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Integrating Problem-Based Learning and Creative Writing: A Pedagogical Framework for Developing Higher-Order Thinking Skills among University EFL Students

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Abstract: The development of higher-order thinking skills has become an essential objective of contemporary higher education, particularly in English as a Foreign Language (EFL) instruction. University students are increasingly expected not only to demonstrate linguistic competence but also to analyse complex situations, evaluate alternative perspectives, generate original ideas, and formulate appropriate solutions to real-world problems. However, traditional writing instruction frequently places greater emphasis on grammatical accuracy, vocabulary acquisition, and adherence to established text structures than on independent thinking and creative problem-solving. This article explores the pedagogical potential of integrating Problem-Based Learning (PBL) and creative writing as an instructional approach to developing higher-order thinking skills among university EFL students. Drawing on constructivist learning theory, experiential learning, and the revised Bloom's Taxonomy, the article proposes an integrated pedagogical framework consisting of five interconnected stages: problem identification, collaborative inquiry, creative exploration, written production, and reflective evaluation. Particular attention is given to the relationship between problem-solving processes and creative language production. The article also presents practical instructional strategies, assessment dimensions, and methodological recommendations for implementing the proposed framework in university EFL classrooms. It argues that integrating PBL and creative writing can create meaningful opportunities for students to develop analytical, evaluative, and creative abilities while strengthening their written communication skills.

Keywords: Problem-Based Learning, creative writing, higher-order thinking skills, EFL instruction, critical thinking, pedagogical framework, university students.

Introduction

The rapid transformation of contemporary education has increased the importance of developing cognitive competencies that enable learners to respond effectively to complex academic, professional, and social challenges. In higher education, the acquisition of subject-specific knowledge is no longer considered sufficient. Students are also expected to demonstrate critical thinking, creativity, problem-solving abilities, communication skills, and independent learning. These expectations are particularly significant in English as a Foreign Language (EFL) education, where language learning provides

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opportunities for intellectual development as well as linguistic advancement. University students need to use English not merely as a means of communication but also as a tool for analysing information, expressing perspectives, evaluating arguments, and generating original ideas. Despite these changing expectations, writing instruction in many EFL contexts continues to focus predominantly on linguistic accuracy, text organisation, grammatical structures, and vocabulary development. Although these components remain essential, an excessive emphasis on the final written product may limit opportunities for students to engage in deeper cognitive processes. Creative writing offers an alternative pedagogical opportunity. Through storytelling, imaginative scenarios, alternative endings, reflective narratives, and problem-oriented written tasks, students can explore different perspectives and communicate original ideas. Nevertheless, creative writing activities may not automatically develop higher-order thinking unless teachers establish meaningful intellectual challenges and provide appropriate instructional guidance. Problem-Based Learning (PBL) offers a potentially effective solution to this challenge. It places authentic, open-ended problems at the centre of the learning process and encourages students to investigate situations, collaborate with peers, evaluate evidence, and develop solutions. Integrating PBL with creative writing can therefore establish a learning environment in which students identify problems, explore possible alternatives, and transform their ideas into meaningful written products. The article addresses the following objectives: To examine the theoretical relationship between Problem-Based Learning, creative writing, and higher-order thinking skills. To identify the pedagogical opportunities offered by integrating PBL and creative writing. To develop an instructional framework for implementing problem-based creative writing activities. To propose assessment criteria for evaluating students' cognitive and written performance.

Problem-Based Learning in Higher Education - Problem-Based Learning is a student-centred instructional approach in which learning begins with a problem that requires investigation, discussion, and the construction of possible solutions. Unlike conventional teacher-centred instruction, PBL encourages students to take an active role in knowledge construction. Rather than receiving information exclusively from the teacher, learners identify what they already know, recognise knowledge gaps, formulate questions, investigate relevant information, and develop evidence-based solutions. Barrows (1986) identified PBL as an approach that places problem-solving at the centre of the learning process. Its educational value lies in connecting theoretical knowledge with practical situations and encouraging learners to assume responsibility for their learning. In EFL education, PBL can provide opportunities for students to use English in purposeful academic communication. Students discuss problems, negotiate meanings, exchange arguments, and present their conclusions. Cosgun and Atay (2021) investigated the relationship between PBL, critical thinking, creativity, and language development among 68 tertiary-level EFL students. Their study provides empirical support for exploring PBL as an approach that connects language learning with broader cognitive competencies. Consequently, PBL should not be understood simply as a classroom technique for completing group assignments. It represents an

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instructional orientation that places inquiry, collaboration, independent thinking, and problem-solving at the centre of educational practiceю

Creative Writing as a Tool for Cognitive Development Creative writing is an expressive and exploratory process through which learners generate original ideas and transform them into written forms. Unlike highly controlled writing exercises, creative writing allows students to experiment with language, develop alternative perspectives, construct imaginary situations, and communicate individual interpretations. In EFL classrooms, creative writing can take various forms: Short stories and fictional narratives: Alternative endings to literary texts; Reflective and imaginative essays; Dialogue and character development; Problem-solution narratives; Persuasive and speculative writing. Creative writing is particularly relevant to cognitive development because it requires students to make decisions about content, structure, language, audience, and meaning. For example, when students are asked to write a story about a university facing an educational challenge, they must identify the central conflict, develop characters, consider alternative solutions, and construct a logical narrative. These activities involve several cognitive processes, including interpretation, analysis, evaluation, synthesis, and creation. Dawilai et al. (2021) examined problem-based blended learning in creative writing courses and reported better writing performance in the blended PBL group than in the traditional PBL group. Their findings provide an additional rationale for investigating the relationship between problem-oriented instruction and creative writing development. Therefore, creative writing can function not only as a language-production activity but also as a medium for developing intellectual independence and imaginative problem-solving.

Higher-Order Thinking Skills and Revised Bloom's Taxonomy - Higher-order thinking skills represent advanced cognitive processes that enable learners to move beyond remembering and understanding information. Anderson and Krathwohl's (2001) revision of Bloom's Taxonomy identifies six cognitive categories: 1. Remembering. 2. Understanding. 3. Applying. 4. Analysing. 5. Evaluating. 6. Creating. The final three categories are particularly relevant to the proposed pedagogical framework.Analysing involves examining information, identifying relationships, distinguishing relevant evidence, and recognising underlying assumptions.Evaluating involves making judgements based on established criteria, assessing alternative solutions, and justifying decisions.Creating involves combining ideas, generating original solutions, and producing coherent and meaningful outcomes.The integration of PBL and creative writing provides opportunities to engage students in these cognitive processes. For instance, when students investigate the problem of limited student participation in university activities, they analyse possible causes, evaluate different strategies, and create a written proposal suggesting improvements. The writing process consequently becomes a means of demonstrating and developing cognitive competence.

Constructivist Foundations of the Proposed Approach The proposed framework is also grounded in constructivist perspectives on learning. According to Vygotsky (1978), cognitive development is closely associated with social interaction and the role of more knowledgeable

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individuals in supporting learning. This perspective highlights the importance of collaboration, dialogue, and scaffolding in educational practice. Within the proposed approach, students initially explore problems collaboratively. Teachers provide guiding questions, vocabulary support, conceptual explanations, and feedback. As students become more confident, they gradually assume greater responsibility for their investigations and written production. This progression reflects the principle of scaffolding, whereby instructional support facilitates the development of independent performance. The combination of collaborative inquiry and individual creative expression therefore creates opportunities for both social and cognitive development.

Methodological Approach: integrating PBL and creative writing The proposed framework combines the problem-solving orientation of PBL with the expressive and exploratory characteristics of creative writing. Its central methodological principle is that students should encounter meaningful problems before being asked to produce written responses. Rather than presenting writing as an isolated language exercise, teachers organise learning around authentic situations that require investigation, interpretation, decision-making, and creative expression.

The proposed five-stage instructional framework The framework consists of five interconnected stages. Stage 1. Problem Identification and Exploration. At this stage, the teacher introduces an authentic, open-ended related to students' academic, social, or professional experiences. Possible topics include: The influence of artificial intelligence on university education; Declining student motivation in academic settings; The challenges of online learning; Environmental responsibility among young people; The relationship between social media and academic performance. Students examine the problem, identify its main dimensions, and formulate questions for further investigation. The teacher acts as a facilitator rather than the primary source of information. Stage 2. Collaborative Inquiry and Investigation. Students work in small groups to investigate the identified problem. They exchange opinions, examine different perspectives, identify possible causes, and collect relevant information. The teacher provides scaffolding through guiding questions: What are the main causes of this problem? Who is affected by the situation? What evidence supports your interpretation? Are there alternative explanations? What possible solutions could be considered. At this stage, collaborative interaction helps students develop their reasoning and argumentative abilities.

Cognitive focus: Analysing and evaluating. Stage 3. Creative Exploration and Idea Generation. Following the investigation, students explore different ways of representing and addressing the problem. They participate in brainstorming, mind mapping, hypothetical thinking, scenario development, and perspective-taking activities. For example, students may imagine how a university would function if traditional examinations were completely replaced by alternative assessment methods. They consider the possible advantages, disadvantages, and consequences of such a transformation. The purpose of this stage is to encourage originality while maintaining logical consistency.

Cognitive focus: Evaluating and creating. Stage 4. Creative Writing Production Students transform their findings and ideas into written products. Depending on the learning objectives, they may produce:

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A problem-solution essay; A persuasive article; A short fictional narrative; A speculative story; A reflective essay; A proposal for institutional improvement. Students are encouraged to use evidence, construct logical arguments, demonstrate originality, and communicate their ideas effectively. The teacher provides feedback on both cognitive content and linguistic performance.

Cognitive focus: Creating and applying. Stage 5. Reflection, Evaluation, and RevisionIn the final stage, students evaluate their written products and reflect on the learning process. They exchange drafts, provide peer feedback, identify weaknesses in their arguments, and revise their work. Self-assessment encourages learners to consider how their thinking developed throughout the process. Suggested reflection questions include: How did your understanding of the problem change? Which solution did you find most convincing? What evidence influenced your final decision? How original is your proposed solution? What would you improve in your written work.

Cognitive focus: Evaluating and creating.

Practical implementation of the proposed framework The following activities demonstrate how the framework can be incorporated into university EFL writing instruction.

Activity One: The University of the Future Learning objective**:** To develop analytical thinking, imagination, and the ability to propose innovative solutions.

Problem situation: Imagine that your university administration has decided to redesign the educational system to meet the needs of future generations. However, students have different opinions about what should be changed.

Instructions: Identify three major challenges in contemporary university education. Discuss their possible causes. Suggest innovative solutions. Imagine how university education might look in 2040. Write an article entitled "The University of the Future: Learning Beyond Traditional Classrooms".

Expected outcome: An original written article containing a problem analysis, proposed solutions, and a future-oriented perspective.

Activity Two: One Problem, Multiple Perspectives Learning objective: To develop perspective-taking, analytical reasoning, and evaluative thinking.

Problem situation: University students increasingly use artificial intelligence when completing academic assignments. Some teachers consider it an educational opportunity, whereas others express concerns about independent thinking and academic integrity.

Instructions: Students assume different roles: A university lecturer; An undergraduate student; A university administrator; An educational technology specialist. Each group analyses the issue from its assigned perspective. Students then write a persuasive article presenting their position and responding to alternative arguments.

Expected outcome: A well-supported argumentative text demonstrating critical evaluation and awareness of different perspectives.

Activity Three: Rewrite the Ending.

Learning objective: To develop creativity, prediction, and problem-solving abilities.

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Problem situation: Students receive an unfinished fictional narrative involving a community facing an environmental or educational challenge.
Instructions: Identify the central conflict; Analyse the characters' decisions; Evaluate the consequences of each ending; Write an original conclusion and justify the selected solution.
Expected outcome: A creative narrative demonstrating originality, logical development, and evaluative reasoning.
Activity Four: The Solution lab.
Learning objective: To develop problem-solving, collaboration, and persuasive writing.
Problem situation: A university department has noticed that students rarely participate in extracurricular academic activities
Instructions: Students investigate possible reasons for the situation and design an intervention. They prepare a written proposal addressing: The identified problem; Possible causes; Proposed solutions; Available resources; Expected outcomes; Evaluation criteria.
Expected outcome: A practical proposal that combines analytical thinking, creativity, and academic writing. Assessment framework for higher-order thinking skills An important component of the proposed approach is the assessment of students' cognitive development alongside their linguistic performance.Traditional writing assessment frequently prioritises grammatical accuracy, vocabulary, coherence, and organisation. Although these dimensions remain important, they do not fully capture students' analytical and creative abilities. Therefore, the proposed framework incorporates five assessment dimensions.

Assessment dimension	Indicators
Analytical thinking	Identifying problems, examining causes, interpreting evidence
Evaluative thinking	Comparing alternatives, assessing arguments, justifying decisions
Creative thinking	Originality, flexibility, generating innovative solutions
Written communication	Coherence, organisation, vocabulary, grammatical accuracy
Reflective thinking	Self-assessment, identifying weaknesses, revising ideas

A suggested four-level rubric can be used to assess students' performance. Level 4 – Advanced: Demonstrates independent analysis, well-supported evaluation, original solutions, and coherent written expression. Level 3 – Competent: Demonstrates relevant analysis, reasonable evaluation, and appropriate creative ideas with generally effective written communication. Level 2 – Developing: Demonstrates limited analysis, partially supported judgements, and some original ideas, but requires further guidance. Level 1 – Beginning: Relies mainly on descriptive responses, demonstrates limited evaluation, and requires substantial instructional support. The rubric can be applied to students' initial and revised written products to identify areas of development. Pedagogical Implications; The integration of Problem-Based Learning and creative writing has several implications for university EFL instruction. First, it encourages a shift from product-oriented writing instruction towards process-

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oriented and cognitively engaging learning experiences. Students become active participants who investigate problems and construct their own interpretations. Second, it strengthens the connection between language learning and real-life situations. Authentic problems provide meaningful contexts for using English to communicate, negotiate, and express opinions. Third, the framework supports learner autonomy. Students gradually develop the ability to identify problems, select relevant information, evaluate alternatives, and organise their own learning. Fourth, collaborative inquiry creates opportunities for social interaction and knowledge construction. Through discussions and peer feedback, learners encounter different perspectives and reconsider their initial assumptions. Finally, the approach changes the teacher's role. Instead of functioning primarily as an information provider, the teacher becomes a facilitator who guides inquiry, provides scaffolding, monitors progress, and supports independent thinking. Nevertheless, successful implementation requires careful instructional planning. Teachers should select problems appropriate to students' linguistic proficiency, provide sufficient language support, allocate adequate time for investigation and writing, and establish transparent assessment criteria. It is also important to distinguish creativity from unrestricted imagination. Original ideas should be accompanied by logical reasoning, relevance to the problem, and appropriate justification.

Recommendations for empirical investigation - Although the present article proposes a conceptual and methodological framework, its effectiveness should be examined through empirical investigation. A quasi-experimental research design could be employed to investigate the relationship between integrated PBL and creative writing instruction and the development of higher-order thinking skills.

The following research design is suggested:

Research component	**Proposed procedure**
Participants	University EFL students
Experimental group	Integrated PBL and creative writing instruction
Control group	Conventional writing instruction
Duration	8–10 weeks
Initial assessment	Pre-test of writing and higher-order thinking
Intervention	Five-stage instructional framework
Final assessment	Post-test using comparable assessment tasks
Additional instruments	Questionnaires, interviews, and writing portfolios
Quantitative analysis	Descriptive statistics, ANCOVA or appropriate group comparisons
Qualitative analysis	Thematic analysis of interviews and student reflections

The following research questions could guide the empirical investigation: To what extent does integrating PBL and creative writing influence university EFL students' higher-order thinking skills?

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How does the proposed instructional framework affect students' analytical, evaluative, and creative abilities? How do university EFL students perceive the integration of problem-based activities and creative writing? What challenges do students and teachers encounter during the implementation of the proposed framework? The assessment instruments should be validated before implementation. Inter-rater reliability should also be established when evaluating students' creative and analytical writing. No experimental results are reported in this article because the proposed framework requires classroom implementation and empirical validation.

Conclusion

The development of higher-order thinking skills represents an important priority in contemporary university education. In EFL instruction, this objective requires pedagogical approaches that move beyond the acquisition of linguistic knowledge and provide meaningful opportunities for intellectual engagement. The integration of Problem-Based Learning and creative writing offers a promising methodological direction for achieving this objective. By combining authentic problem situations, collaborative investigation, creative exploration, written production, and reflective evaluation, the proposed framework establishes a learning environment in which students can engage In complex cognitive processes while developing their English writing competence. The framework also highlights the importance of connecting language production with independent thinking, originality, and evidence-based decision-making. Its principal pedagogical contribution lies in positioning creative writing not merely as an expressive language activity but as a cognitive process through which students investigate problems, evaluate alternative perspectives, and construct original solutions. Future empirical research should investigate the effectiveness of this framework in different university EFL contexts and examine its influence on students' cognitive development, writing performance, and learner autonomy. Ultimately, integrating Problem-Based Learning and creative writing can contribute to a more intellectually engaging, student-centred, and innovative approach to foreign language education.

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