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# Project Based Assessment in English Language Teaching Through the TPACK Framework: A Systematic Literature Review

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**Abstract**

*This systematic literature review investigates the intersection of Project-Based Assessment (PBA) and the Technological Pedagogical Content Knowledge (TPACK) framework in English Language Teaching (ELT). While project-based learning and technology integration have been widely studied independently, their convergence within assessment practices remains underexplored. Guided by the PRISMA protocol then 120 records were initially identified. Only one study met the strict inclusion criteria underscoring the scarcity of consolidated research in this domain. The analysis reveals that digital tools, when embedded in blended learning environments, can transform assessment into authentic, multimodal, and adaptive processes that foster learner autonomy, collaboration, and equity. The included study demonstrates how frameworks such as TPACK, TAM, TRA, and UTAUT provide conceptual grounding for integrating pedagogy, content, and technology into assessment design. Findings highlight both opportunities and challenges such as digital assessments enable personalized learning paths, real-time feedback, and equitable grading, yet adoption remains limited due to infrastructure gaps, teacher readiness, and contextual constraints. Scientifically this review identifies a significant research gap and emphasizes the need for empirical studies that systematically investigate how project-based assessment can be designed and implemented through TPACK. The review concludes that advancing PBA via TPACK offers a promising pathway to align ELT assessment with 21st-century skills, ensuring practices that are valid, inclusive, and future-oriented.*

## 1. Introduction

The integration of technology into English Language Teaching (ELT) has reshaped how teachers design, deliver, and evaluate learning (Wina et al., 2023). Assessment practices are no longer limited to traditional paper-based tests but increasingly emphasize authentic, project-based approaches that capture learners' ability to apply knowledge in meaningful contexts (Vlachopoulos & Makri, 2024). Project-Based Assessment (PBA) has gained prominence as an innovative strategy that promotes learner autonomy, collaboration, and creativity, aligning with the broader movement toward student-centered pedagogy in the 21st century (Radita et al., 2025). Within ELT, PBA offers opportunities to assess not only linguistic competence but also higher-order skills such as critical thinking, problem-solving, and digital literacy (Bhatnagar et al., 2025).

To guide teachers in integrating technology effectively into pedagogy and content, the Technological Pedagogical Content Knowledge (TPACK) framework has become a widely recognized model. TPACK highlights the dynamic interplay between teachers' subject knowledge, pedagogical strategies, and technological tools (Hidayat et al., 2024). While numerous studies have explored TPACK in relation to technology-enhanced instruction, relatively few have examined how this framework informs assessment practices particularly project-based assessment in ELT (Anwar & Yuliasri, 2024; Chanwaiwit, 2025; Ilmi et al., 2023; Razak et al., 2023; Shiu, 2025; Solihin & Yusuf, 2024; Tan et al., 2025). This intersection remains underexplored, despite its potential to advance both theoretical understanding and practical application in language education.

The novelty of this article lies in its systematic focus on Project-Based Assessment in ELT through the lens of the TPACK framework. Unlike prior research that treats project-based learning or technology integration separately, this review positions PBA as an assessment innovation requiring teachers to balance technological, pedagogical, and content dimensions. By employing the PRISMA method (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), the study ensures methodological rigor in identifying, selecting, and synthesizing relevant literature, thereby offering a structured and transparent overview of current scholarship.

The research problem addressed is the lack of consolidated knowledge on how project-based assessment is conceptualized, implemented, and evaluated in ELT when analyzed through TPACK. Key questions include: (1) the extent to which existing studies integrate TPACK in designing project-based assessments, (2) the challenges teachers encounter in aligning technology, pedagogy, and content within assessment practices, and (3) the implications of PBA for learner outcomes in English language education. Then the purpose of this systematic literature review is to map, analyze, and synthesize existing research on Project-Based Assessment in ELT through the TPACK framework. The article aims to highlight current practices, identify gaps, and propose directions for future inquiry, offering both theoretical insights and practical implications for educators, researchers, and policymakers seeking to enhance assessment in technology-rich language learning environments.

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## 2. Method

This study adopts a Systematic Literature Review (SLR) design, guided exclusively by the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol. PRISMA could ensure methodological rigor, transparency, and replicability (Calderon Martinez et al., 2025; De Cassai et al., 2025; Nezameslami et al., 2025; Page et al., 2021; Sánchez-Martín et al., 2026). The review process follows PRISMA's structured stages of identification, screening, eligibility, and inclusion. A comprehensive search strategy was implemented across major academic databases (Scopus, Web of Science, and Google Scholar) using targeted keywords such as "Project-Based Assessment in English Language Teaching through the TPACK Framework." Records retrieved were systematically filtered to exclude duplicates, non-peer-reviewed sources, and studies outside the scope of ELT and TPACK, ensuring that only high-quality and contextually relevant literature was synthesized.

The analytical dimension of the review is anchored in the TPACK framework, which serves as the conceptual lens for interpreting the selected studies. Each included article was examined in terms of its technological, pedagogical, and content knowledge contributions to project-based assessment in ELT.

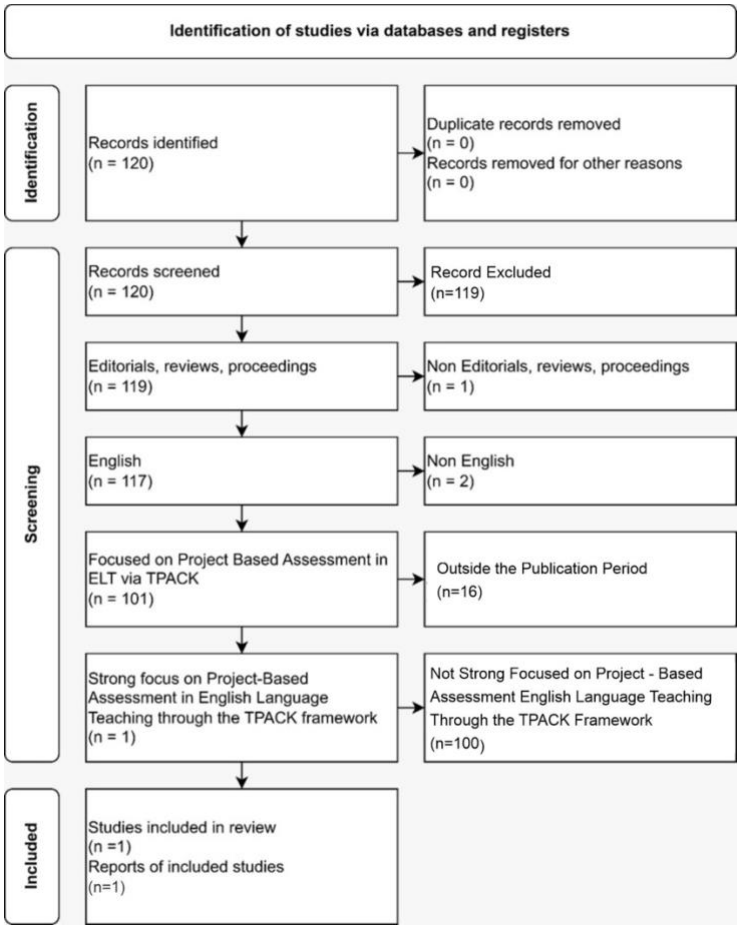



Figure 1. PRISMA Flow Diagram of Study Selection

Coding categories were established to capture assessment design, implementation strategies, challenges, and learner outcomes. Comparative tables and narrative synthesis were employed to highlight trends, gaps, and emerging insights. By combining the structured rigor of PRISMA with the interpretive depth of TPACK, this research design consolidates existing knowledge while generating novel perspectives on how project-based assessment can be effectively conceptualized and implemented in technology-rich English language teaching environments. The synergy created through combining is truly impactful (Septian & Meidiansyah, 2026).

The data analysis in this study strictly followed the structured stages of the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol, ensuring transparency and rigor in synthesizing the literature. In the identification stage, all retrieved records were compiled and duplicates removed. During screening, titles and abstracts were examined to exclude studies unrelated to English Language Teaching, project-based assessment, or the TPACK framework. In the eligibility stage, full-text articles were assessed against inclusion criteria such as peer-reviewed status, publication within the defined time range, and explicit relevance to the research focus. Finally, in the inclusion stage, the selected articles were subjected to detailed analysis.

The interpretive process was guided by the TPACK framework, which served as the conceptual lens for analyzing the included studies. Each article was coded to capture dimensions of Technological Knowledge (TK), Pedagogical Knowledge (PK), and Content Knowledge (CK), along with their intersections (TPK, TCK, PCK, and TPACK) (Jeevarajathy & Hema, 2025). Data were organized into comparative tables to highlight recurring themes, innovations, and challenges, while a narrative synthesis connected findings across studies. By applying PRISMA as the methodological backbone and TPACK as the analytical lens, this study produced a comprehensive mapping of how project-based assessment is conceptualized and implemented in English Language Teaching.

## 3. Result

The PRISMA summary of study selection demonstrates the rigorous filtering process applied in this systematic literature review. Out of 120 records initially identified, only one study met the eligibility criteria and was included for analysis. This sharp reduction reflects the strict application of inclusion and exclusion parameters, ensuring that only research directly relevant to project-based assessment in English language teaching through the TPACK framework was retained. The process highlights the methodological transparency of the review, where each stage identification, deduplication, screening, eligibility, and inclusion was systematically documented to guarantee replicability and reliability of findings.

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Table 1. PRISMA Summary of Study Selection Process

| PRISMA Stage | Description | Number of Records |
|---|---|---|
| Identification | Records identified | 120 |
| Deduplication | Duplicate records removed | 0 |
| Screening | Records screened | 120 |
| Excluded | Records excluded (editorials, non-English, not focused) | 119 |
| Eligibility | Full-text articles assessed | 1 |
| Included | Studies included in review | 1 |

The scientific finding that only one study qualified for inclusion underscores the scarcity of consolidated research at the intersection of project-based assessment and the TPACK framework in ELT. This trend suggests that while technology integration and project-based learning have been widely studied independently, their convergence within assessment practices remains underexplored (Dinda Antika Putri et al., 2025; Hikmah et al., 2025; Hinostroza et al., 2025; Jiang et al., 2025; Kawuryan, 2024; Magfirah et al., 2025; Pranta et al., 2025; Rehman et al., 2024; Rossa Triyantara et al., 2026; Wahyudi et al., 2024). The exclusion of 119 studies, largely due to lack of focus, non-peer-reviewed status, or language limitations, indicates that the field is still fragmented and lacks a coherent body of evidence.

Scientifically, this gap can be explained by the relatively recent emphasis on assessment innovation in language education, where traditional testing methods continue to dominate. The finding therefore reveals both a limitation in existing scholarship and an opportunity for future research to systematically investigate how digital tools, pedagogy, and content knowledge can be integrated into project-based assessment models to enhance learner outcomes in English language teaching.

Then table beneath presents the inclusion and exclusion criteria applied in this systematic literature review, reflecting the methodological rigor necessary to ensure transparency and replicability. The criteria were designed to filter studies based on publication type, language, thematic focus, time span, relevance, and quality. By applying these parameters, the review ensured that only peer-reviewed, English-language studies published between 2021-2026 with a strong focus on project-based assessment in ELT through the TPACK framework were considered. This structured approach not only guarantees the reliability of the synthesis but also highlights the narrow scope of research that directly addresses the intersection of project-based assessment and TPACK in English language teaching.

Table 2. Category, Inclusion and Exclusion Criteria

| Category | Inclusion Criteria | Exclusion Criteria |
|---|---|---|
| Publication | Peer-reviewed articles | Editorials, reviews, proceedings |
| Language | English | Non-English |
| Focus | Strong focus on Project-Based Assessment in ELT via TPACK | Not focused on Project-Based Assessment in ELT via TPACK |
| Time span | Within defined range (2021-2026) | Published before 2021 |
| Relevance | Directly related to ELT, PBA, and TPACK | Studies outside ELT or without PBA-TPACK connection |

| | | |
|---|---|---|
| Quality | Full-text available, meets eligibility and inclusion criteria | Non-peer-reviewed, duplicates, irrelevant records |

The scientific finding from these criteria is the clear indication that research in this domain remains limited and highly fragmented. The exclusion of a large number of studies due to factors such as non-peer-reviewed status, language barriers, or lack of direct relevance demonstrates that while project-based learning and technology integration have been widely studied, their convergence within assessment practices guided by TPACK is still underdeveloped.

This trend can be explained by the dominance of traditional assessment paradigms in language education, which often prioritize standardized testing over authentic, project-based approaches. Furthermore, the relatively recent emphasis on integrating TPACK into assessment design explains why eligible studies are scarce within the defined time span. Scientifically, this scarcity signals a research gap: the need for more empirical and conceptual work that systematically investigates how digital tools, pedagogy, and content knowledge can be synthesized to produce valid, reliable, and contextually relevant project-based assessments in ELT.

Table beneath shows outlines the reasons for exclusion applied during the systematic review process, reflecting the methodological rigor of the PRISMA protocol. From the initial 120 records, the majority were excluded due to publication type (1 non-peer-reviewed sources), focus mismatch (100 studies not focus on Project-Based Assessment in ELT via TPACK), language barriers (2 non-English articles), and time span limitations (16 studies published before 2021). Only one study met all inclusion criteria, underscoring the narrow scope of available research at the intersection of project-based assessment and the TPACK framework in English language teaching.

Figure 3. Reasons for Exclusion of Studies

| **Reason for Exclusion** | **Description (Operational Definition)** | **Number of Studies** |
|---|---|---|
| Publication type | Non-peer-reviewed sources (editorials, reviews, proceedings, reports) | 1 |
| Language | Articles not published in English | 2 |
| Focus mismatch | Studies not focus Project-Based Assessment in ELT via the TPACK framework | 100 |
| Time span | Published before the defined range (2021-2026) | 16 |
| Quality/eligibility | Duplicates, incomplete records, or lacking full-text availability | 0 |
| Included | Studies meeting all inclusion criteria (*Integrating Digital Tools in English Language Assessments*) | 1 |

The scientific finding here is the evident scarcity of eligible studies, which reveals a significant research gap in the field. The dominance of exclusions related to publication type and thematic mismatch suggests that while project-based learning and technology integration are widely studied, their convergence within assessment practices guided by TPACK remains underexplored. This trend can be explained by the persistence of traditional assessment paradigms in language education, where standardized testing continues to overshadow authentic, project-based approaches.

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Furthermore, the exclusion of older studies highlights the relatively recent emergence of TPACK-informed assessment research, particularly within the 2021-2026 timeframe. Scientifically, these patterns indicate that the field is still evolving, with limited empirical evidence available to substantiate how digital tools and project-based assessment can be systematically integrated through TPACK. This finding not only validates the necessity of the present review but also points to an urgent need for future investigations that bridge pedagogy, technology, and assessment in ELT contexts.

*Insights from the Included Study*

The article "Integrating Digital Tools in English Language Assessments: Insights From Tertiary Education" provides valuable insights into the intersection of technology and assessment in English language teaching. The study emphasizes that assessment is not merely a measurement tool but a dynamic process that shapes instruction, guides learner progress, and validates achievement. By embedding digital tools into assessment practices, the authors highlight how technology can transform conventional evaluation methods into authentic, multimodal, and adaptive approaches that better capture the complexity of language proficiency (Jeevarajathy & Hema, 2025).

A key contribution of the paper lies in its exploration of blended learning environments as platforms for digital assessment. The authors argue that authenticity, personalization, and scaffolding are essential elements for effective assessment in such contexts. Digital tools enable immersive simulations, online discussions, and collaborative projects, thereby fostering cultural competence and global collaboration. This aligns with the broader pedagogical shift toward student-centered learning, where learners are empowered to take ownership of their progress through real-time feedback and iterative learning cycles.

The study is theoretically grounded in multiple frameworks, including Task-Technology Fit (TTF), Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), and TPACK. Among these, TPACK serves as the central lens, illustrating how technological, pedagogical, and content knowledge must converge for meaningful assessment design. The integration of these models strengthens the analysis by situating digital assessment within both pedagogical and technological adoption perspectives. Key insights include (a) Digital tools enable authentic and multimodal assessment (audio, video, collaborative projects). (b) Blended learning supports personalization, scaffolding, and global collaboration. (c) TPACK framework provides the conceptual lens for integrating pedagogy, content, and technology in assessment. (d) Benefits include real-time feedback, personalized learning paths, and equity in grading. (e) Challenges remain in infrastructure readiness, teacher training, and localized adoption.

Findings suggest that digital assessments enhance personalized learning paths, leveraging adaptive algorithms to address individual proficiency gaps. They also promote equity by ensuring unbiased grading and supporting learners with special needs. Importantly, the paper underscores the role of teachers in facilitating the effective use of digital tools, noting that technology alone cannot guarantee success without informed pedagogical planning and cultural responsiveness. Despite its strengths, the study acknowledges limitations. The adoption of technology-based assessment remains at a nascent stage in certain contexts, particularly in Tamil Nadu's Arts and Science colleges.

While global trends demonstrate increasing reliance on digital tools, localized implementation faces challenges such as infrastructure readiness, teacher training, and varying levels of technological proficiency. These constraints highlight the need for institutional support and professional development to fully realize the potential of digital assessment.

The article contributes both theoretical and practical insights. Theoretically, it expands the discourse on how TPACK can be applied not only to teaching but also to assessment practices. Practically, it provides guidance for educators and policymakers to integrate digital tools into assessment frameworks, ensuring that evaluation methods are authentic, adaptive, and inclusive. For systematic reviews focusing on project-based assessment, this study demonstrates how digital tools can support project-oriented tasks, enabling learners to showcase language skills through collaborative and multimodal outputs.

## 4. Conclusion

This systematic literature review highlights the critical yet underexplored intersection between Project-Based Assessment (PBA) and the TPACK framework in English Language Teaching. The PRISMA analysis revealed that out of 120 studies initially identified, only one met the strict inclusion criteria, underscoring the scarcity of consolidated research in this domain. Scientifically, this finding reflects the persistence of traditional assessment paradigms and the relatively recent emergence of TPACK-informed assessment practices. The included study demonstrated that digital tools, when embedded in blended learning environments, can transform assessment into authentic, multimodal, and adaptive processes that foster learner autonomy, collaboration, and equity.

The review therefore contributes two key insights: first, that the integration of technology, pedagogy, and content knowledge into assessment design remains fragmented and requires further empirical exploration; and second, that project-based assessment offers a promising pathway to align language evaluation with 21st-century skills such as critical thinking, creativity, and digital literacy. The implications are both theoretical and practical calling for more systematic research to bridge gaps in scholarship, and urging policymakers and educators to invest in infrastructure, training, and culturally responsive strategies. Ultimately, advancing project-based assessment through TPACK has the potential to reshape ELT assessment practices, ensuring they are not only valid and reliable but also adaptive, inclusive, and future-oriented.

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