

INSTRUCTIONAL DESIGN OF FLIPPED CLASSROOM USING PROBLEM POSING STRATEGY FOR ENGLISH CLASS IN GRADE V OF ELEMENTARY STUDENTS

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ABSTRACT

English instruction at the elementary level often struggles with fostering engagement and critical thinking among students. This research aims to address these challenges by developing an instructional design that combines the flipped classroom model with a problem-posing strategy for fifth-grade English learners. The research adopts the Dick and Carey development model, supported by Leung's problem-posing framework, to create a structured learning approach grounded in constructivist and critical pedagogy theories. Data were collected through classroom observations, interviews, pre- and post-tests, and expert validations. The design was evaluated by learning, media, and material experts with high feasibility ratings of 89%, 86%, and 88%, respectively. Implementation of the model in a classroom setting demonstrated substantial improvements in student outcomes, with critical thinking scores rising from 48% to 93% and English comprehension improving from 70% to 88%. Statistical analysis confirmed the effectiveness of the model ($p < 0.05$). These findings underscore the model's ability to enhance student engagement, critical thinking, and language proficiency. The research contributes to pedagogical innovation by extending flipped learning and problem-posing strategies to younger learners, suggesting their broader applicability in early education. It also provides practical insights for educators and curriculum developers seeking to implement interactive and student-centered instructional models in the digital age.

KEY-WORDS

flipped classroom, problem posing, instruction of the English language, instructional design, elementary school



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INTRODUCTION

English learning at the elementary school level often faces challenges in terms of student motivation and engagement (Noor & Kembaren, 2023; Shilova et al.,

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2020; Yu & Cai, 2025). Children at this age are still in a stage of cognitive development where they tend to be more responsive to interactive and problem-based learning activities (Kek & Huijsen, 2017; Kolbaek, 2020). However, traditional teacher-centered teaching methods are often less effective in building active participation and developing students' critical thinking skills Prabhakar (2023) Therefore, a learning model is needed that not only attracts students' interest but also optimizes their potential in understanding and applying English concepts (Van Alten et al., 2019a).

The flipped classroom model, which integrates problem-posing strategies, offers the right solution to overcome these challenges. Through this instructional design, students can learn basic materials independently outside the classroom through digital media, while class time is used for discussion, problem solving, and collaborative activities. This approach is in line with the principles of 21st-century learning that emphasize critical thinking skills, communication, collaboration, and creativity (Van Alten et al., 2019).

The advancement of educational technology and evolving pedagogical approaches have opened doors to innovative instructional models, such as the flipped classroom and problem-posing strategy, which, when combined, offer a powerful method for enhancing student engagement and deepening understanding, especially in language learning contexts (Shao & Liu, 2021). The flipped classroom model, rooted in constructivist learning theory, transforms traditional learning by shifting direct instruction to the individual learning space, allowing classroom time for interactive and collaborative activities (Bishop & Verleger, 2013), while problem-posing, grounded in critical pedagogy (Freire), encourages students to generate and solve problems, fostering critical thinking and engagement. For Grade V English learners, integrating these strategies addresses challenges like passive learning and limited critical thinking opportunities (Demir, 2021), with pre-class activities involving digital resources and problem-posing, in-class collaborative problem-solving, and post-class reflection (Prabhakar & J., 2023). This design is supported by constructivism, critical pedagogy, and social learning theory (Vygotsky's ZPD), aiming to improve language proficiency, critical thinking, and engagement (Face, 2024; Johnson et al., 2025; Lee et al., 2025; Schipke, 2018). However, challenges such as lack of student engagement, difficulty in applying critical thinking, ineffective classroom time use, and limited research on integrating these strategies for Grade V students persist, prompting plans to design a flipped classroom model with problem-posing, implement collaborative activities, and evaluate effectiveness through trials and feedback.

With this background, this study aims to design an instructional design that combines flipped classroom and problem posing strategies in English learning in grade V of elementary school (Cheng et al., 2019; Hwang & Chen, 2023; Ivan et al., 2023; Nantha et al., 2022). This study introduces a novel instructional design that integrates the flipped classroom model with a problem-posing strategy, specifically tailored for English instruction in Grade V of elementary schools. While prior studies have explored the flipped classroom approach and problem posing independently (e.g., Bishop & Verleger, 2013; (Shao & Liu, 2021), and some have combined these for older students or different subjects (Lin & Hwang, 2019; Prabhakar & J., 2023), this research uniquely targets younger learners at the elementary level—an area with limited empirical exploration. It adapts Leung's (1993) model to suit the developmental and cognitive characteristics of fifth graders, using the

Dick & Carey model for systematic instructional design. This integration addresses previously unresolved issues in early English education, such as passive learning and underdeveloped critical thinking skills, while offering empirical validation through pre- and post-tests and expert evaluations, thereby extending the theoretical and practical applications of both learning strategies in a primary education context. This research is expected to contribute to the development of more effective and relevant learning models, as well as provide new insights for educators in implementing innovative approaches that are appropriate to the characteristics and needs of students in the digital era (Wang, 2022).

RESEARCH METHOD

This study employs a Research and Development (R&D) approach to design, develop, and evaluate an instructional model that combines the flipped classroom and problem-posing strategy for Grade V English learners. The development process follows Dick and Carey's R&D model, consisting of ten key steps, from identifying instructional goals to conducting summative evaluations. At the instructional strategy development stage, the study incorporates a modified version of Leung's (1993) problem-posing model, which includes four stages: posing a problem, planning, carrying out, and looking back. This adaptation ensures the strategy aligns with the flipped classroom structure while promoting critical thinking.

Data is collected through multiple methods to assess the model's effectiveness. Classroom observations track student engagement and interaction during problem-solving activities. Semi-structured interviews gather insights from teachers and students on their experiences with the new approach. Pre- and post-tests measure improvements in language proficiency and critical thinking, while questionnaires provide feedback on student motivation and engagement. Additionally, documentation analysis examines instructional materials and student-generated problem-posing tasks to evaluate alignment with learning objectives.

The primary data sources include a class of 30–35 Grade V students and their English teacher, digital learning resources, and assessment records. Data analysis involves both qualitative and quantitative approaches. Thematic analysis identifies patterns in observations, interviews, and open-ended responses, while statistical methods (e.g., paired t-tests, descriptive statistics) assess test scores and questionnaire results. Triangulation strengthens reliability by cross-referencing findings from different sources.

The instructional model is implemented over several weeks, with adjustments made based on ongoing feedback. The study concludes by evaluating the model's feasibility and effectiveness, offering recommendations for future applications in elementary English education. This research contributes to innovative teaching strategies that enhance student engagement, critical thinking, and language learning outcomes.

RESULT AND DISCUSSION

Result

The implementation of the flipped classroom model integrated with problem posing in a fifth-grade English classroom yielded significant improvements in student outcomes. Specifically, there was a marked increase in students' critical thinking abilities and their understanding of English concepts. Critical Thinking

Improvement: Students demonstrated a higher ability to pose relevant and challenging questions about the material. The average score on critical thinking assessments increased from 48% in the pre-test to 93% in the post-test. **Understanding of English Concepts:** Students' performance in English comprehension and application tasks improved significantly, with the average score rising from 70% in the pre-test to 88% in the post-test.

Hypothesis Testing Results: The primary hypothesis of this study was that the flipped classroom approach combined with problem posing would result in higher student achievement in critical thinking and English comprehension compared to traditional teaching methods. Hypothesis 1 (H1): The hypothesis that the flipped classroom with problem posing improves critical thinking was supported, as evidenced by a statistically significant increase in critical thinking scores ($p < 0.05$). Hypothesis 2 (H2): The hypothesis that this combined approach enhances understanding of English concepts was also supported, with post-test scores showing a significant improvement over pre-test scores ($p < 0.05$).

To provide a more precise visualization of these results, the following table summarizes the key findings:

Variable	Pre-Test Average	Post-Test Average	p-value
Critical Thinking Score (%)	48%	93%	< 0.05
English Comprehension Score (%)	70%	88%	< 0.05

The accompanying graph further illustrates these results, showing the improvement in both critical thinking and English comprehension scores. This section highlights the effectiveness of the flipped classroom with problem-posing in enhancing student learning outcomes, as demonstrated by the significant improvements in the measured variables.

Discussion

This study aimed to develop and implement a flipped classroom design integrated with problem-posing in the teaching of English to fifth-grade elementary students. The primary research problem addressed was whether this combined approach could enhance students' critical thinking skills and understanding of English concepts.

The findings from this study clearly indicate that integrating flipped classroom methods with problem posing significantly enhances students' engagement and critical thinking. Students were not only able to understand and apply the English concepts more effectively but also demonstrated improved skills in problem identification and resolution. This addresses the initial research problem by providing empirical evidence that the combined approach effectively improves cognitive and critical thinking skills in young learners.

The study revealed that students who engaged in this innovative learning model were more active participants in their learning process. The flipped classroom allowed them to prepare independently, while the problem posing technique encouraged them to think deeply about the material and engage in meaningful classroom discussions. This suggests that when students are given more responsibility for their learning and structured guidance in critical thinking, they are likely to

perform better academically. This interpretation aligns with the constructivist theory, which emphasizes the importance of active learning and the role of the learner in constructing knowledge.

The results of this study contribute to the growing body of literature supporting the effectiveness of flipped classroom models in primary education. While previous research has predominantly focused on older students, this study extends the application of these methods to younger learners, showing that they can benefit from such approaches just as much, if not more. Furthermore, the integration of problem posing as a complementary technique adds a new dimension to flipped learning, providing a structured way to develop critical thinking skills essential for mastering complex subjects.

The success of the combined flipped classroom and problem posing approach suggests the potential for a new or modified theory of learning for elementary education. Traditional theories often emphasize teacher-led instruction, especially for younger students. However, this study supports a shift towards more student-centered learning models that can foster independent learning and critical thinking from an early age. This could lead to a modification of existing educational theories, advocating for earlier implementation of active learning strategies such as flipped classrooms combined with problem posing in primary education.

CONCLUSION

This study addresses the research problem and enhances theoretical and practical knowledge of effective elementary teaching strategies, demonstrating that integrating flipped classrooms with problem-posing improves student engagement and critical thinking, equipping learners for 21st-century challenges. Future research should explore the long-term impact of this approach and its adaptability across different contexts, including longitudinal studies on learning outcomes, cross-curricular applications in subjects like math and science, effectiveness in diverse settings (rural/urban, public/private), teacher training needs, optimal technology integration, parental involvement roles, cultural adaptations in non-Western systems, and hybrid learning implementations to ensure relevance in evolving educational environments.

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