project-based activities also supports the development of collaboration and problem-solving skills. Students work in groups, share ideas, and negotiate solutions to complex problems. Interaction within groups fosters communication skills and mutual understanding. Students learn to appreciate diverse perspectives and contribute to collective goals. Problem-solving processes involve identifying issues, analyzing causes, and proposing solutions that consider various factors. These experiences strengthen students' ability to think critically and act effectively in addressing real-world challenges (Bell, 2010).

Learning experiences that integrate Project Based Learning with global and sustainability issues create meaningful educational outcomes. Students are able to connect theoretical concepts with practical applications. They develop awareness of global problems and demonstrate responsibility in proposing solutions. This approach aligns with educational goals that emphasize active participation and transformative learning. Students are not only recipients of knowledge but also contributors to knowledge construction and social change.

This study is designed to examine the role of Project Based Learning in developing global citizenship and sustainable thinking among students. The focus is placed on student experiences and learning processes within project-based environments. The study addresses the following research questions:

1. How does Project Based Learning influence students' understanding of global citizenship?
2. How does Project Based Learning support the development of sustainable thinking among students?
3. How does Project Based Learning shape students' collaborative and problem-solving skills in addressing global issues?

METHOD

This study employed a qualitative descriptive approach to explore students' learning experiences within Project Based Learning contexts. The design was selected to capture rich descriptions of how students engage with global and environmental issues during project implementation. The research took place in a secondary school involving 30 students who participated in structured project-based activities. The projects were designed to address real-world challenges related to sustainability and global citizenship, allowing students to investigate issues, propose solutions, and present their findings. Qualitative inquiry enabled an in-depth understanding of student behavior, perceptions, and interactions during the learning process (Creswell & Poth, 2018).

Data were collected through classroom observations, semi-structured interviews, and analysis of student-generated documents. Observations focused on student engagement, collaboration, and participation in project activities. Field notes were used to document interactions and learning dynamics. Interviews were conducted to explore students' perspectives on global citizenship and sustainable thinking. Open-ended questions allowed students to express their experiences and reflections in detail. Documentation included project reports, presentation materials, and reflective journals, which provided evidence of students' understanding and learning outcomes. The combination of these techniques supported comprehensive data collection and strengthened the depth of analysis (Merriam & Tisdell, 2016).

Data analysis followed a thematic analysis procedure. Data were organized, coded, and categorized based on patterns related to the research questions. The process involved identifying recurring themes that reflect students' understanding of global issues, sustainability awareness, and collaborative practices. Interpretation focused on constructing meaning from students' experiences and linking findings to the broader educational context. Credibility was ensured through triangulation across observation, interview, and documentation data. Consistency in findings across sources strengthened the trustworthiness of the results (Nowell et al., 2017).

RESULT AND DISCUSSION

Students' Understanding of Global Citizenship through Project Based Learning

The findings indicate that Project Based Learning contributes to the development of students' understanding of global citizenship. Students demonstrate increased awareness of global issues after participating in project-based activities that focus on environmental and social challenges. Classroom observations reveal that students actively engage in discussions related to cultural diversity, climate issues, and social inequality. These discussions encourage students to connect local experiences with broader global contexts. Learning activities provide opportunities for students to explore how global problems affect communities in different regions. This process supports the formation of a global perspective grounded in awareness and responsibility (Reysen & Katzarska-Miller, 2013).

Students express their understanding through project presentations, reflective writing, and group discussions. The content of student projects reflects an awareness of interconnected global systems. Students identify relationships between human actions and environmental consequences. They also demonstrate sensitivity toward issues such as poverty, inequality, and access to resources. Reflective journals show that students develop empathy toward communities facing global challenges. This form of engagement indicates that learning extends beyond cognitive understanding and reaches affective dimensions. Global citizenship involves attitudes and values that shape how individuals respond to complex issues. Project Based Learning creates conditions that support the development of these attributes (Veugelers, 2011).

The role of authentic learning experiences becomes evident in shaping students' understanding. Students engage directly with real-world problems through investigation and inquiry. They collect information, analyze data, and propose solutions based on their findings. This process enables students to construct knowledge through active participation. Learning shifts from passive reception to meaningful engagement. Students develop the ability to interpret global issues from multiple perspectives. Exposure to diverse viewpoints strengthens their capacity to think critically about social and environmental challenges. Educational experiences that emphasize authenticity contribute to deeper conceptual understanding and long-term retention (Boix Mansilla & Jackson, 2011).

Collaboration within project groups also plays a significant role in developing global citizenship awareness. Students interact with peers who bring different ideas and perspectives. Group discussions create opportunities for dialogue and reflection. Students learn to respect differences and negotiate meaning through shared experiences. This interaction supports intercultural understanding and social awareness. Students begin to see themselves as part of a larger global community. The development of communication skills enhances their ability to articulate ideas related to global issues. Collaborative learning environments encourage active participation and mutual respect, which are essential components of global citizenship education (Gaudelli, 2016).

The integration of Project Based Learning in classroom practice provides a pathway for students to explore issues beyond textbook content. Students are exposed to authentic contexts that require critical thinking and reflection. They examine real-life cases and develop solutions that reflect their understanding of global challenges. This approach enables students to connect theoretical knowledge with practical application. Learning experiences become relevant and meaningful as students engage with issues that affect their lives and communities. The development of global citizenship emerges through continuous interaction, reflection, and action within the learning process.

These findings suggest that Project Based Learning supports the formation of global citizenship by integrating cognitive, affective, and social dimensions of learning. Students demonstrate awareness, empathy, and responsibility as they engage with global issues. Educational practices that incorporate project-based approaches can foster deeper understanding and prepare students to participate actively in addressing global challenges.

Development of Sustainable Thinking in Student Projects

The findings reveal that Project Based Learning supports the development of sustainable thinking through active engagement in real-world problem solving. Students demonstrate the ability to design solutions that consider long-term environmental and social impacts. Classroom observations indicate that students engage deeply in projects related to waste management, environmental conservation, and energy efficiency. These projects require students to examine the

causes of environmental problems and identify strategies that promote sustainability. Students analyze the relationship between human activities and environmental degradation. This process reflects the development of systems thinking, which is an essential component of sustainability competence (Brundiens et al., 2021).

Student projects show clear evidence of sustainability-oriented decision making. Groups working on waste management propose solutions such as recycling campaigns, reduction of single-use plastics, and community awareness initiatives. Projects related to energy efficiency include recommendations for reducing electricity consumption and promoting renewable energy practices. These outcomes indicate that students are able to apply theoretical knowledge to practical contexts. Learning activities provide opportunities for students to explore the complexity of sustainability issues and evaluate the effectiveness of different solutions. Engagement in authentic tasks supports the development of competencies required for sustainable development (Rieckmann, 2012).

Reflective activities play a significant role in shaping students' sustainable thinking. Reflective journals and group discussions reveal that students consider the consequences of human actions on future generations. Students express concern about environmental damage and recognize the importance of responsible behavior. Reflection encourages students to examine their own roles in contributing to sustainability challenges. This process supports the development of critical awareness and ethical responsibility. Students move beyond surface-level understanding and engage in deeper analysis of sustainability issues. Reflection becomes a key element in transforming knowledge into meaningful action (Sterling, 2010).

The inquiry process embedded in Project Based Learning contributes to the emergence of sustainable thinking. Students formulate questions, gather information, and interpret findings through collaborative investigation. This process encourages curiosity and critical examination of real-world problems. Students explore multiple perspectives and consider various factors that influence sustainability outcomes. Inquiry-based learning supports the development of analytical skills and fosters a deeper understanding of complex systems. Students become active participants in constructing knowledge related to sustainability (Sipos et al., 2008).

The learning environment encourages students to think beyond immediate outcomes and consider broader implications of their decisions. Students evaluate the potential impact of their proposed solutions on society and the environment. Discussions within project groups reveal that students consider economic feasibility, social acceptance, and environmental benefits when designing solutions. This approach reflects the integration of environmental, social, and economic dimensions of sustainability. Students demonstrate the ability to balance different considerations in decision-making processes. Such competencies are essential for addressing global sustainability challenges (Lozano et al., 2017).

Interaction among students also contributes to the development of sustainable thinking. Collaborative work allows students to exchange ideas and challenge assumptions. Group discussions create opportunities for critical reflection and shared learning. Students learn to appreciate diverse perspectives and integrate them into their problem-solving processes. This interaction strengthens their ability to think holistically and consider multiple dimensions of sustainability. The social aspect of learning plays a crucial role in shaping students' understanding and attitudes toward sustainability.

The findings indicate that Project Based Learning creates a learning environment that supports the integration of knowledge, skills, and values related to sustainability. Students demonstrate the ability to analyze problems, propose solutions, and reflect on the consequences of their actions. Sustainable thinking emerges as a result of active engagement, inquiry, and reflection. Educational practices that incorporate project-based approaches can foster deeper understanding and prepare students to contribute to sustainable development in meaningful ways.

Enhancement of Collaboration and Problem-Solving Skills

The findings show that Project Based Learning strengthens students' collaboration skills through structured group activities. Students work in teams to complete projects that require shared responsibility and collective decision making. Classroom observations indicate that students actively exchange ideas, negotiate roles, and coordinate tasks during project implementation. Each group member contributes based on individual strengths, which creates a balanced distribution of responsibilities. This process supports the development of interpersonal skills and fosters a sense

of accountability within the group. Collaborative learning environments encourage students to engage in meaningful interaction that enhances both social and academic outcomes (Johnson & Johnson, 2009).

Interaction among students plays a significant role in building communication skills and mutual understanding. Group discussions provide space for students to express opinions and respond to different perspectives. Students learn to listen actively and respect diverse viewpoints during the learning process. This interaction contributes to the development of social awareness and teamwork competence. Students become more confident in presenting ideas and defending their arguments in front of peers. Communication skills emerge through continuous dialogue and shared experiences within project groups. Learning activities that emphasize collaboration create opportunities for students to develop essential competencies required in complex social contexts (Gillies, 2016).

Problem-solving skills are reflected in students' ability to identify issues and analyze underlying causes within project tasks. Students engage in processes that require them to define problems, gather relevant information, and evaluate possible solutions. Observations show that students approach problems systematically by breaking them into manageable components. They examine evidence and consider alternative solutions before making decisions. This process indicates the development of analytical thinking and reasoning skills. Students demonstrate the capacity to connect theoretical knowledge with practical challenges encountered during project implementation. Problem-solving becomes an active and iterative process shaped by inquiry and reflection (Hmelo-Silver, 2004).

Challenges encountered during project implementation contribute to the strengthening of students' adaptive thinking. Students face obstacles such as limited resources, time constraints, and differences in group opinions. These challenges require students to revise plans and adjust strategies to achieve project goals. Students learn to evaluate the effectiveness of their approaches and make improvements when necessary. This experience supports the development of resilience and flexibility in problem-solving processes. Students become more capable of handling uncertainty and complexity in real-world situations. The learning process encourages persistence

and continuous improvement, which are essential for addressing dynamic global issues (Savery, 2015).

The role of the teacher shifts toward facilitation within Project Based Learning environments. Teachers provide guidance that supports inquiry and reflection without dominating the learning process. Facilitation involves posing questions, offering feedback, and encouraging deeper exploration of ideas. Students are given space to take ownership of their learning and make decisions related to project development. This shift in instructional roles creates a learner-centered environment that promotes autonomy and responsibility. Students become active participants who construct knowledge through experience and collaboration. The facilitative role of the teacher enhances the quality of learning interactions and supports student engagement (Bell, 2010).

Student responsibility for learning becomes more visible through active participation in project activities. Students demonstrate initiative in organizing tasks, managing time, and completing project requirements. Engagement in authentic tasks increases motivation and commitment to learning goals. Students take pride in their work and show willingness to improve the quality of their projects. This sense of ownership contributes to deeper learning and stronger skill development. Collaboration and problem-solving skills develop simultaneously as students navigate complex tasks within group settings.

The findings indicate that Project Based Learning creates a dynamic learning environment where collaboration and problem-solving skills are continuously developed. Students engage in meaningful interaction, analyze complex problems, and adapt strategies based on situational demands. These competencies are essential for preparing students to face global challenges that require teamwork, critical thinking, and innovative solutions. Educational practices that integrate Project Based Learning can support the development of learners who are capable of working collaboratively and addressing problems effectively in diverse contexts.

CONCLUSION

The findings of this study demonstrate that Project Based Learning supports the development of global citizenship and sustainable thinking among students through meaningful and context-

based learning experiences. Students show increased awareness of global issues such as environmental sustainability, cultural diversity, and social responsibility. Engagement in project activities allows students to connect theoretical knowledge with real-world situations. Students demonstrate empathy, responsibility, and awareness when responding to global challenges. Sustainable thinking is reflected in students' ability to design solutions that consider environmental, social, and economic impacts. Reflective practices encourage students to evaluate the consequences of human actions and develop a sense of responsibility toward future generations. The integration of inquiry, collaboration, and reflection creates a learning environment that supports deeper understanding and active participation.

The study also indicates that Project Based Learning strengthens collaboration and problem-solving skills through group-based activities. Students engage in communication, negotiation, and shared decision making during project implementation. These processes support the development of critical thinking and adaptability in addressing complex problems. The role of the teacher as facilitator enhances student autonomy and encourages active engagement in learning. Educational practices that incorporate Project Based Learning can contribute to the preparation of students who are capable of addressing global challenges with responsible and sustainable approaches. Future research may explore the implementation of this approach in different educational contexts and examine its long-term impact on student competencies related to global citizenship and sustainability.

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