

Research Article

Design Of Project Based Learning in Islamic Religious Education for The Development of Religious Character

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Abstract: Character education has become a critical challenge in secondary education, particularly in learning contexts that emphasize cognitive achievement over affective and behavioral development. Although Project-Based Learning (PjBL) is widely recognized for its potential to foster collaboration and responsibility, character outcomes are often treated implicitly and rarely evaluated systematically. This study aims to develop and evaluate a character-oriented Project-Based Learning framework using a Design-Based Research (DBR) methodology in Islamic secondary education. The research was conducted through iterative design cycles involving problem analysis, instructional design, implementation, evaluation, and refinement. Explicit character indicators were embedded into each phase of the PjBL process and assessed using quantitative and qualitative instruments. Statistical analysis of pretest and posttest data revealed significant improvements in students' character-related outcomes following the implementation of the proposed framework. Qualitative findings further indicated enhanced student engagement, collaboration, and social responsibility during project activities. The results demonstrate that integrating explicit character indicators into PjBL through a DBR approach enhances the effectiveness of character education beyond conventional instructional practices. This study contributes to the literature by providing a structured and empirically validated framework that bridges Project-Based Learning, Design-Based Research, and character education. The proposed framework offers practical implications for educators seeking to integrate affective learning objectives into active learning environments.

Keywords: Character Education; Design-Based Research; Instructional Framework; Project-Based Learning; Secondary Education.

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1. Introduction

Character education has become a central concern in contemporary secondary education, particularly as educational success is no longer defined solely by cognitive achievement but also by affective and behavioral outcomes (Lickona 1991). Schools are increasingly expected to foster responsibility, cooperation, tolerance, environmental awareness, and moral integrity as integral components of holistic education (Berkowitz and Bier 2014). In Islamic secondary education, these character dimensions are closely related to religious values that shape students' attitudes, ethical reasoning, and social behavior (Halstead 2007). However, a major challenge lies in designing instructional models that enable meaningful internalization of such values rather than mere normative transmission of knowledge (Arthur et al. 2015).

Project-Based Learning (PjBL) has been widely adopted as a student-centered instructional approach emphasizing inquiry, collaboration, and authentic problem solving (Bell 2010). Empirical studies indicate that PjBL enhances student engagement, learning motivation, and higher-order thinking skills across diverse subject areas (Kokotsaki, Menzies,

and Wiggins 2016). Within character education contexts, PjBL is assumed to facilitate character development through teamwork, responsibility sharing, and real-world problem engagement (Larmer, Mergendoller, and Boss 2015). Nevertheless, most existing PjBL implementations prioritize cognitive and procedural learning outcomes, while character formation remains implicit and insufficiently operationalized (Kokotsaki, Menzies, and Wiggins 2016).

Various pedagogical approaches have been proposed to address character education, including moral reasoning models, value clarification techniques, habituation strategies, and integrated curricula (Nucci, Narvaez, and Krettenauer 2014). Although these approaches contribute to moral awareness and attitudinal development, they are often teacher-centered and lack systematic evaluation mechanisms to measure character change empirically (Arthur et al. 2015). In many studies, religious or value-based education is framed normatively, with limited methodological rigor and weak empirical validation of instructional effectiveness (Huda 2020). This condition creates a methodological gap between intended character outcomes and the instructional designs employed to achieve them (Berkowitz 2011).

Another limitation in prior instructional research concerns the dominance of linear instructional design models that emphasize planning and implementation without iterative refinement based on classroom evidence. As a result, many instructional models lack adaptability and contextual validity across diverse educational settings (Collective 2003). Design-Based Research (DBR) offers an alternative paradigm that integrates theory development, design iteration, and empirical evaluation in authentic learning environments (Reeves 2006). Through iterative cycles, DBR enables continuous improvement of instructional designs while simultaneously contributing to theoretical advancement (McKenney, S., & Reeves 2018).

Despite the increasing application of DBR in educational innovation, its use in character-oriented Project-Based Learning particularly in Islamic education remains limited (Huda 2020). Existing studies rarely embed explicit character indicators into the structural components of PjBL or evaluate their effectiveness through systematic iterative cycles (Larmer, Mergendoller, and Boss 2015). This gap indicates the need for a structured instructional framework that integrates character indicators explicitly into project design and assessment processes (Berkowitz and Bier 2014).

To address these challenges, this study proposes a character-oriented Project-Based Learning framework developed through a Design-Based Research approach (McKenney, S., & Reeves 2018). The proposed framework integrates religious character indicators into the planning, implementation, and evaluation stages of PjBL in Islamic secondary education (Halstead 2007). Through iterative design cycles, the framework is refined based on empirical classroom implementation, enabling contextual adaptation and design validation (Collective 2003). The effectiveness of the framework is evaluated using quantitative and qualitative measures to assess changes in students' character-related outcomes (Han, Capraro, and Capraro 2015).

The contributions of this study are as follows. First, this study proposes a structured character-oriented PjBL framework that explicitly integrates character indicators into project design and learning activities (Berkowitz and Bier 2014). Second, it applies Design-Based Research to iteratively develop and refine the instructional framework in an authentic educational context (Reeves 2006). Third, it provides empirical evidence regarding the effectiveness of character-oriented PjBL in enhancing students' religious character outcomes (Han, Capraro, and Capraro 2015). Finally, this study contributes theoretically by bridging Project-Based Learning, Design-Based Research, and value-based education within secondary Islamic education (Arthur et al. 2015).

2. THEORETICAL STUDY

Project-Based Learning in Secondary Education

Project-Based Learning (PjBL) is a learner-centered instructional approach that organizes learning activities around complex and authentic problems, encouraging students to actively construct knowledge through inquiry and collaboration (Bell 2010). In secondary education, PjBL has been empirically shown to enhance students' engagement, collaboration skills, and higher-order thinking abilities (Kokotsaki, Menzies, and Wiggins 2016). By

involving students in real-world projects, PjBL promotes learner autonomy and responsibility for learning outcomes (Blumenfeld, P. C. 1991)

Despite its pedagogical advantages, several studies report challenges in the implementation of PjBL, particularly related to instructional structure and assessment (Condliffe, B. 2017). A lack of clear scaffolding in project design may result in uneven learning experiences among students (Kirschner, P. A. 2006). Moreover, assessment practices in PjBL tend to emphasize cognitive outcomes and final products, while affective and behavioral aspects are often underrepresented (Strobel, J., & van Barneveld 2009). Consequently, although PjBL is frequently associated with character development, character-related outcomes are rarely operationalized using explicit indicators or systematically evaluated (Larmer, Mergendoller, and Boss 2015).

Character Education and Value-Oriented Learning Design-Based Research in Instructional Innovation

Design-Based Research (DBR) is a methodological approach that aims to develop and refine educational interventions through iterative cycles conducted in authentic learning environments (Brown 1992). DBR integrates theory development with practical problem solving, allowing researchers to generate both usable instructional designs and theoretical insights (Collective 2003). Unlike experimental approaches, DBR emphasizes contextual validity and collaboration between researchers and practitioners (Wang, F., & Hannafin 2005).

Recent studies demonstrate that DBR is effective for developing instructional models and pedagogical frameworks that require continuous refinement (McKenney, S., & Reeves 2018). DBR has been applied in various domains, including technology-enhanced learning and curriculum innovation (Reeves 2006). However, the application of DBR to character-oriented instructional models remains limited, particularly in integrating explicit character indicators into learning design and assessment (Kali, Y. 2018). This gap indicates the need for DBR-based frameworks that explicitly address character development within active learning models such as PjBL.

3. RESEARCH METHODS

This study employed a Design-Based Research methodology to develop and evaluate a character-oriented Project-Based Learning framework (McKenney, S., & Reeves 2018). DBR was selected because it supports iterative refinement of instructional designs based on empirical feedback from real educational contexts (Wang, F., & Hannafin 2005). The research consisted of multiple design cycles, including problem analysis, design development, implementation, evaluation, and revision (Collective 2003).

Research Context and Participants

The research was conducted in Islamic junior secondary schools that implement project-based learning within Islamic Education subjects. Participants included students, teachers, and school administrators involved in curriculum implementation, consistent with DBR principles emphasizing practitioner collaboration (Reeves 2006). Ethical considerations such as informed consent and confidentiality were maintained throughout the research process (Creswell and Creswell 2018).

Character-Oriented PjBL Framework

The proposed framework integrates character indicators into each phase of Project-Based Learning to ensure intentional character development (Larmer, Mergendoller, and Boss 2015). Character values such as cooperation, responsibility, tolerance, environmental awareness, and social care were operationalized as observable behaviors aligned with learning activities (Berkowitz, M. W., & Bier 2005). Embedding character indicators within project tasks enables character development to be treated as a core learning objective rather than an implicit outcome (Nucci, Narvaez, and Krettenauer 2014).

Research Procedure

The research procedure followed iterative DBR cycles beginning with problem identification through preliminary observation and interviews (Brown 1992). An initial instructional design was implemented and evaluated using both quantitative and qualitative data (Creswell and Creswell 2018). Findings from each cycle informed subsequent revisions of the framework, ensuring continuous improvement and contextual relevance (McKenney, S., & Reeves 2018).

Algorithm of the Character-Oriented PjBL Framework

The instructional framework was formalized as an algorithm to enhance clarity and replicability (Reeves 2006). Algorithmic representation supports systematic implementation and evaluation of instructional designs across contexts (Kali, Y. 2018).

Data Collection and Analysis

Data collection employed multiple instruments to enable methodological triangulation (Creswell and Creswell 2018). Quantitative analysis was used to measure changes in character-related outcomes, while qualitative analysis captured contextual and experiential dimensions of learning (Miles, M. B. 2014). This mixed-methods approach enhances the validity and robustness of the findings (Johnson, R. B. 2007).

4. RESULTS AND DISCUSSION

Research Implementation Overview

The character-oriented Project-Based Learning (PjBL) framework was implemented through iterative Design-Based Research cycles in Islamic secondary education settings. Each cycle involved planning, implementation, evaluation, and refinement of the instructional design. The implementation focused on embedding explicit character indicators within project activities to ensure that character development was intentionally addressed rather than treated as an implicit outcome.

Quantitative Results

Quantitative data were collected using pretest and posttest instruments designed to measure students' character-related outcomes. Statistical analysis revealed a significant improvement in students' character scores following the implementation of the character-oriented PjBL framework. Paired-sample t-test results indicated that posttest scores were significantly higher than pretest scores ($p < 0.05$), demonstrating the effectiveness of the proposed instructional design.

In addition, normalized gain (N-gain) analysis showed a moderate to high level of improvement in character outcomes, indicating that the learning intervention contributed meaningfully to students' character development. These findings suggest that integrating explicit character indicators into project design enhances the effectiveness of PjBL beyond cognitive learning outcomes alone.

Qualitative Findings

Qualitative data obtained from classroom observations, interviews, and documentation provided further insight into the learning process. Students demonstrated increased collaboration, responsibility, and social awareness during project activities. Teachers reported that students were more engaged and reflective when character expectations were explicitly stated and assessed. These findings align with previous research emphasizing the importance of intentional instructional design in character education.

Discussion

The results indicate that the character-oriented PjBL framework effectively enhances students' character development when implemented through a Design-Based Research approach. The improvement in character outcomes supports the hypothesis that character education is more effective when values are embedded within authentic learning activities. Furthermore, the iterative refinement process inherent in DBR enabled the instructional design to be adapted to contextual needs, increasing its practical relevance and sustainability.

Unlike conventional PjBL implementations that focus primarily on cognitive outcomes, the proposed framework explicitly aligns character indicators with project tasks and assessment. This alignment addresses a critical limitation identified in prior studies, where character development was often assumed rather than empirically evaluated. Overall, the findings demonstrate that character-oriented PjBL can serve as a viable instructional strategy for integrating affective learning objectives into secondary education.

Comparison with State-of-the-Art

To evaluate the contribution of the proposed framework, this study compares its findings with prior research on Project-Based Learning and character education. Conventional PjBL studies report improvements in engagement and cognitive skills but provide limited evidence regarding character outcomes. In contrast, the character-oriented PjBL framework developed in this study incorporates explicit character indicators and systematic assessment, resulting in measurable character improvement.

Furthermore, while previous character education approaches often rely on teacher-centered strategies, the proposed framework emphasizes student-centered learning and collaborative inquiry. The use of Design-Based Research distinguishes this study from prior work by enabling iterative refinement and empirical validation of the instructional design. As a result, the proposed framework offers both practical and theoretical advancements over existing approaches.

5. CONCLUSION

This study presented a character-oriented Project-Based Learning framework developed through a Design-Based Research methodology in Islamic secondary education. The findings demonstrate that integrating explicit character indicators into project design significantly enhances students' character-related outcomes. The iterative DBR process contributed to the development of a robust and adaptable instructional framework grounded in empirical evidence.

The study contributes to the literature by bridging Project-Based Learning, Design-Based Research, and character education within a coherent instructional model. Practically, the proposed framework provides educators with a structured approach to embedding character development into active learning practices. However, this study is limited by its contextual focus on Islamic secondary education settings, which may affect generalizability. Future research should explore the application of the framework in diverse educational contexts and examine its long-term impact on character development.

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