



## **RECONCEPTUALIZING PROJECT-BASED LANGUAGE LEARNING: A COMPARATIVE ANALYSIS OF DEEP, MEANINGFUL, AND JOYFUL LEARNING APPROACHES**

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**Abstract:** Project-Based Language Learning (PBL) has emerged as an innovative pedagogical approach that promotes authentic learning, student engagement, and the development of twenty-first-century competencies. Despite extensive research on PBL, limited studies have systematically compared the learning paradigms that underpin its effectiveness. This study aims to examine PBL through the comparative perspectives of Deep Learning, Meaningful Learning, and Joyful Learning and to explore their contributions to language learning and competency development. Employing a qualitative library research design and a comparative conceptual literature review approach, the study analyzed scholarly literature published between 2020 and 2025 concerning PBL, Deep Learning, Meaningful Learning, Joyful Learning, and twenty-first-century education. The findings indicate that Deep Learning strengthens cognitive engagement through critical thinking, inquiry, reflection, and knowledge transfer. Meaningful Learning enhances knowledge construction by connecting new information with prior experiences and authentic contexts. Joyful Learning promotes emotional engagement, intrinsic motivation, curiosity, and sustained participation. The analysis further reveals that no single paradigm sufficiently explains PBL effectiveness. Therefore, this study proposes an Integrated PBL Framework that combines cognitive, constructive, and affective dimensions into a holistic model for project-based language learning. The framework demonstrates that the integration of Deep Learning, Meaningful Learning, and Joyful Learning can support language acquisition while fostering critical thinking, communication, collaboration, creativity, adaptability, and lifelong learning. The study contributes a novel conceptual perspective for understanding PBL and offers practical implications for designing more holistic learning environments.

**Keywords:** Project-Based Language Learning; Deep Learning; Meaningful Learning; Joyful Learning; Student Engagement; Twenty-First-Century Competencies.

### **INTRODUCTION:**

The rapid transformation of education in the twenty-first century has generated increasing demands for learning models capable of fostering not only academic achievement but also higher-order thinking, learner engagement, creativity, collaboration, and adaptability. Global educational



organizations have emphasized that contemporary education should equip learners with transferable competencies that enable them to navigate increasingly complex social, technological, and cultural environments. The OECD Learning Compass 2030 highlights the importance of cultivating knowledge, skills, attitudes, and values that support lifelong learning and responsible participation in society (OECD, 2021). Similarly, UNESCO (2021) argues that educational systems must be reimagined to respond to emerging societal challenges through more inclusive, participatory, and meaningful learning experiences. Within this context, language education has also undergone significant transformation. Traditional teacher-centered approaches that focus primarily on content transmission are increasingly considered insufficient for preparing students to communicate effectively, solve authentic problems, and engage in collaborative knowledge construction. Consequently, innovative pedagogical approaches have gained prominence in efforts to create learning environments that are more engaging, authentic, and relevant to students' real-world experiences. Among these approaches, Project-Based Language Learning (PBL) has emerged as one of the most widely discussed frameworks for promoting active participation and meaningful language use. The growing interest in PBL reflects broader educational efforts to align language learning with contemporary expectations regarding learner autonomy, critical thinking, and practical application of knowledge.

Project-Based Language Learning derives from the broader tradition of project-based learning, which emphasizes inquiry, collaboration, authentic tasks, and the production of meaningful outcomes. Research consistently demonstrates that project-based learning positively influences students' academic performance, motivation, problem-solving abilities, and collaborative competencies (Guo et al., 2020; Chen & Yang, 2023). Markula and Aksela (2022) identify learner-centered inquiry, authentic challenges, collaboration, and reflection as defining characteristics of successful project implementation. Within language education specifically, PBL provides opportunities for learners to engage in meaningful communication while addressing real-world issues and producing tangible outputs. A systematic review conducted by Zhang et al. (2023) indicates that PBL contributes positively to language proficiency, communicative competence, learner motivation, and collaborative learning. Similarly, Torres and Rodriguez (2024) report that project-based approaches facilitate language acquisition by integrating language use with authentic social interaction and contextualized learning experiences. These findings suggest that PBL has substantial potential to support contemporary educational goals. However, despite widespread agreement regarding its benefits, significant variation remains in how PBL is conceptualized and implemented across educational contexts. Different pedagogical philosophies may influence the effectiveness of PBL by shaping learner engagement, cognitive processing, emotional involvement, and knowledge construction processes. Therefore, a deeper theoretical understanding of learning paradigms underpinning PBL implementation is necessary.

One perspective receiving increasing attention in contemporary educational discourse is Deep Learning. Unlike surface learning approaches that emphasize memorization and reproduction of information, Deep Learning encourages learners to engage critically with knowledge, establish conceptual connections, and apply understanding to novel situations. Darling-Hammond et al.



(2020) emphasize that educational practices grounded in learning sciences should promote deeper cognitive engagement, transferable understanding, and integrated developmental outcomes. Kovač and Makovec (2023) further argue that Deep Learning encompasses not only cognitive complexity but also the ability to connect ideas, reflect critically, and generate meaningful interpretations of information. Recent studies have demonstrated the importance of student engagement in fostering deep learning outcomes, particularly within technology-enhanced educational environments (Bergdahl et al., 2024; Zhong et al., 2025). Furthermore, the successful implementation of Deep Learning pedagogy depends significantly on teachers' beliefs, instructional design, and professional development opportunities (Fitrah et al., 2025). In the context of PBL, Deep Learning offers a framework through which students can investigate authentic problems, construct knowledge collaboratively, and develop transferable competencies. Nevertheless, while Deep Learning emphasizes cognitive depth and conceptual understanding, questions remain regarding whether cognitive engagement alone is sufficient to maximize learning effectiveness in language education settings.

A second influential framework is Meaningful Learning, which originates from Ausubel's theory emphasizing the integration of new knowledge into existing cognitive structures. Meaningful Learning occurs when learners actively connect new information with prior experiences, resulting in deeper understanding and long-term retention. Bryce et al. (2024) argue that Meaningful Learning remains highly relevant in contemporary higher education because it facilitates knowledge integration and conceptual coherence. Similarly, Ferreira (2022) highlights its importance in supporting scientific understanding and meaningful knowledge construction. Research further demonstrates that student engagement, experiential learning, and intrinsic motivation play central roles in achieving meaningful learning outcomes (Kong, 2021; Xu et al., 2023). In digital educational environments, concept mapping and other knowledge organization strategies have also been shown to facilitate meaningful learning processes (Cañas & Novak, 2021). Within PBL contexts, Meaningful Learning provides theoretical justification for connecting project activities with students' prior knowledge, personal experiences, and authentic learning goals. Through such connections, learners may perceive educational activities as more relevant and valuable. However, although Meaningful Learning emphasizes cognitive integration and relevance, it pays comparatively less attention to emotional dimensions that may influence learner motivation and sustained participation throughout project activities.

The growing recognition of emotional factors in learning has led to increasing interest in Joyful Learning as an educational paradigm. Joyful Learning emphasizes positive emotions, curiosity, engagement, and intrinsic satisfaction as essential components of effective learning experiences. Cronqvist (2021) argues that learners experience joy when they recognize both personal growth and successful learning achievement. From the perspective of Self-Determination Theory, intrinsic motivation emerges when learners experience autonomy, competence, and relatedness within educational settings (Ryan & Deci, 2020). Positive emotional experiences have also been associated with improved learning outcomes, increased persistence, and stronger academic engagement (Pekrun, 2021). Within language education, joyful learning environments have been



found to enhance motivation and participation among students (Rahmawati, 2024). More recently, Salong et al. (2025) proposed integrating mindful, meaningful, and joyful learning dimensions to strengthen learner engagement. Similarly, the Frontiers Research Topic Editorial Team (2025) emphasizes the importance of reclaiming curiosity, engagement, and meaning within educational practice. In PBL contexts, Joyful Learning may contribute to sustaining student interest and reducing learning anxiety, particularly in language learning environments where communication apprehension can negatively affect participation. Nevertheless, the relationship between Joyful Learning and broader educational outcomes remains insufficiently understood when compared with more established frameworks such as Deep Learning and Meaningful Learning.

The coexistence of Deep Learning, Meaningful Learning, and Joyful Learning within contemporary educational discourse reflects an important theoretical development. Each framework addresses different dimensions of the learning process. Deep Learning focuses primarily on cognitive complexity and conceptual understanding. Meaningful Learning emphasizes knowledge integration and personal relevance. Joyful Learning highlights emotional engagement and intrinsic motivation. Although all three approaches seek to improve educational quality, they differ substantially in their assumptions regarding how learning occurs and what constitutes effective educational outcomes. Existing studies tend to examine these frameworks independently rather than comparatively. Research on PBL frequently focuses on overall effectiveness, implementation strategies, learner outcomes, or language acquisition benefits (Guo et al., 2020; Zhang et al., 2023; Torres & Rodriguez, 2024). Similarly, studies investigating Deep Learning, Meaningful Learning, or Joyful Learning often concentrate on specific educational contexts without examining how these paradigms compare when applied to project-based language education. Consequently, educators and researchers lack a comprehensive theoretical understanding of the relative strengths and limitations of these approaches within PBL environments.

This limitation becomes increasingly significant given contemporary demands for twenty-first-century competencies. Educational systems are expected to cultivate critical thinking, collaboration, creativity, communication, adaptability, and lifelong learning capacities (Voogt & Roblin, 2021; Kim et al., 2022). Transferable knowledge and skills have become central indicators of educational quality and effectiveness (Pellegrino & Hilton, 2021). At the same time, digital transformation continues to reshape learning environments, creating new opportunities and challenges for student engagement and knowledge development (Romero & Ventura, 2024; Maksimova, 2022; Pinto & Paquette, 2024). Technology-enhanced learning environments further highlight the importance of maintaining cognitive, emotional, and behavioral engagement among learners (Bergdahl et al., 2024). Given these developments, understanding how different learning paradigms contribute to PBL effectiveness is both theoretically and practically important. A comparative analysis may help identify which dimensions of learning are most strongly associated with successful project-based language learning experiences and competency development in contemporary educational settings.



Despite the growing body of literature on PBL, Deep Learning, Meaningful Learning, and Joyful Learning, a clear research gap remains. Existing scholarship has extensively documented the benefits of PBL and separately explored the characteristics of each learning paradigm. However, there is limited literature that systematically compares Deep Learning, Meaningful Learning, and Joyful Learning as theoretical lenses for understanding PBL effectiveness. Furthermore, little attention has been devoted to examining how these frameworks collectively contribute to learner engagement, language acquisition, and the development of twenty-first-century competencies. The novelty of this study lies in its integrative and comparative perspective. Rather than investigating a single learning paradigm, this study synthesizes literature across three influential educational frameworks and evaluates their relevance to PBL. By identifying convergences, distinctions, strengths, and limitations among these approaches, the study contributes to the development of a more comprehensive conceptual framework for project-based language education. Therefore, this library research aims to compare the effectiveness of Deep Learning, Meaningful Learning, and Joyful Learning within PBL contexts and to examine their implications for student engagement, language development, and twenty-first-century competency formation. The guiding research question of this study is: How do Deep Learning, Meaningful Learning, and Joyful Learning differ in supporting the effectiveness of Project-Based Language Learning and the development of twenty-first-century competencies?

## **METHODOLOGY:**

### **Research Design**

This study employed a qualitative library research design using a comparative conceptual literature review approach. Library research was selected because the primary objective of the study was not to generate empirical findings from field observations but to synthesize, analyze, and compare existing scholarly knowledge regarding the effectiveness of Project-Based Language Learning (PBL) when examined through the perspectives of Deep Learning, Meaningful Learning, and Joyful Learning. A qualitative approach was considered appropriate because the study sought to explore conceptual relationships, theoretical assumptions, pedagogical implications, and emerging patterns across diverse bodies of literature. Rather than measuring causal relationships quantitatively, this research focused on interpreting and comparing educational concepts that have influenced contemporary discussions on student engagement, language learning, and twenty-first-century competency development.

The study adopted a comparative conceptual review framework. This approach enabled the researchers to critically examine similarities, differences, strengths, and limitations among three major learning paradigms that are increasingly discussed in contemporary educational literature. The comparative orientation was particularly important because previous studies have predominantly examined Deep Learning, Meaningful Learning, and Joyful Learning independently, while limited attention has been given to understanding their interconnected roles within PBL environments. Therefore, the present study aimed to generate a comprehensive theoretical understanding of how these learning paradigms contribute to the effectiveness of project-based language education.



### **Data Sources and Literature Selection**

The primary data for this study consisted of scholarly publications obtained from internationally recognized academic sources. The literature corpus was developed from peer-reviewed journal articles, review papers, theoretical studies, and international policy documents related to Project-Based Learning, Project-Based Language Learning, Deep Learning, Meaningful Learning, Joyful Learning, student engagement, and twenty-first-century competencies. The selected literature was published between 2020 and 2025 to ensure relevance to current educational developments and contemporary pedagogical debates.

The literature selection process followed purposive sampling principles commonly employed in qualitative library research. Sources were selected based on four criteria. First, publications had to be directly related to at least one of the core concepts investigated in this study: PBLL, Deep Learning, Meaningful Learning, or Joyful Learning. Second, studies needed to provide theoretical, conceptual, empirical, or review-based insights into educational effectiveness, learner engagement, motivation, language acquisition, or competency development. Third, publications had to originate from reputable academic journals, international publishers, or recognized educational organizations. Fourth, documents needed to contribute meaningful evidence relevant to understanding contemporary educational transformation and twenty-first-century learning demands.

A total of twenty-eight key references formed the primary analytical corpus. These references included systematic reviews, meta-analyses, conceptual papers, empirical investigations, and policy reports from organizations such as OECD and UNESCO. The inclusion of diverse literature sources allowed for a comprehensive examination of educational theories and practices across multiple contexts.

### **Data Collection Procedures**

Data collection was conducted through systematic document identification, screening, organization, and extraction. During the first stage, relevant literature was identified based on keywords associated with Project-Based Language Learning, Deep Learning, Meaningful Learning, Joyful Learning, student engagement, educational transformation, and twenty-first-century competencies. During the second stage, identified publications were screened to determine their relevance to the research objectives. Publications that did not contribute directly to the conceptual understanding of the investigated constructs were excluded from further analysis.

The third stage involved document organization. Selected articles were categorized into five thematic groups: (1) Project-Based Language Learning, (2) Deep Learning, (3) Meaningful Learning, (4) Joyful Learning, and (5) Twenty-First-Century Competencies and Learning Culture. This thematic categorization facilitated systematic comparison across different theoretical traditions. During the fourth stage, key information from each publication was extracted and recorded. The extracted information included theoretical foundations, definitions, pedagogical principles, learner outcomes, engagement indicators, motivational dimensions, competency development implications, and identified limitations.



### **Data Analysis**

Data analysis followed qualitative thematic analysis procedures. The analytical process began with repeated reading of all selected documents to develop a comprehensive understanding of the literature. Through iterative reading, important concepts, recurring themes, and theoretical arguments were identified and coded. The coding process focused on dimensions that were directly relevant to PBL effectiveness, including cognitive engagement, knowledge construction, learner motivation, emotional involvement, collaboration, communication, and transferable skill development.

Following coding, thematic categories were developed to capture major patterns across the literature. Themes emerging from the Deep Learning literature were compared with themes identified in Meaningful Learning and Joyful Learning studies. This comparative process enabled the identification of both convergent and divergent perspectives regarding educational effectiveness. Particular attention was given to how each learning paradigm conceptualized student engagement, learning processes, instructional design, and educational outcomes within project-based environments.

The final stage involved cross-theoretical synthesis. Rather than treating the three learning paradigms as isolated constructs, the analysis explored their potential complementarities and collective contributions to PBL effectiveness. Findings from the thematic comparison were interpreted in relation to broader educational goals articulated by OECD (2021) and UNESCO (2021), particularly those concerning learner agency, lifelong learning, and twenty-first-century competencies. Through this synthesis, an integrative conceptual framework was developed to explain how cognitive, constructive, and affective dimensions interact within PBL contexts.

### **Trustworthiness and Research Rigor**

To enhance the trustworthiness of the study, several strategies were employed. First, the analysis drew upon diverse types of scholarly evidence, including meta-analyses, systematic reviews, theoretical papers, empirical studies, and international educational policy reports. Second, thematic comparisons were conducted across multiple sources rather than relying on single studies, thereby reducing interpretive bias. Third, the analytical process maintained transparency by clearly documenting literature selection criteria, thematic categorization procedures, and synthesis strategies. Finally, triangulation was achieved through the integration of literature from different educational perspectives, allowing for a richer and more balanced interpretation of PBL effectiveness.

Through these procedures, the study sought to provide a rigorous and comprehensive conceptual analysis of the comparative effectiveness of Deep Learning, Meaningful Learning, and Joyful Learning within Project-Based Language Learning environments and their implications for twenty-first-century education.



## **RESULTS AND DISCUSSION:**

### **Overview of the Literature**

The literature reviewed in this study consistently demonstrates that Project-Based Language Learning (PBL) has become an influential pedagogical approach in contemporary education. Across diverse educational contexts, PBL is associated with improved learner engagement, authentic language use, collaborative problem-solving, and the development of transferable competencies. The reviewed studies further reveal that the effectiveness of PBL is strongly influenced by the learning paradigm underpinning instructional design and classroom implementation. Three paradigms emerge prominently within the literature: Deep Learning, Meaningful Learning, and Joyful Learning. Although these approaches share the common objective of improving learning quality, they emphasize different dimensions of the learning process. Deep Learning primarily focuses on cognitive complexity and conceptual understanding, Meaningful Learning emphasizes knowledge integration and personal relevance, while Joyful Learning highlights emotional engagement and intrinsic motivation. The comparative analysis identified distinct contributions, strengths, and limitations associated with each paradigm when applied to PBL environments.

### **PBL as a Foundation for Contemporary Language Learning**

The reviewed literature indicates broad consensus regarding the educational value of project-based approaches. Guo et al. (2020) report that project-based learning contributes positively to academic achievement, learner motivation, collaboration, and problem-solving skills. Similarly, Chen and Yang (2023), through a meta-analysis, found that project-based learning generates significant positive effects on student academic outcomes across educational levels and disciplines.

Within language education, PBL extends these benefits by integrating authentic communication with project activities. Zhang et al. (2023) identify several recurring outcomes associated with PBL implementation, including enhanced language proficiency, increased learner autonomy, stronger communicative competence, and improved collaborative learning. Torres and Rodriguez (2024) further demonstrate that project-based activities facilitate language acquisition by creating opportunities for meaningful interaction and contextualized language use.

The literature also identifies several core characteristics of effective PBL implementation. According to Markula and Aksela (2022), successful projects typically involve authentic tasks, student-centered inquiry, collaboration, reflection, and the production of meaningful outputs. These characteristics align closely with contemporary educational priorities emphasizing active learning and competency development. However, despite widespread agreement regarding PBL effectiveness, the literature suggests that educational outcomes vary depending on the pedagogical framework used to guide project implementation. This observation provides the foundation for comparing Deep Learning, Meaningful Learning, and Joyful Learning within PBL contexts.



### **Deep Learning as a Cognitive Dimension of PBL**

The literature characterizes Deep Learning as a learning paradigm centered on conceptual understanding, critical thinking, knowledge transfer, and higher-order cognitive engagement. Rather than encouraging superficial memorization, Deep Learning promotes active inquiry, reflection, analysis, and problem-solving.

Darling-Hammond et al. (2020) emphasize that deep learning experiences emerge when students engage with complex problems requiring sustained intellectual effort and meaningful application of knowledge. Kovač and Makovec (2023) further identify conceptual integration, critical reflection, and knowledge transfer as defining features of Deep Learning.

Within PBL environments, Deep Learning appears particularly compatible with project activities requiring investigation, analysis, and problem-solving. Students participating in project-based tasks are often required to evaluate information, construct arguments, synthesize knowledge from multiple sources, and apply language skills to authentic situations. Such activities support the development of deep cognitive engagement.

The reviewed studies also demonstrate a strong relationship between student engagement and deep learning outcomes. Bergdahl, Nouri, and Fors (2024) report that active engagement in technology-enhanced learning environments significantly contributes to deeper learning experiences. Similarly, Zhong, Li, and Zhao (2025) found that higher levels of learning engagement are associated with stronger deep learning outcomes among university students.

Despite these strengths, the literature identifies several limitations. Deep Learning often requires substantial instructional support, sophisticated pedagogical design, and well-prepared teachers. Fitrah, Rahman, and Abdullah (2025) note that successful implementation depends heavily on teacher readiness, pedagogical beliefs, and professional development opportunities. Furthermore, excessive emphasis on cognitive rigor may sometimes overlook emotional and motivational factors influencing student participation.

The findings therefore suggest that Deep Learning contributes significantly to PBL effectiveness through cognitive enhancement, conceptual understanding, critical thinking, and knowledge transfer. Its primary strength lies in developing intellectual competencies required for twenty-first-century learning.

### **Meaningful Learning as a Constructive Dimension of PBL**

The second major finding concerns the role of Meaningful Learning within PBL environments. The literature consistently portrays Meaningful Learning as a process through which learners connect new knowledge to existing cognitive structures, personal experiences, and authentic contexts.

Bryce, Day, and McMillan (2024) argue that meaningful learning remains highly relevant because it supports conceptual coherence and long-term knowledge retention. Ferreira (2022) similarly emphasizes that meaningful learning enables students to construct deeper understanding by integrating new information with prior knowledge.



Within PBL contexts, Meaningful Learning emerges when project activities are perceived as relevant, authentic, and personally significant. Students are more likely to engage deeply with learning tasks when they understand their purpose and recognize connections between academic content and real-life experiences.

Kong (2021) identifies experiential learning, engagement, and motivation as critical contributors to meaningful learning outcomes. Xu, Li, and Chen (2023) further demonstrate that meaningful learning is strongly associated with active student engagement and improved educational outcomes in higher education settings.

The literature also highlights the importance of knowledge organization strategies. Cañas and Novak (2021) show that concept mapping supports meaningful learning by helping students establish relationships among concepts and organize knowledge structures effectively. Such strategies are particularly valuable within project-based environments where learners encounter diverse information sources and complex tasks.

Compared with Deep Learning, Meaningful Learning places greater emphasis on relevance and personal connection. While Deep Learning prioritizes cognitive depth, Meaningful Learning focuses on the quality of knowledge construction and integration. The findings suggest that Meaningful Learning enhances PBL effectiveness by strengthening understanding, retention, contextual relevance, and learner ownership of knowledge.

However, the literature also indicates certain limitations. Although Meaningful Learning promotes knowledge integration, it provides less explicit attention to emotional engagement and positive affective experiences. Consequently, meaningful understanding does not automatically guarantee sustained motivation or enjoyment.

### **Joyful Learning as an Affective Dimension of PBL**

The third major finding concerns the role of Joyful Learning in enhancing PBL effectiveness. Unlike Deep Learning and Meaningful Learning, Joyful Learning focuses primarily on emotional engagement, curiosity, enjoyment, and intrinsic motivation.

Cronqvist (2021) argues that joy emerges when learners experience both positive emotions and a sense of successful learning. This perspective aligns closely with Self-Determination Theory, which identifies autonomy, competence, and relatedness as fundamental psychological needs supporting intrinsic motivation (Ryan & Deci, 2020).

The reviewed literature consistently indicates that positive emotions contribute significantly to learning outcomes. Pekrun (2021) demonstrates that achievement emotions influence attention, persistence, motivation, and academic performance. Students who experience enjoyment during learning activities are more likely to remain engaged, participate actively, and sustain effort over time.

Within language education, Joyful Learning appears particularly important because language learning often involves anxiety, communication apprehension, and fear of making mistakes. Rahmawati (2024) reports that joyful learning environments increase student motivation and participation in English language classrooms.



The literature further suggests that Joyful Learning may enhance PBL by creating supportive and motivating learning environments. Project activities often involve creativity, collaboration, exploration, and authentic communication, all of which can foster positive emotional experiences. Salong, Arifin, and Hamzah (2025) argue that integrating meaningful and joyful learning dimensions strengthens student engagement and learning effectiveness.

The Frontiers Research Topic Editorial Team (2025) similarly emphasizes the importance of reclaiming curiosity, engagement, and meaning within contemporary education. These findings indicate that Joyful Learning contributes to PBL effectiveness by promoting motivation, emotional well-being, participation, and persistence.

Nevertheless, Joyful Learning also presents certain limitations. The literature suggests that enjoyment alone does not necessarily ensure conceptual depth or rigorous knowledge construction. Consequently, emotionally positive experiences must be complemented by cognitively challenging and meaningful learning activities.

### Comparative Analysis of the Three Learning Paradigms

Table 1 summarizes the major characteristics identified through the comparative literature analysis.

Table 1. Comparative Characteristics of Deep Learning, Meaningful Learning, and Joyful Learning in PBL

| Dimension           | Deep Learning                      | Meaningful Learning                 | Joyful Learning                      |
|---------------------|------------------------------------|-------------------------------------|--------------------------------------|
| Primary Focus       | Cognitive depth                    | Knowledge construction              | Emotional engagement                 |
| Core Objective      | Critical understanding             | Meaningful understanding            | Learning enjoyment                   |
| Key Processes       | Analysis, reflection, transfer     | Integration, relevance, connection  | Curiosity, motivation, participation |
| Student Role        | Investigator                       | Knowledge constructor               | Active participant                   |
| Major Outcomes      | Critical thinking, problem-solving | Retention, understanding, relevance | Motivation, engagement, persistence  |
| Main Strength       | Intellectual development           | Conceptual integration              | Emotional involvement                |
| Main Limitation     | May overlook emotions              | Limited focus on enjoyment          | May lack cognitive rigor             |
| Contribution to PBL | Cognitive dimension                | Constructive dimension              | Affective dimension                  |

### Development of an Integrated PBL Framework

One of the most significant findings emerging from the literature synthesis is that no single paradigm fully captures the complexity of effective project-based language learning. Instead, the evidence suggests that Deep Learning, Meaningful Learning, and Joyful Learning should be viewed as complementary rather than competing approaches.



The comparative analysis reveals three interconnected dimensions of PBL effectiveness:

1. Cognitive Dimension (Deep Learning)  
Supports critical thinking, inquiry, analysis, and knowledge transfer.
2. Constructive Dimension (Meaningful Learning)  
Supports knowledge integration, relevance, contextual understanding, and long-term retention.
3. Affective Dimension (Joyful Learning)  
Supports motivation, curiosity, emotional engagement, and sustained participation.

Based on these findings, this study proposes an Integrated PBL Framework consisting of Cognitive, Constructive, and Affective dimensions operating simultaneously within project-based language learning environments.

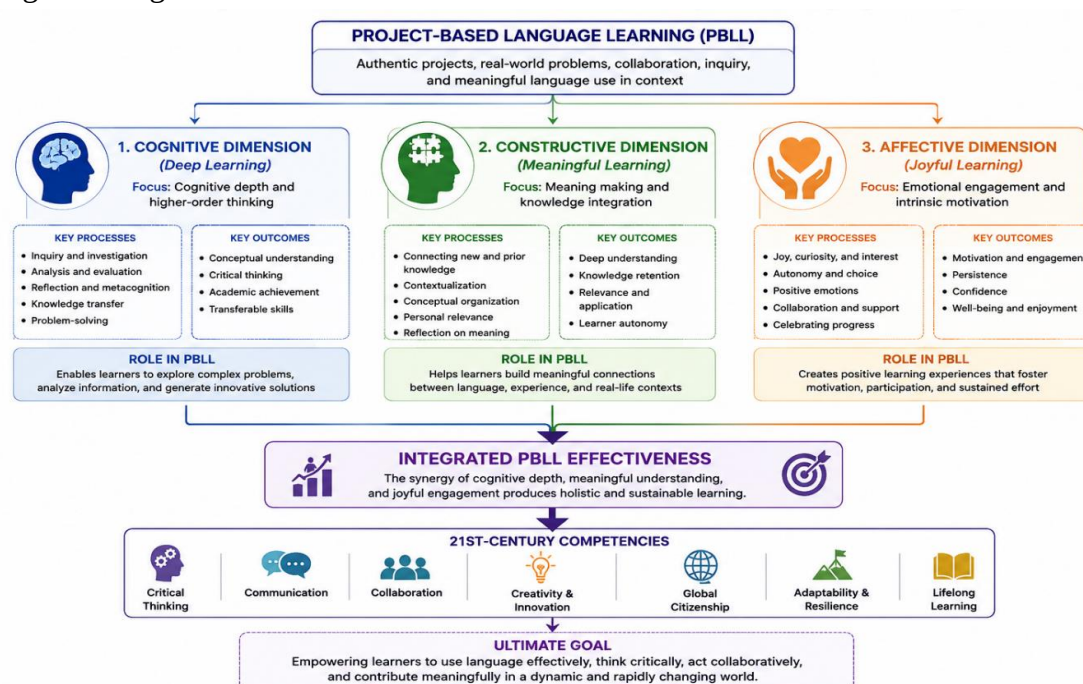


**Figure 1.** Integrated PBL Framework

The framework suggests that PBL achieves maximum effectiveness when students are cognitively challenged, meaningfully connected to learning content, and emotionally engaged in the learning process. The integration of these three dimensions creates a holistic learning environment capable of supporting both language development and broader twenty-first-century competency formation.

In summary, the findings indicate that Deep Learning, Meaningful Learning, and Joyful Learning each contribute unique strengths to PBL. Deep Learning strengthens cognitive performance, Meaningful Learning enhances conceptual understanding, and Joyful Learning promotes emotional engagement. Their integration provides a comprehensive foundation for designing effective project-based language learning experiences in contemporary education.



## **DISCUSSION**

### **Reinterpreting PBL Through Multiple Learning Paradigms**

The findings of this study demonstrate that the effectiveness of Project-Based Language Learning (PBL) cannot be adequately explained through a single pedagogical perspective. Instead, the literature suggests that PBL functions as a multidimensional learning environment in which cognitive, constructive, and affective processes interact simultaneously. This observation extends existing understandings of project-based learning by positioning Deep Learning, Meaningful Learning, and Joyful Learning as complementary dimensions rather than competing educational approaches.

Previous scholarship has consistently established PBL as an effective pedagogical strategy for enhancing academic achievement, learner engagement, collaboration, and language acquisition (Guo et al., 2020; Chen & Yang, 2023; Zhang et al., 2023; Torres & Rodriguez, 2024). However, much of this literature has concentrated on outcomes rather than the theoretical mechanisms that explain why PBL succeeds. The present study contributes to this discussion by demonstrating that PBL effectiveness emerges from the interaction of three interconnected learning dimensions. Deep Learning provides the cognitive foundation necessary for critical inquiry and knowledge transfer. Meaningful Learning facilitates the construction of personally relevant and contextually integrated knowledge. Joyful Learning sustains motivation, engagement, and emotional investment throughout the learning process. Consequently, PBL effectiveness should be understood as a holistic educational phenomenon rather than merely an instructional technique.

This interpretation aligns with contemporary educational transformation agendas promoted by international organizations. OECD (2021) emphasizes learner agency, knowledge creation, and competency development, while UNESCO (2021) advocates educational approaches that cultivate meaningful participation and human-centered learning. The present findings suggest that PBL serves as an effective mechanism for operationalizing these aspirations because it simultaneously addresses cognitive growth, knowledge construction, and emotional well-being. Therefore, the value of PBL extends beyond language acquisition to encompass broader educational goals associated with lifelong learning and social participation.

### **Deep Learning as the Cognitive Engine of PBL**

One of the most significant findings concerns the central role of Deep Learning in supporting the cognitive effectiveness of PBL. The reviewed literature indicates that project-based environments naturally encourage inquiry, analysis, reflection, and problem-solving, all of which correspond closely to the characteristics of Deep Learning identified by Darling-Hammond et al. (2020) and Kovač and Makovec (2023). This relationship suggests that PBL provides an authentic context in which deep learning processes can emerge and flourish.

The importance of Deep Learning becomes particularly evident when considering the increasing complexity of contemporary knowledge environments. Modern learners are expected not merely to acquire information but also to evaluate evidence, synthesize diverse perspectives,



and apply knowledge to unfamiliar situations. Such expectations require higher-order thinking skills that extend beyond memorization and procedural competence. The findings indicate that PBL supports these cognitive demands by placing learners in situations that require investigation, decision-making, and collaborative problem-solving.

Moreover, the relationship between engagement and deep learning identified by Bergdahl et al. (2024) and Zhong et al. (2025) suggests that cognitive development is closely connected to active participation. Within PBL contexts, learners are not passive recipients of information but active participants in knowledge creation. This characteristic reinforces the argument that effective language learning should involve authentic communication and intellectual challenge rather than repetitive practice alone.

Nevertheless, the findings also reveal limitations associated with relying exclusively on Deep Learning principles. Although cognitive rigor contributes significantly to educational quality, it may not adequately address learners' emotional experiences or motivational needs. Fitrah et al. (2025) emphasize that successful implementation depends heavily on teacher readiness and pedagogical competence. Without appropriate support, cognitively demanding activities may overwhelm learners or reduce motivation. Consequently, Deep Learning should be regarded as a necessary but insufficient condition for maximizing PBL effectiveness.

### **Meaningful Learning and the Construction of Educational Relevance**

The second major contribution emerging from the findings concerns the role of Meaningful Learning in establishing relevance and coherence within PBL environments. While Deep Learning focuses on cognitive complexity, Meaningful Learning emphasizes the process through which learners connect new knowledge with existing experiences and conceptual frameworks.

This distinction is particularly important because language learning frequently suffers from perceived irrelevance. Students often struggle to understand how classroom content relates to their personal experiences, future goals, or real-world communication needs. The findings suggest that PBL addresses this challenge by providing authentic contexts in which language serves meaningful purposes. Projects encourage learners to apply language skills while engaging with topics, problems, and situations that possess personal or social significance.

Theoretical perspectives presented by Bryce et al. (2024), Ferreira (2022), and Cañas and Novak (2021) reinforce the importance of knowledge integration in supporting long-term understanding. Rather than treating learning as the accumulation of isolated information, Meaningful Learning conceptualizes education as a process of constructing interconnected knowledge structures. This perspective aligns closely with PBL because project activities inherently require students to combine information from multiple sources, negotiate understanding collaboratively, and apply knowledge in context.



Furthermore, the findings indicate that meaningfulness contributes significantly to learner engagement. Kong (2021) and Xu et al. (2023) demonstrate that students are more likely to invest effort when educational experiences are perceived as relevant and valuable. Within PBL environments, relevance emerges through authentic tasks, real-world problems, and opportunities for learner autonomy. As a result, Meaningful Learning strengthens the constructive dimension of PBL by transforming educational activities into personally significant experiences.

However, Meaningful Learning alone may not fully explain sustained learner participation. Students may recognize the value of a learning activity without necessarily experiencing enjoyment or enthusiasm. Therefore, the findings suggest that meaningfulness should be complemented by emotional engagement to achieve optimal educational outcomes.

### **Joyful Learning and the Emotional Foundations of Effective Education**

A particularly important contribution of this study lies in highlighting the significance of Joyful Learning within PBL environments. Educational research has historically emphasized cognitive achievement while often overlooking the emotional dimensions of learning. The reviewed literature challenges this imbalance by demonstrating that positive emotions play a critical role in shaping motivation, engagement, persistence, and overall learning effectiveness.

The findings support Cronqvist's (2021) argument that joy emerges when learners experience both positive emotions and successful learning. Similarly, Ryan and Deci (2020) emphasize that intrinsic motivation develops when learners experience autonomy, competence, and meaningful social relationships. These principles are highly relevant to PBL because project-based activities frequently involve choice, collaboration, creativity, and authentic accomplishment.

Language learning contexts provide particularly compelling evidence regarding the importance of emotional engagement. Communication anxiety, fear of making mistakes, and lack of confidence often impede language acquisition. The findings indicate that joyful learning environments reduce these barriers by creating supportive and motivating educational experiences. Rahmawati (2024) demonstrates that joyful learning increases participation and motivation in language classrooms, while Pekrun (2021) highlights the broader influence of achievement emotions on learning outcomes.

Importantly, Joyful Learning should not be interpreted as entertainment-centered education. The literature reviewed in this study consistently portrays joy as a consequence of meaningful participation, intellectual challenge, and personal growth rather than superficial amusement. This distinction is essential because effective learning requires both enjoyment and rigor. The findings therefore support the argument advanced by Salong et al. (2025) and the Frontiers Research Topic Editorial Team (2025) that curiosity, engagement, and meaning should be viewed as integral components of educational quality.



### **Theoretical Contribution: The Integrated PBL Framework**

The primary theoretical contribution of this study is the development of the Integrated PBL Framework. Existing scholarship has typically examined Deep Learning, Meaningful Learning, and Joyful Learning as independent constructs. Consequently, researchers and educators often face uncertainty regarding how these perspectives relate to one another and how they collectively influence educational effectiveness.

The present study addresses this limitation by proposing a Cognitive–Constructive–Affective Model of PBL. Within this framework, Deep Learning represents the cognitive dimension, Meaningful Learning represents the constructive dimension, and Joyful Learning represents the affective dimension. These dimensions interact dynamically rather than operating independently.

The framework suggests that cognitive engagement without meaningfulness may produce understanding that lacks personal relevance. Similarly, meaningful understanding without emotional engagement may fail to sustain motivation over time. Conversely, enjoyment without cognitive challenge may result in positive experiences that contribute little to intellectual development. Effective PBL therefore emerges when all three dimensions are integrated within project design and implementation.

This conceptualization extends previous literature by providing a comprehensive explanation for PBL effectiveness. Rather than attributing successful outcomes to a single pedagogical factor, the framework recognizes the complexity of learning processes and the multidimensional nature of educational quality. As such, the proposed model offers a new theoretical lens for examining project-based language education in contemporary learning environments.

### **Implications for Twenty-First-Century Competencies**

The findings also have significant implications for the development of twenty-first-century competencies. Educational systems worldwide increasingly emphasize critical thinking, communication, collaboration, creativity, adaptability, and lifelong learning (Voogt & Roblin, 2021; Kim et al., 2022; Pellegrino & Hilton, 2021). These competencies require educational approaches that extend beyond traditional content delivery.

The Integrated PBL Framework provides a potential pathway for cultivating such competencies. Deep Learning contributes to critical thinking and problem-solving by encouraging analysis and knowledge transfer. Meaningful Learning supports adaptability and lifelong learning by promoting knowledge integration and contextual understanding. Joyful Learning strengthens collaboration, resilience, and sustained engagement by fostering positive emotional experiences and intrinsic motivation.

Furthermore, the findings suggest that competency development is not merely a cognitive process. Twenty-first-century competencies emerge through the interaction of intellectual, social, and emotional dimensions of learning. Consequently, educational models that prioritize only one



dimension may be insufficient for preparing learners to navigate contemporary challenges.

The alignment between the Integrated PBL Framework and the OECD Learning Compass 2030 is particularly noteworthy. Both perspectives emphasize learner agency, holistic development, and the integration of knowledge, skills, attitudes, and values. Therefore, the framework developed in this study offers a practical and theoretically grounded approach to supporting contemporary educational priorities.

### **Practical Implications for Language Educators**

From a practical perspective, the findings suggest several implications for educators designing PBL experiences. First, project activities should be structured to promote inquiry, analysis, reflection, and knowledge transfer. These elements support Deep Learning and help learners develop higher-order thinking skills.

Second, projects should be connected to authentic contexts and learners' prior experiences. Such connections enhance Meaningful Learning by increasing relevance and facilitating knowledge integration. Educators should therefore encourage students to explore issues that are personally, culturally, or socially significant.

Third, learning environments should intentionally support positive emotional experiences. Opportunities for autonomy, creativity, collaboration, and recognition of achievement can strengthen Joyful Learning and sustain learner engagement throughout complex project activities.

Finally, educators should view cognitive, constructive, and affective dimensions as mutually reinforcing rather than separate instructional goals. Effective PBL design requires balancing intellectual challenge, meaningful relevance, and emotional engagement simultaneously.

### **Limitations of the Study**

Several limitations should be acknowledged. First, this study employed a qualitative library research design and therefore did not generate empirical data from classroom implementation. Consequently, the proposed framework remains conceptual and requires empirical validation across diverse educational contexts.

Second, the literature included in the analysis was limited to publications published between 2020 and 2025. Although this decision ensured contemporary relevance, earlier foundational studies may provide additional insights regarding the development of the investigated learning paradigms.

Third, the study focused primarily on higher education and contemporary language learning contexts. Future research should examine whether similar patterns emerge in primary education, secondary education, and non-language disciplines.



Finally, the comparative nature of the study means that findings depend on interpretations of existing scholarship. Different literature selections may produce alternative conceptual relationships or theoretical emphases.

### **Directions for Future Research**

Future research should empirically test the Integrated PBL Framework using qualitative, quantitative, and mixed-method approaches. Researchers may investigate how cognitive, constructive, and affective dimensions interact during project implementation and how these interactions influence language learning outcomes.

Comparative studies across educational levels, cultural contexts, and disciplinary settings would further strengthen understanding of the framework's applicability. Additionally, researchers may explore the role of digital technologies in facilitating the integration of Deep Learning, Meaningful Learning, and Joyful Learning within project-based environments.

Such investigations would contribute to refining the proposed framework and advancing knowledge regarding effective educational practices for twenty-first-century learners.

### **CONCLUSIONS**

This study examined the effectiveness of Project-Based Language Learning (PBL) through the comparative perspectives of Deep Learning, Meaningful Learning, and Joyful Learning using a qualitative library research approach. The findings indicate that PBL serves as a powerful pedagogical framework capable of supporting language acquisition, learner engagement, and the development of twenty-first-century competencies. However, the effectiveness of PBL is not determined solely by project implementation itself but is significantly influenced by the learning paradigms that shape how learners interact with knowledge, learning experiences, and educational environments.

The comparative analysis revealed that each learning paradigm contributes distinct yet complementary strengths to PBL. Deep Learning primarily supports the cognitive dimension of learning by fostering critical thinking, inquiry, reflection, problem-solving, and knowledge transfer. Meaningful Learning strengthens the constructive dimension by enabling learners to connect new knowledge with prior experiences, contextual realities, and authentic learning purposes. Joyful Learning contributes to the affective dimension by enhancing intrinsic motivation, emotional engagement, curiosity, confidence, and sustained participation. While each paradigm offers valuable educational benefits, none independently provides a complete explanation of PBL effectiveness. Instead, the findings suggest that meaningful educational outcomes emerge from the interaction of cognitive, constructive, and affective learning processes.

The principal contribution of this study is the development of the Integrated PBL Framework, a Cognitive–Constructive–Affective Model that conceptualizes PBL effectiveness as the result of the integration of Deep Learning, Meaningful Learning, and Joyful Learning. This framework extends existing literature by providing a holistic theoretical perspective that explains how intellectual engagement, knowledge construction, and emotional involvement collectively support



language learning and competency development. The framework also aligns with contemporary educational priorities articulated by OECD and UNESCO, particularly those related to learner agency, lifelong learning, collaboration, creativity, and adaptability.

The findings have important implications for educators, curriculum designers, and policymakers. Effective PBL implementation should not focus exclusively on academic performance but should also create meaningful and emotionally engaging learning experiences. Educational practices that balance cognitive rigor, personal relevance, and positive emotional engagement are more likely to produce sustainable learning outcomes and prepare learners for the demands of an increasingly complex and interconnected world.

Future research should empirically examine the proposed Integrated PBL Framework across different educational levels, cultural contexts, and language learning settings. Quantitative, qualitative, and mixed-method studies are needed to validate the relationships among cognitive, constructive, and affective dimensions and to explore their influence on learner achievement, engagement, and twenty-first-century competency development. Such investigations will contribute to a deeper understanding of how PBL can be optimized to support holistic and transformative learning in contemporary education.

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