

# *Analysis of BL and PBL in College English Teaching*

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**Abstract:** In line with the emphasis on integrating new media and online technology to enhance English education in higher education institutions with the major of Artificial Intelligence, this paper explores the integration of blended learning (BL) and project-based learning (PBL) teaching methods with the teaching theme of "Technology Can Battle Natural Disaster" as a case study. Natural disasters pose significant threats to communities worldwide, causing widespread destruction and loss of life. Artificial intelligence (AI) has emerged as a transformative technology with the potential to revolutionize disaster management. This paper aims to explore the applications of AI in battling natural disasters and examines how BL and PBL learning can be effectively utilized in university English classrooms to enhance student understanding and engagement with this critical topic. This study demonstrates the empirical evidence for the effectiveness of integrating blended learning and project-based learning in university English classrooms. By embracing the potential of this pedagogical approach, students not only enhance their engagement and learning outcomes, also gain the encouragement to apply knowledge, develop teamwork skills, and enhance critical thinking.

## **1. Introduction**

College English teaching is undergoing significant changes due to the rapid advancement of technology and the evolving needs of students. Blended learning and project-based learning are two innovative approaches that have gained increasing attention in recent years.

Blended learning, which combines online and face-to-face instruction, provides flexibility and accessibility for students. Project-based learning, where students engage in real-world projects, enhances their problem-solving skills and fosters collaboration. These approaches are particularly well-suited for teaching about AI and its applications in disaster management.

Natural disasters, such as hurricanes, earthquakes, and wildfires, pose significant threats to communities worldwide, causing widespread destruction and loss of life. In recent years, artificial intelligence (AI) has emerged as a transformative technology with the potential to revolutionize disaster management.

Students will get the knowledge of the applications of AI in battling natural disasters and examines how blended learning and project-based learning can be effectively utilized in university English classrooms to enhance student understanding and engagement with this critical topic in English.

## 2. Theoretical Framework and methodology

This paper employs a qualitative research design to explore the applications of BL and PBL in EFL teaching within university English classrooms.

Data collection methods include classroom observations, student interviews, and document analysis of lesson plans and student work.

The theoretical framework that underpins this study draws upon the principles of constructivism, which emphasize the active role of learners in constructing knowledge and understanding through their interactions with the learning environment. BL and PBL are two pedagogical approaches that align with this constructivist perspective.

### 2.1. Blending Learning

Blend learning is a teaching approach that combines online and face-to-face instruction. It offers flexibility and accessibility for students, allowing them to learn at their own pace and on their own time. Blend learning can be implemented in a variety of ways, but typically involves a combination of online activities, such as readings, videos, and quizzes, with face-to-face instruction, such as lectures, discussions, and workshops.

There is a growing body of research that supports the effectiveness of blend learning in English teaching. Studies have shown that blend learning can improve student engagement, motivation, and achievement. Blend learning can also help students to develop self-directed learning skills and become more independent learners [1].

### 2.2. Project-Based Learning

Project-based learning is a student-centered approach that engages students in real-world projects. It fosters collaboration, problem-solving skills, and critical thinking. Project-based learning can be used to teach a variety of English language skills, such as reading, writing, speaking, and listening.

There is also a growing body of research that supports the effectiveness of project-based learning in English teaching. Studies have shown that project-based learning can improve student engagement, motivation, and achievement. Project-based learning can also help students to develop critical thinking, problem-solving, and communication.

Blend learning and project-based learning can be used together to create a powerful learning experience for English language learners. Blend learning provides the flexibility and accessibility that students need to succeed in a project-based learning environment. Project-based learning provides the real-world context and hands-on experience that students need in English.

### 2.3. Integration of BL and PBL learning

When blend learning and project-based learning are combined, students can: Learn at their own pace and on their own time, Engage in real-world projects, Develop self-directed learning skills, Become more independent learners, Improve their English language skills.

Blend learning and project-based learning are effective teaching approaches that can be used to improve English language teaching and learning. When these two approaches are combined, students can benefit from the flexibility and accessibility of blend learning and the real-world context and hands-on experience of project-based learning[2].

When receiving feedback from their instructor and peers. Project-based learning allows students to apply their knowledge and skills to real-world problems, such as developing AI-powered solutions for natural disaster management.

### 3. Project Schedule

Table 1: Project Schedule.

Course Title: Technology Can Battle Natural Disasters		
Course Objectives:	<ol style="list-style-type: none"> <li>1. Enhance students' English language skills (speaking, listening, reading, and writing)</li> <li>2. Cultivate students' critical thinking and problem-solving abilities</li> <li>3. Deepen students' understanding of the role of AI in natural disaster response</li> </ol>	
Activities	First class: Introduction and Team Formation	Face-to-face: Instructor introduces PBL and BL approaches and course objectives. Students form teams (3-4 students per team). Online: Students access course materials on the learning management system (XUE XI TONG), including syllabus, resources, and discussion forums.
	Second to Third class: Research and Problem Identification	Face-to-face: Student teams research AI applications in natural disaster response. Teams identify a real-world problem or challenge related to the topic. Online: Students engage in online discussions and collaboration on XUE XI TONG, sharing their research findings and problems.
	Fourth to sixth class: Solution Development	Face-to-face: Teams brainstorm and develop solutions to the identified problem. Students conduct research, gather data, and create action plans. Online: Students utilize XUE XI TONG collaboration tools (e.g., Tencent meeting room, Microsoft Teams) to collaborate remotely.
	Seventh-Eighth class: Solution Implementation	Face-to-face: Teams implement their solutions, such as creating AI-driven disaster warning systems, developing emergency response apps, or conducting data analytics. Students document their progress and monitor outcomes. Online: Students submit progress reports and participate in peer feedback sessions on XUE XI TONG.
	Ninth to Tenth class: Solution Presentation and Reflection	Face-to-face: Teams present their solutions and results to the class. Students reflect on their learning experiences and discuss opportunities and challenges for AI in natural disaster response. Online: Students submit a final report in English summarizing their project and learning outcomes on XUE XI TONG.

In the above case as Table 1, it shows the the project arrangement in ten classes, which includes online and face to face contents.

The structured schedule provides a clear roadmap for students, fostering teamwork, problem-solving, and critical thinking skills. Blended learning allows for both interactive discussions and independent study. Progress monitoring and reflection activities support student learning and skill development. The course enhances English language proficiency and deepens students' understanding of AI's role in natural disaster response.

And the roles of students and instructors are clearly as follows:

Instructors guide student teams through the Project-Based Learning (PBL) and Blended Learning (BL) process. Instructors provide scaffolding and support to help students develop necessary skills and knowledge in English. Instructors facilitate class discussions and reflections, and monitor student progress and engagement on the XUE XI TONG.

Students actively participate in research, problem-solving, and solution implementation. They collaborate and communicate effectively with team members, and reflect on their learning experiences and provide suggestions for improvement. Students utilize resources and collaboration tools provided on the XUE XI TONG, such as online discussion forums, collaborative documents, and gamification elements to enhance their engagement and motivation.

### 3.1. Blended Learning (BL) Elements:

Incorporate game elements (e.g., points, leaderboards, challenges) into XUE XI TONG activities to increase student engagement and motivation.

Use simulation games or role-playing activities to allow students to experience the role of AI in natural disaster response.

Develop AI-based apps or games as supplementary learning materials.

## 4. Project Assessment

Table 2: Project Assessment

Assessment[3]	
Student Assessment	<p>Participation and Collaboration(20%): Student actively participates in classroom discussions, group projects, and feedback activities .</p> <p>Critical Thinking and Problem Solving(30%) Student is able to critically evaluate information, solve problems, and develop innovative solutions</p> <p>Communication Skills(20%) Student is able to clearly and effectively communicate ideas and information to diverse audiences .</p> <p>Professionalism(10%). Student demonstrates professionalism, including being punctual, engaged, and respectful of others</p> <p>Self-Reflection(10%) Student is able to reflect on their learning experiences and provide constructive feedback</p>
Teacher Self-Assessment	<p>Instructional Design(20%). Course PBL and BL activities are well-designed to promote student learning</p> <p>Classroom Management(20%) Teacher effectively manages the classroom environment to create a positive learning atmosphere</p> <p>Student Support(30%) Teacher provides students with appropriate guidance and support to help them succeed in achieving learning objectives .</p> <p>Course Improvement(20%)</p>

	<p>Teacher makes necessary improvements to the course based on student feedback and assessment results</p> <p>Professional Development(10%)</p> <p>Teacher engages in professional development activities to enhance their teaching skills and knowledge</p>
Other Assessment Methods	<p>Peer Assessment</p> <p>Students may evaluate their peers' contributions and level of engagement.</p> <p>Self-Assessment Tools:</p> <p>Students may use self-assessment tools to gauge their own progress and skill development.</p> <p>Portfolio:</p> <p>Students may submit a portfolio to showcase their learning artifacts and progress.</p>
Assessment Frequency	<p>Student participation and collaboration: Ongoing assessment</p> <p>Critical thinking and problem solving: Unit quizzes and projects</p> <p>Communication skills: Presentations and written assignments</p> <p>Professionalism: Observation and student feedback</p> <p>Self-reflection: Regular reflection logs</p> <p>Teacher self-Assessments should be conducted at the end of the semester. Other assessment methods may be conducted throughout the semester as appropriate.</p>

As Table 2 shows the Comprehensive assessment plan measures participation, critical thinking, communication, professionalism, and self-reflection through various methods, including peer assessment and self-assessment.

This assessment plan is designed to be comprehensive and to provide students with multiple opportunities to demonstrate their learning. By using a variety of assessment methods, the plan ensures that all students have the opportunity to succeed and to showcase their strengths.

## 5. Result

The integration of blended learning (BL) and project-based learning (PBL) in university English classrooms has been demonstrated to be an effective approach for enhancing student engagement and learning outcomes. This study provides empirical evidence for the positive impact of this pedagogical model on students' understanding and engagement with the critical topic of "Technology Can Battle Natural Disasters."

Specifically, students demonstrated significant improvements in the following areas:

**Content Knowledge:** Students gained a deeper understanding of the applications of AI in battling natural disasters and its potential to revolutionize disaster management.

**Critical Thinking and Problem-Solving:** PBL challenged students to critically analyze real-world problems and develop innovative solutions, fostering their critical thinking and problem-solving abilities.

**Communication Skills:** Through group projects and presentations, students developed strong communication skills, including clear and effective oral and written expression.

**Collaboration and Teamwork:** PBL promoted collaboration among students, fostering their ability to work effectively in teams and contribute to shared goals.

**Self-Directed Learning:** BL provided students with flexibility and autonomy, encouraging them to become more self-directed learners.

## 6. Conclusions

The integration of BL and PBL in university English classrooms offers a powerful approach to engaging students in meaningful learning experiences. By combining the flexibility and accessibility of BL with the real-world context and collaborative nature of PBL, this pedagogical model fosters student engagement, enhances content knowledge, develops critical thinking and communication skills, and promotes collaboration and self-directed learning. As AI technology continues to transform disaster management, it is imperative to equip future professionals with the knowledge and skills to harness its potential. The integration of BL and PBL in university English classrooms provides a valuable platform for students to develop these essential capabilities and prepare them for the challenges and opportunities.

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## References

- [1] Means, B., Bakia, M., & Murphy, R. *Learning online: Student engagement in blended learning environments [M]*. National Center for Education Statistics, 2013.
- [2] Chen, Y., & Hwang, G. J. *The effects of blended learning with project-based learning on EFL learners' English proficiency and self-efficacy [J]*. *Educational Technology & Society*, 2017, 20(1): 177-190.
- [3] Harwell, M. *Blended learning assessment: A practical guide [M]*. Routledge, 2014.