ISNN 3030-3907

2026/3
VOLUME 1

DEVELOPMENT OF SCIENCE

ILMIY JURNAL



Development of science

Ilmiy jurnal

2026/3 VOLUME 1

ISSN 3030 -3907

Ilmiy jurnal OAK rayosatining 2024 yil 27 sentabrdagi 361-son qaroriga asosan 02.00.00 kimyo fanlari hamda 2025 yil 12 fevral 367- son qaroriga asosan 05.00.00 texnika fanlari bo‘yicha falsafa doktori (PhD) va fan doktori (DSc) ilmiy darajasiga talabgorlarning dissertatsiya ishlari yuzasidan dissertatsiyalari asosiy ilmiy natijalarini chop etish tavsiya etilgan milliy ilmiy nashrlar ro‘yxatiga kiritilgan.

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Tahririyat hay’ati a’zolarining tarkibini o‘zgartirish hamda qo‘shimcha kiritish yoki tahririyat a’zoligidan chiqarish bosh muharrir tomonidan amalga oshiriladi.

ISSN 3030-3907

Development of science ilmiy jurnali 2024 yil 15 aprel kuni №256445 sonli guvohnoma bilan Davlat ro‘yxatidan o‘tgan.

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ISSN 3030-3907

ENHANCING ENGLISH LANGUAGE TEACHERS' PROFESSIONAL DEVELOPMENT THROUGH PROBLEM-BASED LEARNING: A PEDAGOGICAL MODEL AND ITS COGNITIVE-AFFECTIVE IMPACT

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Abstract. This study explores the effectiveness of Problem-Based Learning (PBL) in enhancing the professional development of English language teachers. The research was conducted at the A. Avloniy National Institute for Pedagogical Skills in Tashkent, Uzbekistan, involving 82 in-service English teachers. Anchored in the constructivist paradigm, the study employed a quasi-experimental design using pre- and post-assessment tools, as well as qualitative instruments such as interviews and reflective journals. The findings demonstrate that PBL-based teacher development sessions significantly improved teachers' methodological competence, reflective thinking, and learner-centered instructional design. Teachers reported increased confidence in managing authentic learning tasks, employing scaffolding strategies, and integrating student engagement techniques. Furthermore, the study highlights the role of structured problem-solving cycles in fostering cognitive and affective outcomes, thereby promoting professional autonomy and adaptability among teachers. This research contributes to the growing body of knowledge on PBL in teacher education and suggests that incorporating problem-based modules into professional training programs can bridge the gap between theory and pedagogical practice. Practical recommendations are proposed for integrating PBL frameworks in continuous teacher development in language education contexts.

Keywords: Problem-Based Learning (PBL); English Language Teaching (ELT); Professional Development; Teacher Training; Reflective Practice; Scaffolding

Аннотация. Данное исследование направлено на изучение эффективности метода проблемно-ориентированного обучения (Problem-Based Learning – PBL) в развитии профессиональных компетенций учителей английского языка. Исследование было проведено в Национальном институте педагогического мастерства имени А. Авлони в г. Ташкент, Республика Узбекистан, с участием 82 действующих учителей английского языка. Теоретической основой исследования послужила конструктивистская парадигма. В работе использовался квазиэкспериментальный дизайн с применением пред- и посттестирования, а также качественных методов сбора данных, включая интервью и рефлексивные дневники. Результаты показали,

ISSN 3030-3907

что сессии повышения квалификации, основанные на PBL, существенно способствовали развитию методической компетентности, рефлексивного мышления и навыков проектирования обучения, ориентированного на учащегося. Учителя отметили повышение уверенности в управлении аутентичными учебными задачами, применении стратегий педагогического сопровождения (scaffolding), а также использовании технологий вовлечения учащихся в образовательный процесс. Кроме того, исследование подчеркивает роль структурированных циклов решения проблем в формировании когнитивных и аффективных результатов, что способствует развитию профессиональной автономии и адаптивности учителей. Работа вносит вклад в развитие научных исследований по применению PBL в педагогическом образовании и обосновывает целесообразность интеграции проблемно-ориентированных модулей в программы непрерывного профессионального развития. Предложены практические рекомендации по внедрению PBL-подходов в систему повышения квалификации учителей иностранных языков.

Ключевые слова: проблемно-ориентированное обучение (PBL); преподавание английского языка (ELT); профессиональное развитие; подготовка учителей; рефлексивная практика; педагогическое сопровождение (scaffolding).

Annotatsiya. Ushbu tadqiqot ingliz tili o‘qituvchilarining kasbiy rivojlanishini takomillashtirishda Muammoli Ta’lim (Problem-Based Learning – PBL) metodikasining samaradorligini o‘rganishga qaratilgan. Tadqiqot Toshkent shahridagi A. Avloniy nomidagi Pedagogik mahorat milliy institutida o‘tkazildi va unda 82 nafar amaliyotchi ingliz tili o‘qituvchilari ishtirok etdi. Tadqiqot konstruktivistik paradigma asosida tashkil etilib, kvazi-eksperimental dizayn qo‘llanildi. Ma’lumotlar oldindan va yakuniy baholash vositalari, shuningdek, intervyular va reflektiv kundaliklar kabi sifat tahlili instrumentlari orqali yig‘ildi. Natijalar shuni ko‘rsatdiki, PBL asosidagi malaka oshirish mashg‘ulotlari o‘qituvchilarning metodik kompetensiyasi, reflektiv tafakkuri hamda o‘quvchiga yo‘naltirilgan dars loyihalash ko‘nikmalarini sezilarli darajada rivojlantirdi. Ishtirokchilar autentik o‘quv vazifalarini boshqarish, skaffolding (qo‘llab-quvvatlovchi strategiyalar)dan foydalanish hamda o‘quvchilarning faolligini oshirish texnikalarini qo‘llash borasida o‘ziga bo‘lgan ishonchning ortganini ta’kidladilar. Shuningdek, tadqiqot strukturalashtirilgan muammo yechish sikllarining kognitiv va affektiv natijalarga ijobiy ta’sirini yoritadi hamda o‘qituvchilarda kasbiy avtonomiya va moslashuvchanlikni shakllantirishdagi ahamiyatini ko‘rsatadi. Mazkur tadqiqot o‘qituvchilar ta’limida PBLni qo‘llash

ISSN 3030-3907

bo‘yicha mavjud ilmiy adabiyotlarni boyitadi hamda uzluksiz kasbiy rivojlanish dasturlariga muammoli modul va yondashuvlarni integratsiya qilish nazariya va amaliyot o‘rtasidagi tafovutni kamaytirishga xizmat qilishini asoslaydi. Til ta’limi kontekstida PBL asosidagi modelni joriy etish bo‘yicha amaliy tavsiyalar ham ishlab chiqildi.

Kalit so‘zlar: muammoli ta’lim (PBL); ingliz tilini o‘qitish (ELT); kasbiy rivojlanish; o‘qituvchilarni tayyorlash; reflektiv amaliyot; pedagogik qo‘llab-quvvatlash (scaffolding).

1. INTRODUCTION

The evolving landscape of education in the 21st century has placed increasing demands on teachers to shift from traditional knowledge transmission to learner-centered, inquiry-driven methodologies. English language teachers, in particular, face the challenge of equipping students with communication skills, critical thinking, and intercultural awareness in a globalized world. This requires continuous professional development that not only enhances linguistic and methodological competence but also fosters adaptive and reflective teaching practices.

Problem-Based Learning (PBL), grounded in constructivist theory, offers a powerful framework for developing these competencies by engaging teachers in solving authentic, complex problems that mirror real-life teaching scenarios. While PBL has been widely used in student learning contexts, its application in teacher education, especially for in-service English language teachers, remains underexplored. This study addresses this gap by examining the impact of a PBL-based professional development program implemented at the A. Avloniy National Institute for Pedagogical Skills in Tashkent, Uzbekistan. Involving 82 in-service English language teachers, the program was designed to simulate practical teaching dilemmas and encourage collaborative inquiry, critical reflection, and active solution-building.

The central aim of this research is to evaluate how problem-based learning influences both the cognitive (knowledge, skills) and affective (attitudes, motivation) domains of teacher development. By doing so, it contributes to ongoing discussions on innovative pedagogical approaches in teacher education and offers actionable insights for policymakers, educators, and training institutions.

2. LITERATURE REVIEW

Problem-Based Learning (PBL) emphasizes active, student-centered learning through the exploration and resolution of real-life problems, making it a highly appropriate model for preparing educators to address complex classroom dynamics and instructional challenges [1]. Savery and Duffy conceptualized PBL

ISSN 3030-3907

as a constructivist instructional approach in which learners actively construct knowledge through engagement with meaningful problems rather than through passive reception of information [2]. Similarly, Barrows (1986), one of the pioneers of PBL, argued that authentic problem situations stimulate inquiry, critical reasoning, and self-directed learning, thereby promoting deeper understanding and long-term knowledge retention.

In the context of English Language Teaching (ELT), PBL supports the development of essential competencies such as communicative competence, problem-solving ability, and collaborative learning skills [2]. The approach aligns closely with the principles of Communicative Language Teaching (CLT), which emphasizes meaningful interaction and real-life communication as the basis for language acquisition. Richards (2008) notes that effective speaking instruction requires opportunities for extended discourse, justification of opinions, and interactional negotiation — all of which are naturally embedded in PBL tasks. Thornbury (2005) further emphasizes that speaking proficiency develops most effectively when learners engage in cognitively demanding activities that require them to organize ideas, provide arguments, and respond spontaneously.

Researchers have also argued that PBL environments enhance teachers' metacognitive awareness and facilitate the transfer of theoretical knowledge into practical classroom applications [4][5]. Such environments encourage reflective practice and provide opportunities for scaffolding — a key instructional strategy within both constructivist and sociocultural theories of learning. Hmelo-Silver (2004) highlights that PBL promotes inquiry, reflection, and metacognitive regulation, transforming learners from passive recipients of knowledge into active problem solvers.

Evidence from in-service teacher training programs indicates that integrating PBL can significantly improve instructional planning, increase motivation for continuous professional learning, and strengthen classroom management competencies [6]. Darling-Hammond et al. (2017) emphasize that effective professional development should be collaborative, practice-oriented, and reflective — characteristics that closely correspond to PBL frameworks. Furthermore, recent studies highlight the growing importance of digital technologies in supporting PBL environments, particularly in the post-pandemic context of hybrid and online education [7]. Technology-enhanced PBL enables access to authentic resources, supports collaboration, and facilitates flexible learning pathways.

Alongside international scholarship, local researchers have also examined the pedagogical potential of problem-based and innovative teaching approaches. Azizkhojayeva, in her work on pedagogical technologies, provides a

ISSN 3030-3907

comprehensive analysis of problem-based instruction, emphasizing the importance of creating problem situations to activate learners' cognitive engagement and prevent passive learning. She argues that incorporating problem elements into lectures significantly enhances pedagogical effectiveness by stimulating students' thinking and participation. This perspective demonstrates the practical relevance of PBL principles for teacher professional development in local educational contexts. [8].

Similarly, Farmanova has developed advanced practices for improving the effectiveness of English language teaching through the integration of information and communication technologies in the Bukhara region. Implemented in accordance with national educational reforms, this experience illustrates how modern pedagogical and technological tools can support interactive and learner-centered instruction. Shodmonova (2023) also explored contemporary approaches to teaching professional English, highlighting the effectiveness of the CLIL (Content and Language Integrated Learning) approach. Although distinct from PBL, CLIL shares several underlying principles, including contextualized learning, active engagement, and integration of content with language use. [9]. Despite the recognized benefits of PBL, its application within ELT professional development remains limited, particularly in Central Asian and post-Soviet educational contexts. In Uzbekistan, the integration of innovative pedagogies into teacher training has become a strategic priority; however, empirical evidence regarding their effectiveness is still insufficient. This gap underscores the importance of the present study, which seeks to empirically evaluate the effectiveness of a PBL-based framework for the continuous professional development of English language teachers within Uzbekistan's evolving educational system, with particular relevance to advanced speaking instruction such as tasks similar to IELTS Speaking Part 3.

3. METHODOLOGY

This study employed a convergent mixed-methods design to examine the impact of Problem-Based Learning (PBL) on the professional development of in-service English language teachers. The research was conducted at the A. Avloniy National Institute for Pedagogical Skills (Tashkent, Uzbekistan) between February and May 2025.

PARTICIPANTS

The sample consisted of 82 in-service English language teachers selected through convenience sampling. Participants represented diverse regions of Uzbekistan and were enrolled in a structured professional development program. Prior to participation, informed consent was obtained.

ISSN 3030-3907

RESEARCH DESIGN

A quasi-experimental one-group pre-test/post-test design was implemented. While no control group was included, internal validity was strengthened through standardized procedures and consistent facilitation across sessions.

Professional Competence Survey

A 24-item Likert-scale instrument measuring: Lesson planning competence,Reflective practice,Learner-centered strategy implementation,Digital integration skills Reliability analysis yielded Cronbach's alpha = .89, indicating high internal consistency.

Reflective Journals. Weekly structured reflection prompts were used to capture metacognitive development and affective shifts.

Semi-Structured Interviews. Fifteen participants were purposively selected for in-depth interviews to explore professional identity transformation.

Procedure

Participants engaged in an 8-week structured PBL program organized around a seven-stage problem-solving cycle:

1. Problem presentation
2. Clarification of concepts
3. Identification of learning needs
4. Independent inquiry
5. Collaborative synthesis
6. Solution presentation
7. Reflective evaluation

Sessions were scaffolded by trained facilitators to ensure gradual autonomy development.

Data Analysis

Quantitative data were analyzed using paired-sample t-tests. Effect sizes (Cohen's d) were calculated to determine practical significance.

Qualitative data were analyzed using thematic coding supported by iterative cross-validation.

Methodological triangulation enhanced credibility and confirmability of findings.

4. FINDINGS (REVISED)

Quantitative results demonstrated statistically significant improvements in:

- Lesson planning competence ($t(81) = 4.82$, $p < .001$, $d = .73$)
- Learner-centered strategy awareness ($t(81) = 3.95$, $p < .01$, $d = .61$)
- Digital pedagogical confidence ($t(81) = 3.42$, $p < .05$, $d = .52$)

These results indicate medium-to-large effect sizes.

Qualitative findings revealed three major themes:

ISSN 3030-3907

1. Shift toward problem-oriented lesson design
2. Increased metacognitive awareness
3. Strengthened professional identity

Participants reported greater confidence in addressing authentic classroom challenges and engaging in pedagogical dialogue.

5. DISCUSSION

The findings support constructivist theory and align with Vygotsky's Zone of Proximal Development framework. Scaffolded inquiry facilitated gradual internalization of complex pedagogical concepts.

The results corroborate prior research (Hmelo-Silver, 2004; Darling-Hammond et al., 2017), confirming that PBL enhances both cognitive and affective domains of teacher development.

Importantly, the study contributes empirical evidence from a post-Soviet educational context, where traditional lecture-based professional development remains dominant.

However, the absence of a control group limits causal generalizability. Future research should employ randomized controlled trials to validate these findings.

Overall, the discussion supports the argument that PBL is a viable and impactful approach to in-service teacher education, particularly in settings where traditional training models dominate. The results contribute to existing literature by offering empirical evidence from a post-Soviet context and emphasizing the dual cognitive-affective outcomes of PBL-based teacher development.

5. CONCLUSION AND IMPLICATIONS

This study demonstrates that Problem-Based Learning (PBL) is an effective and sustainable approach for enhancing the professional development of English language teachers. By engaging educators in authentic, reflective, and collaborative problem-solving tasks, PBL fosters the development of both cognitive competencies—such as lesson planning, classroom management, and technological integration—and affective attributes, including professional motivation, self-efficacy, and adaptive teaching attitudes. The research conducted at the A. Avloniy National Institute for Pedagogical Skills confirms that structured PBL training not only improves individual teacher performance but also contributes to a broader transformation of instructional culture. The integration of scaffolding strategies within the PBL framework proved instrumental in supporting teachers' transition from traditional methods to more innovative, student-centered pedagogies.

Practical Implications:

ISSN 3030-3907

1. Teacher training institutions should integrate PBL modules into their in-service development programs to cultivate reflective and autonomous practitioners.
2. Curriculum designers are encouraged to include real-life teaching dilemmas and collaborative tasks that mirror classroom realities.
3. Educational policymakers should consider scaling PBL-based initiatives to promote system-wide innovation in teaching practices.

Future Research: Additional longitudinal studies are recommended to track the long-term impact of PBL on teaching efficacy and student learning outcomes. Comparative research between PBL and other models (e.g., inquiry-based learning or flipped classrooms) could provide further insights into context-specific adaptations in diverse educational settings.

In sum, PBL holds significant promise for reshaping the professional identity and instructional capacity of English language teachers, particularly in regions like Central Asia where educational reform is both a challenge and a necessity.

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