

# Tablet Integration in English Language Teaching and Learning: A Study of Government Schools in Eluru District, Andhra Pradesh

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## ABSTRACT

Digital technologies integration has transformed English language teaching by creating more interactive and learner-centered educational environments. This study examines the integration of tablets in English language teaching and learning in government schools of Eluru District, Andhra Pradesh, India. Specifically, it studies the current state of tablet-assisted instruction, identifies implementation challenges, and explores the perceived influence of tablet integration on students' English language proficiency from student and teacher perspectives. A convergent mixed-methods design was employed involving 180 Grade 10 students and six English language teachers selected through purposive sampling. Quantitative data were analyzed using descriptive statistics, correlation, and regression analyses, while qualitative interview data were examined through thematic analysis. The findings show tablet integration positively influencing student engagement, motivation, vocabulary acquisition, reading comprehension, listening skills, and overall language proficiency. Teacher competence and confidence in technology use emerged as the strongest predictor of successful implementation. However, limited device availability, inadequate infrastructure, connectivity issues, and insufficient professional training remain significant challenges. The study underscores the importance of teacher preparedness, institutional support, and technological infrastructure for effective tablet-assisted language learning.

## KEYWORDS

English language teaching;  
Student engagement;  
Tablet-assisted learning;  
Technology integration;  
TPACK framework

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## 1. Introduction

The unprecedented and unparalleled advancement of digital technologies has transformed educational practices worldwide, creating a plethora of opportunities for technology-enhanced language learning. Digital tools, especially in English language education, have progressively been used to improve learner engagement, interaction, and language proficiency. English remains a global language for

communication, education, business, and professional development, making effective English language instruction a priority across educational systems (Aqeel et al., 2023). In addition, technology has emerged as a significant component of contemporary language pedagogy, offering innovative approaches that complement traditional teaching methods (Terletska, 2020). Among various digital tools, tablets have gained considerable attention due to their portability, connectivity, multimedia capabilities, and flexibility in supporting learning across different contexts (Zhao & Lai, 2023). A few studies suggest that tablet-assisted learning can enhance student engagement, motivation, and access to interactive educational resources, thereby contributing to improved language learning outcomes (Jameer & Narra, 2024; Ahmadi, 2018).

Against the backdrop, we observed that limited research has examined the integration of tablets in government schools located in semi-urban and rural regions of Andhra Pradesh. Existing studies primarily focus on urban institutions or higher education settings, leaving a gap in understanding how tablet-assisted instruction influences learner engagement, teacher preparedness, implementation challenges, and language proficiency in government school contexts. Therefore, the current study intends to address this gap by investigating the integration of tablets in English language teaching and learning among Grade 10 students in government schools of Eluru District, Andhra Pradesh.

This study is guided by the following objectives:

1. To analyse the current state of English language teaching and learning in government schools of Eluru District, Andhra Pradesh.
2. To identify the challenges faced by teachers in integrating tablets in classrooms.
3. To explore the perceived influence of tablet integration on English language proficiency among students particularly in listening, speaking, writing, and reading skills from both student and teacher perspectives.

## **2. Review of Literature**

Education in the Eluru District of Andhra Pradesh presents both opportunities and challenges due to its predominantly rural character, socio-economic constraints, and geographical limitations. Government schools play a significant role in providing educational access to a large segment of the student population (Apriyanti, 2020). In recent years, the integration of digital technologies has emerged as an important strategy for improving educational quality and addressing learning challenges, particularly in English language education. Previous studies (Alhumaid, 2019; Apriyanti, 2020; Pennycook, 2021; Rajesh, 2025) have underscored the growing importance of technology in language teaching and learning. Effective technology integration has been shown to enhance learner engagement, motivation, interaction, and language proficiency, whereas inappropriate or ineffective use may adversely affect

learning outcomes (Alhumaid, 2019). Traditional approaches to English language teaching often face limitations in addressing diverse learner needs, especially in contexts where students require greater exposure to authentic language experiences and interactive learning environments (Pennycook, 2021).

Among various digital technologies, tablets have attracted considerable attention because of their portability, connectivity, multimedia capabilities, and flexibility. Research suggests that tablet-assisted learning can support the development of listening, speaking, reading, and writing skills by providing access to instructional videos, e-books, interactive applications, and personalized learning resources (Kacetl & Klímová, 2019; Zhao & Lai, 2023). Furthermore, Simsek and Can (2020) contend that tablets promote active learning, student engagement, and digital literacy by enabling differentiated and learner-centered instruction. Recent empirical studies consistently demonstrate that technology-enhanced learning environments contribute positively to language acquisition and academic performance. Jameer and Narra (2024) reported that technology integration improves student participation and learning outcomes in English language classrooms. Similarly, Sharma and Begam (2024) emphasized that digital technologies and social media platforms foster collaborative learning and increase learner engagement. Rajesh (2025) found that digital applications such as Quizlet, Kahoot, and Padlet enhance classroom interaction and learner motivation, while George and Sharma (2026) reported that technology-supported collaborative writing significantly improves ESL learners' writing proficiency and communication skills. Furthermore, Xodabande and Hashemi (2023) demonstrated that mobile-based digital resources positively influence vocabulary acquisition and language retention among EFL learners. However, the effectiveness of technology integration depends largely on contextual and institutional factors. Teacher competence, technological readiness, infrastructure availability, and institutional support remain critical determinants of successful implementation (Rintaningrum, 2023). In addition, studies conducted in rural and resource-constrained settings indicate that inadequate internet connectivity, limited device availability, and insufficient professional development opportunities continue to hinder effective technology adoption (Heinrich et al., 2020).

Previous studies in EFL education have consistently reported positive outcomes associated with technology-enhanced language learning. Abdelrady and Akram (2022) found that digital learning tools significantly improve EFL students' learning satisfaction and participation in online learning environments. Similarly, Bice and Tang (2022) emphasized that successful technology integration depends not only on the availability of digital tools but also on teachers' beliefs, technological readiness, and instructional practices. Muslem et al. (2022) further reported that technology-supported instruction enhances language learning outcomes by promoting learner engagement and interactive classroom experiences. Recent evidence also suggests that emerging technologies can facilitate specific language skills such as pronunciation development and oral communication (Caiza et al., 2025), reinforcing the growing role of technology in English language education.

Thus, the above discussion suggests that technology-enhanced language learning can improve motivation, engagement, collaboration, learner autonomy, and language proficiency. Nevertheless, most studies have focused on higher education institutions, urban schools, or general technology integration, with limited attention given to tablet-assisted English language instruction in government schools located in semi-urban and rural regions of Andhra Pradesh. Therefore, further study is required to understand the opportunities, challenges, and educational outcomes associated with tablet integration in these underrepresented educational contexts.

### **3. Theoretical Framework**

#### **3.1. Technological Pedagogical Content Knowledge (TPACK)**

The present study adopts the Technological Pedagogical Content Knowledge (TPACK) framework proposed by Mishra and Koehler (2006). The framework emphasizes the integration of technological, pedagogical, and content knowledge to facilitate effective teaching practices. Within English language education, TPACK assists teachers in selecting right digital resources and instructional strategies that enhance learner engagement, language acquisition, and overall learning outcomes. This framework is mainly significant to tablet-assisted instruction because successful technology integration requires teachers to effectively combine technological tools with pedagogical objectives and subject content.

#### **3.2. Constructivist Learning Theory**

Constructivist Learning Theory suggests that learners actively construct knowledge through meaningful experiences, interaction, and collaboration (Vygotsky, 1978). Tablet-assisted learning environments support constructivist principles by providing opportunities for active participation, personalized learning, multimedia engagement, and collaborative knowledge construction. Consequently, tablets can facilitate learner-centered instructional practices that encourage deeper understanding, critical thinking, and sustained engagement in English language learning.

#### **3.3. Technology-Assisted Language Learning (TALL)**

Technology-Assisted Language Learning (TALL) underlines the role of digital technologies in facilitating language acquisition through authentic communication, interactive learning activities, immediate feedback, and learner autonomy (Chapelle, 2003). Tablets, especially in English language classrooms, provide access to multimedia resources, language-learning applications, and interactive tasks that support the development of listening, speaking, reading, and writing skills. Therefore, TALL offers a useful framework for understanding how tablet-based technologies can enhance language learning experiences and improve learners' overall proficiency.

## **4. Research Methodology**

This study employs a convergent mixed-methods research design to examine the integration of tablets in English language teaching and learning in government schools of Eluru District, Andhra Pradesh. The mixed-methods approach enables the collection and integration of both quantitative and qualitative data, providing a comprehensive understanding of the educational, pedagogical, and technological dimensions of tablet-assisted learning. By combining measurable outcomes with participant experiences, the study seeks to generate a more nuanced understanding of the effectiveness and challenges of tablet integration in English language classrooms.

### **4.1. Participants and Sampling**

The quantitative phase involved 180 Grade 10 students enrolled in government schools in Eluru District, Andhra Pradesh. Participants were selected through purposive sampling because they had direct experience with tablet-assisted learning environments. The qualitative phase included six English language teachers, comprising three experienced and three novice teachers, selected to provide diverse perspectives on classroom implementation, instructional practices, and technology integration.

### **4.2. Research Instruments**

Data were collected using two complementary instruments. A structured questionnaire was administered to students to measure five key constructs: Instructional Enhancements (IES), Student Engagement and Motivation (SEM), Teacher Competence and Confidence in Technology Use (TCC), Technical and Implementation Challenges (TIC), and Teaching and Learning English Language (TLEL). In addition, semi-structured interviews were conducted with teachers to explore their experiences, perceptions, challenges, and recommendations regarding tablet-assisted English language instruction.

### **4.3. Instrument Validation and Reliability**

The questionnaire was subjected to expert review by specialists in educational technology and English language teaching to establish content validity. Reliability analysis using Cronbach's Alpha demonstrated excellent internal consistency across all constructs, with values ranging from 0.975 to 0.981, substantially exceeding the recommended threshold of 0.70. Detailed reliability, normality, and construct validity results are provided in Appendix Tables A1–A4. These results indicate that the instrument was both reliable and appropriate for measuring the intended constructs.

### **4.4. Data Collection Procedure**

Data collection was conducted with prior institutional approval. Student questionnaires were

administered during regular school hours, while teacher interviews were conducted individually and recorded with participants' consent. The interview protocol consisted of eight open-ended questions focusing on instructional practices, perceived benefits, implementation challenges, learner engagement, and recommendations for effective tablet integration. Ethical principles were strictly observed throughout the study. Participation was voluntary, informed consent was obtained from all participants, and confidentiality and anonymity were maintained during data collection, analysis, and reporting.

#### **4.5. Data Analysis**

Quantitative data were analyzed using descriptive statistics, normality testing, reliability analysis, correlation analysis, and multiple regression analysis to examine relationships among the study variables. Qualitative interview data were analyzed through thematic analysis to identify recurring themes related to teachers' experiences, perceptions, and pedagogical practices. Quantitative and qualitative findings were subsequently integrated during interpretation to provide a comprehensive understanding of tablet-assisted English language learning and to strengthen the validity of the findings through methodological triangulation.

### **5. Findings and Discussion**

This section presents and discusses the findings of the study on the integration of tablets in teaching and learning English language in government schools of Eluru District, Andhra Pradesh. A mixed-methods approach was employed to provide a comprehensive understanding of the educational, pedagogical, and technological implications of tablet-assisted learning (Colliot et al., 2024). Quantitative findings obtained through student questionnaires were complemented by qualitative insights derived from teacher interviews, enabling a holistic interpretation of the results. Reliability and validity analyses confirmed the adequacy of the measurement model, with all constructs demonstrating satisfactory internal consistency and convergent validity (Haji-Othman & Yusuff, 2022). Detailed reliability and validity statistics are presented in *Appendix Tables A1-A4*.

#### **5.1. Demographic Profile of Participants**

The demographic characteristics of the participants are presented in Table 1. The study involved 180 Grade 10 students enrolled in government schools of Eluru District. The majority of participants were female (63.9%) and aged between 14 and 15 years (94.4%). Although only 18.9% of students reported having access to tablets within their schools, an overwhelming majority (98.3%) indicated access to a tablet or smartphone at home. Furthermore, 46.1% reported using tablets a few times a week for English language learning.

These findings indicate that while institutional access to digital devices remains limited, students possess considerable exposure to digital technologies outside the classroom. This suggests significant potential for extending technology-supported English language learning beyond formal school settings and highlights the growing relevance of mobile and tablet-assisted learning in contemporary educational contexts.

**Table 1:** Demographic Characteristics

Demographics		Frequency	Percent
Gender	Female	115	63.9
	Male	65	36.1
	Total	180	100.0
Age	14-15 years	170	94.4
	16 years	10	5.6
	Total	180	100.0
Current Grade Level	Grade 10	180	100.0
Do you have access to a tablet at school for learning English?	No	146	81.1
	Yes	34	18.9
	Total	180	100.0
Do you have access to a tablet or smartphone at home?	No	3	1.7
	Yes	177	98.3
	Total	180	100.0
How often do you use a tablet in English class?	A few times a week	83	46.1
	Everyday	15	8.3
	Never	18	10.0
	Occasionally	33	18.3
	Rarely	31	17.2
	Total	180	100.0

## 5.2 Relationship between Tablet Integration and English Language Learning

To examine the relationship between tablet integration and English language learning outcomes, five constructs were measured: Instructional Enhancements (IES), Student Engagement and Motivation (SEM), Teacher Competence and Confidence in Technology Use (TCC), Technical and Implementation Challenges (TIC), and Teaching and Learning English Language (TLEL). These constructs were adapted from previously validated instruments (Rofi'i & Susilo, 2023).

The correlation matrix presented in Table 2 reveals significant relationships among all study variables. Instructional Enhancements demonstrated a strong positive relationship with English language learning outcomes ( $r = 0.683$ ,  $p < .01$ ), indicating that multimedia resources, interactive content, and technology-supported instructional practices contribute positively to language development. Similarly, Student Engagement and Motivation exhibited a significant positive association with learning outcomes ( $r = 0.716$ ,  $p < .01$ ), suggesting that learners who actively

participate in tablet-assisted activities tend to demonstrate stronger language learning performance.

Teacher Competence and Confidence in Technology Use showed the strongest positive correlation with English language learning outcomes ( $r = 0.794$ ,  $p < .01$ ). This finding underscores the critical role of teacher preparedness in ensuring successful technology integration. Teachers who possess adequate technological and pedagogical competencies are better positioned to design engaging learning experiences and effectively utilize digital resources. Conversely, Technical and Implementation Challenges displayed a significant negative relationship with learning outcomes ( $r = -0.602$ ,  $p < .01$ ), indicating that infrastructural barriers, connectivity issues, and implementation difficulties may hinder the effectiveness of tablet-assisted instruction.

Thus, the correlation analysis demonstrates that successful technology integration depends on a combination of pedagogical, technological, and institutional factors. The findings support previous research suggesting that digital technologies enhance learner engagement and language proficiency when implemented within supportive educational environments (Sharma & Begam, 2024; Xodabande & Hashemi, 2023).

**Table 2: Correlation Analysis**

Correlations		TLE	IES	SEM	TCC	TIC
TLE	Pearson Correlation	1	0.683**	0.716**	0.794**	-0.602**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000
	N	180	180	180	180	180
IES	Pearson Correlation	0.683**	1	0.573**	0.654**	-0.443**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000
	N	180	180	180	180	180
SEM	Pearson Correlation	0.716**	0.573**	1	0.715**	-0.477**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000
	N	180	180	180	180	180
TCC	Pearson Correlation	0.794**	0.654**	0.715**	1	-0.552**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000
	N	180	180	180	180	180
TIC	Pearson Correlation	-0.602**	-0.443**	-0.477**	-0.552**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	
	N	180	180	180	180	180
**. Correlation is significant at the 0.01 level (2-tailed).						

As shown in Table 2, all positive predictors exhibited significant relationships with English language

learning outcomes, while technical challenges demonstrated a significant negative relationship. The positive relationships observed between instructional enhancements, learner engagement, and English language learning outcomes are consistent with previous research on technology-enhanced language learning. Abdelrady and Akram (2022) reported that digital learning tools improve student satisfaction and participation, while Bice and Tang (2022) emphasized that teacher readiness and instructional practices significantly influence successful technology integration. Similarly, Muslem et al. (2022) found that technology-supported learning environments enhance learner engagement, language development, and overall educational outcomes. The present findings therefore provide further evidence that meaningful integration of digital technologies can positively influence English language learning when supported by effective pedagogical practices.

### 5.3 Predictors of English Language Learning Outcomes

The regression results presented in Table 3 provide further insight into the predictive influence of the study variables on English language learning outcomes. The model exhibited substantial explanatory power, accounting for approximately 72.9% of the variance in Teaching and Learning English Language ( $R^2 = 0.729$ ). The adjusted  $R^2$  value of 0.723 indicates the robustness of the model even after accounting for the number of predictors included. Furthermore, the ANOVA results confirmed that the

**Table 3:** Regression Analysis

Model Summary					
R	R Square	Adjusted R Square	Std. Error of the Estimate		
0.854	0.729	0.723	0.69623		
ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Regression	228.528	4	57.132	117.862	<0.001
Residual	84.829	175	0.485		
Total	313.356	179			
Coefficients					
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.194	0.295		4.047	<0.001
IES	0.210	0.051	0.218	4.093	<0.001
SEM	0.213	0.055	0.225	3.886	<0.001
TCC	0.378	0.063	0.389	6.004	<0.001
TIC	-0.177	0.046	-0.184	-3.841	<0.001

overall regression model was statistically significant ( $F = 117.862, p < .001$ ), demonstrating that the selected variables collectively contribute to explaining variation in English language learning outcomes.

Among all predictors, Teacher Competence and Confidence in Technology Use emerged as the strongest determinant of successful English language learning ( $\beta = 0.389, p < .001$ ). Student Engagement and Motivation ( $\beta = 0.225, p < .001$ ) and Instructional Enhancements ( $\beta = 0.218, p < .001$ ) also contributed significantly to positive learning outcomes. In contrast, Technical and Implementation Challenges exerted a significant negative influence ( $\beta = -0.184, p < .001$ ), indicating that technological barriers can substantially reduce the effectiveness of tablet-assisted instruction.

These findings suggest that the educational value of tablets is not determined solely by device availability but rather by how effectively technology is integrated into instructional practices. The results emphasize the importance of teacher readiness, learner engagement, and institutional support in maximizing the benefits of technology-enhanced language learning.

#### **5.4 Interpretation through the TPACK Framework**

The findings may be interpreted through the lens of the Technological Pedagogical Content Knowledge (TPACK) framework proposed by Mishra and Koehler (2006). The dominant influence of Teacher Competence and Confidence in Technology Use highlights the importance of integrating technological, pedagogical, and content knowledge to achieve meaningful learning outcomes. Teachers who possess strong technological and pedagogical competencies are more capable of selecting appropriate digital resources, designing engaging learning activities, and facilitating effective language instruction. The prominence of teacher competence in the regression model demonstrates that technology alone does not guarantee learning improvement; rather, educational outcomes depend on teachers' ability to integrate technology with pedagogical strategies and language content knowledge. The findings support previous research emphasizing that teacher preparedness remains a critical determinant of successful technology integration (Akram et al., 2021). Similar conclusions were reported by Rajesh (2025) and George and Sharma (2026), who found that technology-enhanced learning environments contribute significantly to learner engagement, language development, collaboration, and overall academic performance. The present study therefore reinforces the argument that technology alone cannot transform learning outcomes; rather, its effectiveness depends largely on teachers' ability to integrate technology meaningfully into pedagogical practice.

#### **5.5 Constructivist Perspectives on Student Engagement**

The positive association between Student Engagement and Motivation and English language learning outcomes provides support for Constructivist Learning Theory (Vygotsky, 1978). Tablet-assisted learning environments encourage active participation, collaborative learning, multimedia interaction,

and learner autonomy, allowing students to construct knowledge through meaningful experiences rather than passive reception of information. The findings suggest that interactive digital resources create opportunities for learners to engage with language in authentic and motivating ways. However, the results also indicate that access to technology alone may not guarantee meaningful engagement unless supported by effective instructional design and teacher guidance. These findings are consistent with the work of Xodabande and Hashemi (2023) and Rintaningrum (2023), who reported that technology-enhanced learning environments improve learner motivation, participation, and language acquisition by promoting learner-centered educational experiences. The qualitative findings from teacher interviews largely corroborated the quantitative results, particularly regarding the importance of teacher competence, learner engagement, and infrastructural support for successful tablet integration.

### **5.6 Implications of Technical and Implementation Challenges**

Despite the positive outcomes associated with tablet-assisted learning, technical and implementation challenges remain significant obstacles to effective technology integration. The negative relationship between Technical and Implementation Challenges and English language learning outcomes indicates that issues such as limited device availability, inadequate technological infrastructure, unstable internet connectivity, and insufficient technical support may restrict the educational benefits of tablet-based instruction. These findings corroborate previous research conducted in rural and resource-constrained educational settings, which identified infrastructural limitations as a major barrier to successful technology integration (Heinrich et al., 2020). Therefore, educational institutions and policymakers should prioritize investments in digital infrastructure, teacher training programs, professional development initiatives, and technical support systems to ensure the sustainable and effective implementation of tablet-assisted learning initiatives.

These findings demonstrate that tablet integration has considerable potential to enhance English language teaching and learning by improving student engagement, instructional effectiveness, and language proficiency. However, successful implementation requires a balanced combination of teacher competence, learner motivation, pedagogically meaningful technology use, and adequate institutional support. Additionally, the challenges identified in the present study also support findings from previous research (Colliot et al, 2024; Sharma & Begum, 2024) indicating that technological integration is often constrained by infrastructural limitations, teacher preparedness, and institutional support. Ali (2025) reported that barriers related to technology implementation and organizational readiness continue to affect the effectiveness of blended and digital learning environments. These findings suggest that successful tablet integration requires not only technological resources but also sustained professional development and institutional commitment.

### **5.7 Teacher Perspectives from Interviews**

The qualitative findings obtained from interviews with six English language teachers provided valuable insights into the opportunities and challenges associated with tablet integration in government school classrooms. Four major themes emerged from the analysis: perceived benefits of tablets, increased student engagement, infrastructure challenges, and the need for teacher training. Teachers generally viewed tablets as effective instructional tools that enhanced classroom interaction, facilitated access to multimedia learning resources, and supported the development of students' language skills. One teacher noted that "students show greater interest in English lessons when videos, audio clips, and interactive activities are used through tablets." This finding supports the quantitative results, which indicated positive relationships between instructional enhancements and English language learning outcomes.

A second recurring theme was increased student engagement and motivation. Teachers observed that tablet-assisted activities encouraged active participation, improved attention levels, and created a more enjoyable learning environment. Several participants reported that students who were previously reluctant to participate became more involved in classroom activities when digital resources were incorporated into lessons. As one teacher explained, "tablet-based activities make learning more interactive and encourage students to participate more confidently in English language tasks." Despite these benefits, teachers highlighted several infrastructure-related challenges that limited the effectiveness of tablet integration. Common concerns included insufficient device availability, unstable internet connectivity, technical malfunctions, and inadequate technical support. Participants emphasized that such constraints often disrupted instructional activities and reduced opportunities for consistent technology use. These observations align with the quantitative findings, which identified technical and implementation challenges as significant barriers to successful tablet-assisted learning.

Hence, all teachers emphasized the importance of continuous professional development and training. Participants expressed a need for additional support in integrating tablets effectively into pedagogical practices and designing technology-enhanced learning activities. Teachers believed that regular training programs would improve their confidence, technological competence, and ability to maximize the educational benefits of tablet-based instruction. Overall, the qualitative findings corroborate the quantitative results and underscore the importance of teacher preparedness, learner engagement, and institutional support in achieving successful technology integration in English language classrooms.

### **5.8 Practical Implications**

The given findings have important implications for teachers, schools, and policymakers involved in technology-enhanced language education. For teachers, the results highlight the necessity of continuous professional development in technology integration and digital pedagogy. Effective tablet-

assisted instruction requires not only technological competence but also the ability to align digital tools with pedagogical objectives and language learning outcomes. Therefore, regular training programs, workshops, and hands-on professional development initiatives should be organized to enhance teachers' confidence and proficiency in using tablets for English language instruction.

At the institutional level, schools should ensure adequate access to tablets and other digital learning resources to maximize student engagement and learning outcomes. The availability of sufficient devices, reliable internet connectivity, and technical support services is essential for the successful implementation of tablet-based learning. Schools should also establish mechanisms for maintaining and updating digital infrastructure to minimize technical disruptions during classroom instruction. Then, from a policy perspective, educational authorities should prioritize investment in technological infrastructure, particularly in rural and semi-urban government schools where resource limitations often hinder effective technology integration. Policymakers should focus on improving internet connectivity, expanding access to digital devices, and allocating adequate funding for educational technology initiatives. Furthermore, structured teacher professional development programs should be incorporated into educational policies to ensure that teachers possess the technological and pedagogical competencies required for effective digital instruction. Such initiatives can contribute to narrowing the digital divide and promoting equitable access to quality English language education.

### **5.9 Limitations of the Study**

Although this study makes significant contributions, it has certain limitations that should be considered while interpreting the findings. First, the study was conducted exclusively in government schools within the Eluru District of Andhra Pradesh, which may limit the generalizability of the findings to other geographical regions and educational contexts. Second, the participants consisted solely of Grade 10 students and a small group of English language teachers, restricting the applicability of the results to other grade levels and learner populations. Third, the study employed a cross-sectional research design, capturing participant perceptions and experiences at a single point in time rather than examining long-term educational outcomes. Fourth, a substantial portion of the data was based on self-reported responses, which may be subject to response bias and individual interpretation. Finally, the study focused specifically on tablet-assisted learning and did not investigate the comparative effectiveness of other digital technologies or learning platforms.

Future research may adopt longitudinal designs to examine the sustained impact of tablet-assisted learning on English language proficiency over time. Additionally, studies involving multiple districts, diverse educational settings, and different grade levels would enhance the generalizability of findings and provide a broader understanding of technology integration in language education.

## Conclusion

The present study examined the integration of tablets in English language teaching and learning in government schools of Eluru District, Andhra Pradesh. Specifically, the study analyzed the current state of tablet-assisted English language instruction, identified challenges faced by teachers in integrating tablets into classrooms, and explored the perceived influence of tablet integration on students' English language proficiency from both student and teacher perspectives. The findings indicate that tablet-assisted learning positively contributes to student engagement, motivation, vocabulary acquisition, reading comprehension, listening skills, and overall language proficiency.

The study further revealed that instructional enhancements, learner engagement, and teacher competence significantly contribute to improved English language learning outcomes, whereas technical and implementation challenges negatively affect the effectiveness of tablet-based instruction. Among all predictors, Teacher Competence and Confidence in Technology Use emerged as the strongest determinant of successful learning outcomes, highlighting the pivotal role of teachers in translating technological resources into meaningful pedagogical experiences. These findings reinforce the relevance of the Technological Pedagogical Content Knowledge (TPACK) framework and support constructivist perspectives that emphasize active, learner-centered, and technology-supported learning environments.

From a practical and policy perspective, the findings underscore the need for sustained investment in technological infrastructure, reliable internet connectivity, device accessibility, and continuous professional development for teachers. Effective technology integration requires not only access to digital tools but also pedagogically informed instructional practices and institutional support systems that enable meaningful and equitable learning experiences.

The study contributes to the growing body of research on technology-enhanced language learning by providing empirical evidence from underrepresented government school contexts in semi-urban and rural India. By integrating both student and teacher perspectives, it extends existing scholarship on tablet-assisted language learning and highlights the central role of teacher technological competence in achieving successful educational outcomes. Future research may extend this investigation to different grade levels, subject areas, and geographical regions, while longitudinal studies could provide deeper insights into the long-term impact of tablet-assisted learning on language achievement and academic development. Overall, the study demonstrates that successful tablet integration depends on the effective interaction of technology, pedagogy, teacher preparedness, and institutional support, offering valuable implications for educators, administrators, and policymakers seeking to promote inclusive, equitable, and effective digital education. Unlike many previous studies conducted in urban or higher education contexts, this study contributes empirical evidence from government schools in a semi-urban and rural Indian setting, thereby extending current understanding

of technology-enhanced language learning in underrepresented educational environments.

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## Disclosure statement

The author declares that they have no personal or financial conflicts of interest that may have affected their work. The research was not funded by any public, commercial, or non-profit organization. A standard of ethical conduct for educational research was followed in the conduct of this study.

## Declaration

The author confirms that this manuscript does not contain any plagiarism, data fabrication, or falsification. The study adhered strictly to all ethical standards and guidelines relevant to educational research. AI tools were strictly limited to language editing, grammatical improvement, and formatting support. No other AI tools have been used to generate the original content and concept of the research study.

## About the Authors

**Emmanuel Bathula** is an English language trainer and doctoral candidate at GlobalNxt University. In his research, he is interested in the integration of tablets in the teaching and learning of English language in government schools in the Eluru District of Andhra Pradesh. His research incorporates the TPACK Framework along with Bloom's Taxonomy and social constructivism concepts.

**Dr. Dalwinder Kaur** is an Assistant Professor at GlobalNxt University, Malaysia, where she teaches education research, innovative pedagogy, and academic excellence. To advance the field of education, she actively engages in teaching, research, and scholarly contributions that foster critical thinking, learner-centered approaches, and transformative educational practices.

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## Appendix (Supplementary Materials)

**A1:** Descriptive Statistics of Variables

Statements		N	Minimum	Maximum	Mean	Standard Deviation
Instructional Enhancements (IES)	Tablet-based content makes English grammar more understandable (IES1)	180	1	5	3.4	1.39
	Using tablets in class makes English lessons more interactive (IES2)	180	1	5	3.4	1.47
	Multimedia features (videos, audio, animations) on tablets help me learn vocabulary faster (IES3)	180	1	5	3.4	1.41
	Digital tools on tablets enhance my understanding of reading passages (IES4)	180	1	5	3.4	1.44
	Tablet use makes teacher explanations in English clearer and more effective (IES5)	180	1	5	3.4	1.45
	I feel that I learn English more quickly when tablets are used in the classroom (IES6)	180	1	5	3.4	1.47

Student Engagement and Motivation (SEM)	I pay more attention when tablets are used in English class (SEM1)	180	1	5	3.5	1.46
	Tablet activities make English learning fun and enjoyable (SEM2)	180	1	5	3.4	1.50
	Using tablets motivates me to speak more English (SEM3)	180	1	5	3.4	1.48
	I participate more actively during tablet-based English lessons (SEM4)	180	1	5	3.4	1.42
	I feel more excited and interested in learning English when tablets are used (SEM5)	180	1	5	3.4	1.41
Teacher Competence and Confidence in Technology Use (TCC)	My English teacher knows how to use tablets effectively for teaching (TCC1)	180	1	5	3.4	1.41
	My teacher confidently integrates tablet-based tools during English lessons (TCC2)	180	1	5	3.3	1.43
	Teachers explain how to use tablets to support our English learning (TCC3)	180	1	5	3.3	1.45
	My teacher regularly uses tablets to demonstrate English activities or exercises (TCC4)	180	1	5	3.4	1.40
	My teacher helps us use apps or digital tools to improve our English skills (TCC5)	180	1	5	3.3	1.45
Technical and Implementation Challenges	Sometimes the tablets do not work properly	180	1	5	3.3	1.43

(TIC)	during English class (TIC1)					
	Internet connectivity issues affect my ability to use tablets effectively (TIC2)	180	1	5	3.3	1.47
	We do not get enough time to use tablets during English lessons (TIC3)	180	1	5	3.3	1.44
	Some educational apps or tools on the tablets are hard to understand or use (TIC4)	180	1	5	3.3	1.44
	Sharing tablets with other students reduces the time I get to practice English (TIC5)	180	1	5	3.3	1.41
Teaching and Learning English Language (TLE)	Tablets have improved my ability to listen and understand spoken English in class (TLE1)	180	1	5	3.4	1.37
	I feel more confident speaking English because of tablet-based practice activities (TLE2)	180	1	5	3.3	1.39
	Using tablets has helped me read and understand English texts more easily (TLE3)	180	1	5	3.3	1.37
	Tablet activities have improved how I write English sentences and paragraphs (TLE4)	180	1	5	3.2	1.42
	Tablet-based lessons help me understand English better than traditional methods (TLE5)	180	1	5	3.3	1.39

**A2: Normality Analysis**

Statements		Kolmogorov-Smirnov		
		Statistic	df	Sig.
Instructional Enhancements (IES)	IES1	0.181	180	0.000
	IES2	0.197	180	0.000
	IES3	0.201	180	0.000
	IES4	0.179	180	0.000
	IES5	0.195	180	0.000
	IES6	0.190	180	0.000
Student Engagement and Motivation (SEM)	SEM1	0.205	180	0.000
	SEM2	0.228	180	0.000
	SEM3	0.211	180	0.000
	SEM4	0.191	180	0.000
	SEM5	0.192	180	0.000
Teacher Competence and Confidence in Technology Use (TCC)	TCC1	0.179	180	0.000
	TCC2	0.175	180	0.000
	TCC3	0.185	180	0.000
	TCC4	0.187	180	0.000
	TCC5	0.185	180	0.000
Technical and Implementation Challenges (TIC)	TIC1	0.166	180	0.000
	TIC2	0.183	180	0.000
	TIC3	0.177	180	0.000
	TIC4	0.176	180	0.000
	TIC5	0.175	180	0.000
Teaching and Learning English Language (TLE)	TLE1	0.181	180	0.000
	TLE2	0.166	180	0.000
	TLE3	0.160	180	0.000
	TLE4	0.165	180	0.000
	TLE5	0.179	180	0.000

**A3: Reliability Analysis using Cronbach's Alpha**

Constructs	No. of Items	Mean	Std. Deviation	Cronbach's Alpha
Instructional Enhancements (IES)	6	3.4	1.37	0.981
Student Engagement and Motivation (SEM)	5	3.4	1.40	0.979
Teacher Competence and Confidence in Technology Use (TCC)	5	3.3	1.36	0.975
Technical and Implementation Challenges (TIC)	5	3.3	1.38	0.977
Teaching and Learning English Language (TLEL)	5	3.3	1.32	0.975

**A4: Construct Reliability and Validity using Composite Reliability (CR) and Average Variance Extracted (AVE)**

Constructs		Component					Composite Reliability (CR)	Average Variance Extracted (AVE)
		1	2	3	4	5		
Instructional Enhancements (IES)	IES1	0.863					0.948	0.750
	IES2	0.875						
	IES3	0.874						
	IES4	0.843						
	IES5	0.860						
	IES6	0.885						
Student Engagement and Motivation (SEM)	SEM1			0.810			0.924	0.709
	SEM2			0.848				
	SEM3			0.853				
	SEM4			0.849				
	SEM5			0.849				
Teacher Competence and Confidence in Technology Use (TCC)	TCC1				0.759		0.870	0.571
	TCC2				0.751			
	TCC3				0.783			
	TCC4				0.729			
	TCC5				0.757			
Technical and Implementation Challenges (TIC)	TIC1		-0.892				0.952	0.799
	TIC2		-0.900					
	TIC3		-0.882					
	TIC4		-0.897					
	TIC5		-0.901					
Teaching and Learning English Language (TLE)	TLE1					0.707	0.834	0.502
	TLE2					0.676		
	TLE3					0.717		
	TLE4					0.710		
	TLE5					0.729		

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