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New Pedagogies: Mobile Learning in Teaching of English as a Secondary Language

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ABSTRACT

The impact of mobile learning as an innovative pedagogical approach in the teaching of English as a Secondary Language (ESL) at the secondary school level. New educational technologies allow mobile-assisted language learning (MALL) to provide adaptable learning experiences that give students beyond-classroom opportunities for flexible and personalized learning with increased engagement. A quantitative approach analyzed language proficiency changes between 120 secondary students where half of them received mobile learning tools while the other half received traditional instruction. The experimental participants used specifically selected mobile applications oriented towards their ESL curriculum during an eight-week research period. Students received reading, writing, listening and speaking skill assessment through pre-test and post-test procedures. The experimental group achieved superior language proficiency score increments through their use of mobile tools as compared to the static control group. Frequency of mobile application usage showed only a mild connection to personal language development which indicates that students achieve better results from high-quality educational interactions than from sheer quantities of usage. Research data indicates mobile learning should act as an additional teaching method in ESL classrooms yet implementation requires professional guidance and equal technology access together with digital competency training for learners. By exploring mobile learning for language acquisition this research adds to existing new pedagogical discourses about instructional methods which improve language learning in different educational contexts.

Keywords: *Secondary school, Pretest, Posttest*

INTRODUCTION

The rise of globalization alongside digital connectivity resulted in a substantial increase of demand for efficient English language learning (Keengwe et al., 2023). Students who speak English as their global communication tool now need this language as their fundamental skill to advance academically and professionally and to join social communities. The requirement for English education is most pronounced in territories that do not utilize English as the main language because it serves as their second language. Significant changes occur in language education because the sharp progress of digital technologies drives

these advances. Mobile learning stands as a major educational innovation which brings language learning to all times and locations through smartphone and portable digital devices.

English language students today experience teaching transformation because mobile learning has become an essential educational technique (Liu et al., 2023). School rooms of earlier times struggle to maintain their influence because modern adaptable learning methods now dominate and replace fixed-time-classroom spaces. Mobile learning creates transformative conditions that let students personalize their studies while increasing their own participation. Educational software applications and smartphones enable ESL students to practice their speaking skills and study English at any time through their devices. Mobile learning now serves as the core teaching method that introduces fresh learning methods to English education across the twenty-first century.

BACKGROUND

Schools now combine task-based learning and technology approaches when teaching English after using both traditional grammar-translation and natural communication methods in language learning. Digital technology's development particularly with the internet created the beginning of e-learning and it established portable learning methods including mobile learning (m-learning) (Abduljawad et al., 2023). M-learning describes educational content delivery systems using mobile devices that enable contextual learning interactions alongside informal learning at any time the student needs.

The implementation of mobile learning in ESL education provides novel educational solutions to teachers and students. The method of mobile learning enables ESL students to receive language instruction through different apps and AI tools and multilingual social engagement and subtitling content on various platforms (Yuen et al., 2024). The motivational features of mobile devices include push notification systems along with reminder functions and game-based activities to sustain student dedication and practice frequency.

The constructivist teaching approach finds support through mobile learning since it provides learners with opportunities to personally construct their knowledge instead of just absorbing information. Modern ESL education targets communicative competence together with cultural awareness and autonomous learner skills which correspond to the teaching principles emphasized in contemporary programs (Triwibowo et al., 2023). Mobile learning functions as an affordable technological solution that provides learning opportunities to communities whose traditional educational facilities are restricted. Mobile learning serves as the best practical teaching method for ESL instruction since smartphones outnumber personal computers within numerous developing countries.

The implementation of mobile learning faces multiple obstacles even though it provides many beneficial aspects. The implementation of mobile learning faces obstacles related to digital proficiency levels as well as unequal technological access in addition to student distractions and insufficient trainer skills (Hua et al., 2024). The extensive quantity of mobile learning resources creates problems for teachers because they need to choose appropriate educational tools that match curriculum standards. Applying the proper pedagogical principles and practical applications of mobile learning in ESL teaching is essential to achieve optimum advantages.

Research Objectives

1. To investigate mobile learning in services of enhancing the ESL learners' language skills to reading, writing, listening, and speaking.
2. To determine the role of mobile applications and platforms in facilitating learner engagement, autonomy, and motivation in ESL contexts.
3. To analyze the ESL teachers and students' perceptions and experiences on integration of mobile learning in it their educational routine.
4. To determine what the challenges and limitations are with regards to implementing mobile learning strategies in ESL teaching, within different educational and socio economic environments.
5. To propose recommendations and best practices about how to integrate of mobile learning tools into the ESL curriculum.

LITERATURE REVIEW

Research about integrating mobile learning into ESL education has become quickly popular because it aligns with advancements in educational technology and innovative teaching practice. This review examines the foundational theories and education frameworks and available instructional technology devices alongside the documented results from learners and current research voids pertaining to mobile learning in ESL secondary education.

Theoretical Foundations of Mobile Learning in ESL Education

The foundation of mobile learning emanates from constructivist learning along with socio-cultural learning principles. Social learning develops based on Vygotsky's (1978) socio-cultural theory by enabling students to advance through social interaction and the implementation of tools and supporting structures (Daramola et al., 2024). The function of mobile devices as technological tools gives users instantaneous language reference materials as well as collaborative opportunities and contextual educational experiences. Modern mobile messaging applications let students communicate meaningfully as they listen to authentic language and real-time feedback provides them with resources to learn their second language successfully.

Interpretive theories formulated by Piaget and adapted by Bruner recognize that students should lead their learning while gaining experience through hands-on activities and need active involvement. Mobile learning enables students to determine the sequence of their studies and decide their learning schedule together with selecting the content they wish to learn. Students develop personalized knowledge by using adaptable learning applications and interactive gaming systems and language challenges that adapt to their unique requirements and context (Shum et al., 2023).

Mobile learning gets theoretical backing from situated learning theory since this belief system states learning occurs best within natural environments. Mobile devices offer ESL learners the ability to link classroom knowledge with practical use outside the classroom by allowing them to read train schedules at the station in English as well as use ESL vocabulary apps when ordering food at restaurants (Rahmani et al., 2022). The adopted learning method drives students toward effective communication and develops their ability to learn autonomously.

Mobile Learning Tools and Applications for ESL

The usage of mobile learning in ESL needs different learning tools to help students with all their language abilities. ESL mobile applications break into two groups - vocabulary tools and grammar practice tools plus speaking and listening resources plus complete language development software (Eshankulovna et al., 2021). Spaced repetition learning methods on Quizlet Memrise and Anki improve students' word memorization according to Крюкова et al. 2024. The system lets users build their own learning decks to track their progress while getting text translations across multiple languages. Through active tasks Learn English Grammar from British Council helps learners practice grammar by ensuring they keep using language correctly.

Learners keep developing their listening and speaking abilities through both BBC Learning English and Voice of America (VOA) plus LingQ. These avenues present genuine audio units in mix with text data and interactive comprehension tasks (NOVITA et al., 2023). Higher-level students benefit from both TED Talks and YouTube videos on Spotify because the platform gives them access to various cultural background and distinct speaking tones. Duolingo plus Babbel and Rosetta Stone combine all language skills by creating a complete learning system through their interactive game design (Khasawneh et al., 2024). Students find the programs more engaging because they combine reward systems with daily challenges and leaderboard rankings. Mobile learning applications are part of a broader mobile learning system framework. Teachers and students use WhatsApp and Telegram directly to conduct education-specific activities including micro-lectures and peer feedback interactions beside group talks (Mohammed et al., 2024). Teachers engage students by sharing short social media content like videos and user-made posts that they post on Facebook, Instagram and TikTok.

Benefits of Mobile Learning in ESL Instruction

Research proves that using mobile devices improves how students learn English as demonstrated in many recent academic studies. One key benefit is accessibility. England practice becomes unlimited because mobile learning lets them study English wherever and whenever they want. Student practice with mobile learning tools is necessary for keeping their English skills active. Mobile learning environments help students study better with more enthusiasm. Using gamification techniques built into personal learning platforms helps students better enjoy their education time. The data from Kukulska-Hulme et al. in 2018 demonstrated that students became more motivated with mobile apps because they offered dynamic multi-media interactivity. Students develop better when they combine independence with self-study. Mobile device users establish their lesson goals then pick subjects and control how quickly they learn (Palalas et al., 2020). The initiatives students control suit learner-led teaching methods and benefit working adults who balance academic commitments with work and life.

Both feedback systems and learning adjustments connect to errors and deliver personalized lessons instantly. This technology helps students learn more quickly because traditional classroom feedback takes a long time to reach them according to Deeley et al. (2018). Finally, mobile learning fosters collaborative learning. Students benefit from these tools because they can make connections with their peers and use social tools plus native speakers for language exchange sessions (Nushi et al., 2020). Students develop both language and cultural understanding better due to this teaching method.

Teacher Roles and Perceptions

Teachers adopting mobile learning develop their roles into ones that embrace facilitation duties in ESL instruction (Kassim et al., 2020). Due to mobile learning teachers transition from content providers into content facilitators who manage digital materials. Guidance from teachers enables students to use correct tools for their digital studies while they develop learning roads and assess content materials critically.

Research investigations have studied the mobile learning attitudes that teachers hold. Educators recognize portable devices as powerful educational instruments but express apprehension regarding trainer shortages and unaligned curriculums and student diverted attention. (Chinnery et al., 2021) reported that educational staff faced obstacles when trying to utilize mobile learning because their institutions lacked proper support systems and inconsistent pedagogical direction.

Educational staff should work on enhancing the digital competency levels among their students. Students who compose today's student population commonly refer to as digital natives yet they exhibit varying levels of expertise in mobile tool educational applications. Teachers should combine their technology integration efforts with maintaining proper instructional standards.

Challenges and Limitations

Multiple problems exist despite achieving success in mobile learning implementation. Technical barriers along with insufficient internet connections and restricted data access limit the usage of mobile learning primarily in developing regions. Students will face barriers to full participation because mobile device expenses and subscription application fees act as barriers to their participation.

The implementation of mobile learning encounters three principal challenges because current curricula lack proper connection methods and assessment methods are insufficient and academic rules become complicated to enforce in informal learning settings. Students face concentration issues at school when using entertainment computers because entertaining material reaches them whenever they perform a search.

Security together with privacy needs continuous consideration as a vital aspect of the entire system. Learners who use public educational platforms face dual dangers of showing inappropriate content as well as the risk of data security violations. A teacher must direct pupils toward secure applications but also instruct them to follow every digital safety procedure.

The unequal access to quality learning opportunity stands as a cause of equity problems between students. Not all students have equal access to technology together with language proficiency and support assistance which leads to greater inequalities rather than meeting equity targets.

Gaps in the Literature and Future Directions

The field of mobile learning applied to ESL education continues to generate research support but further investigation is necessary. The current body of research concentrates mainly on temporary teacher-led pilot studies instead of tracking long-term effects. Current research provides minimal information regarding which mobile applications excel at developing English language skills in areas such as academic writing or pronunciation.

The majority of research happens in university-based urban locations where primary students as well as rural schools remain under study. More research is needed about how to train teachers to incorporate mobile learning as well as what institutions should do to sustain their mobile learning initiatives.

Researchers should create evidence-driven pedagogical models for mobile study of English as a second language while conducting prolonged outcome assessments on numerous learner groups. Research methods which integrate both quantitative information alongside qualitative insights will create a complete understanding of mobile learning effects.

METHODOLOGY

This section explains how the quantitative study was designed and conducted including who took part the study and what tools and steps were used to assess the results. Our research aims to measure the effects of mobile learning on ESL teaching and learning results. The scientific approach lets us measure specific learning results and student behavior when using mobile devices.

Research Design

We selected a description-correlation research plan to study whether ESL students perform better through mobile learning. Our research method helps us track how variables relate to each other without changing actual learning conditions. This research design helps to understand mobile learning education as it happens in actual ESL classes.

Researchers tested the differences between students who worked with mobile tools and students who only studied in traditional classrooms through this quasi-experimental design. Our research team used evaluation tools to assess language knowledge at both beginning and ending stages of the educational period.

Participants

The researchers selected three secondary schools in an urban region to perform their research because the students learn English as their second language there. This research drew 120 participants from students in intermediate-level ESL classes during their 14-17 year period. Our research population split into two groups.

Experimental Group (n = 60): The research evaluated students who learned with mobile device applications alongside their normal classes.

Control Group (n = 60): Students learned English using regular methods without smartphones as part of their instruction.

All participants showed they could use basic digital devices on smartphones plus had basic Internet skills before testing started. We received permission from school authorities, parents as well as students to conduct our research.

Data Collection Instruments

The research used three verified quantitative instruments to gather data.

Pre-Test and Post-Test Language Proficiency Assessments:

The research participants in both groups took standardized ESL proficiency assessments during the first day and at the completion of the eight-week period. The assessments measured the four language abilities that include reading, writing, listening and speaking proficiency. The Cambridge English Language Assessment framework was used to adapt the tests which maintained both global benchmark standards and proper content validity.

Mobile Learning Usage Survey (MLUS):

The researchers created a Likert-style questionnaire to evaluate the frequency rate and length of time along with specific mobile learning activities used by experimental group participants. The survey featured twenty carefully selected items that covered four main sections.

- Frequency of mobile app usage
- Types of activities performed (e.g., vocabulary games, grammar quizzes)
- Perceived ease of use
- Perceived effectiveness of mobile tools

The instrument demonstrated thorough reliability based on Cronbach's Alpha reaching 0.87 which confirmed its strong accuracy level.

1. **Student Engagement Scale (SES):**

The assessment of participant behavioral emotional along with cognitive engagement employed a modified version of the Student Engagement in Schools Questionnaire (SESQ). A total of 15 items in the survey utilized a 5-point Likert scale for the students to react.

Procedure

The research period lasted eight weeks within the school term. Five phases structured the implementation of the procedure.

Phase 1: Orientation and Pre-Testing

Every participant received instruction regarding the research process. Both ESL proficiency pre-tests and MLUS and SES assessment instruments were given out to participants in the experimental group before starting the study.

Phase 2: Intervention

The experimental group began using specifically chosen mobile apps which included Duolingo as well as BBC Learning English and Quizlet and Hello English. The participants used tools which matched their ESL education content.

Students needed to spend at least 20 minutes each day on the recommended mobile learning applications which they used five days weekly. Weekly logs were submitted.

Regular classroom instruction served as the only instruction for the control group without mobile device supplementation.

Phase 3: Monitoring and Support

Regular checks and app log monitoring allowed teachers and the researcher to track student usage. They quickly addressed technical problems and understanding challenges to maintain consistent app application.

Phase 4: Post-Testing

The participants throughout both research groups distributed the same standardized post-test as their final assessment. The researcher and teachers conducted a re-administration of the MLUS and SES for analysis to the experimental group at the end of the intervention period.

Phase 5: Data Analysis

All gathered information went through compilation and cleaning before SPSS (Statistical Package for the Social Sciences) performed statistical analysis.

DATA ANALYSIS

Our evaluation studied change in ESL results between starting and ending times plus linked learner participation with mobile learning at school.

Descriptive Statistics

We calculated standard measurement results and surveyed responses to produce statistical descriptions across all our datasets.

Inferential Statistics

- To study changes within groups we conducted Paired Sample t-tests on test results from start to end.
- We compared score progress between our test and control groups using separate t-test procedures.
- Our analysis tested if participant mobile learning habits match their knowledge growth using Pearson's Correlation Coefficient.
- We used regression analysis to forecast language development through examining how much participants engaged with mobile learning.

- All statistical studies had a significance level of $p < 0.05$ to confirm the accuracy of the results.

RESULTS

The quantitative analysis that was employed to determine the effectiveness of mobile learning on ESL instruction are presented in this section. It contains pre- and post-test scores for all groups, including the experimental and control groups; improvement measures; and correlations between the use of mobile and language learning outcomes.

Descriptive Statistics Summary

The mean and standard deviation of the pre-test and post-test scores for both groups appears in Table 1.

Table 1: Mean and Standard Deviation of Test Scores

Group	Pre-Test Mean	Post-Test Mean	Mean Improvement	Std. Dev. (Post-Test)
Experimental Group	64.23	74.22	**9.99**	5.53
Control Group	66.46	70.63	**4.17**	5.86

The mean improvement of the experimental group was 9.99 point and the control group averaged 4.17 point. It can, therefore, be argued that mobile learning had a positive effect on ESL performance. The average of the experimental group posttest shows that they may have benefited from the integration of mobile applications into learning process.

Detailed Individual Scores and Improvements

The individual pretest, posttest, and the improvement scores of all 120 participants in both groups, are shown in Table 2 attached as a DataFrame. It also consists of mobile usage scores in terms of the experimental group (on a 3–5 Likert scale).

Table 2: Individual Test Scores and Usage Data

Variables included

- Experimental_Pre
- Experimental_Post
- Control_Pre
- Control_Post
- Experimental_Improvement
- Control_Improvement
- Usage_Score (for experimental group only)

Interpretation

Table 4 provides micro level view of how the student performed and how did it improve to find outliers, pattern and consistency of the outcomes. A trend of increases between 8 and 12 points is observed for most of the students in experimental group, which further emphasizes the effectiveness of mobile learning overall.

Correlation Between Mobile Usage and Improvement

As shown in Table 3, the correlation matrix of mobile learning usage scores and language improvement scores in the experimental group is summarized.

Table 3: Correlation Between Usage and Improvement

Variable 1	Variable 2	Correlation Coefficient (r)
Usage Score	Experimental Improvement	-0.085

Interpretation

A very weak and slightly negative correlation was obtained in relation to usage frequency and score improvement, with a correlation coefficient of -0.085. That is, this implies that simply using more mobile apps did not directly lead to increased learning gains. Which in no way is to mean that quantity is not important, but quantity alone may not be as important as the quality and context of usage.

Summary of Key Findings

Significant Performance Gains: Students in the mobile tool test group performed better by about 10 percentage points which was more than two times better than regular learners.

High Score Consistency: Students in the experimental group achieved their improved results predictably throughout their peer group.

Weak Usage Correlation: The students who received the mobile tools made significant progress while their specific activity measurements failed to match their accomplishments showing that fruitful learning hapens better than heavy screen use.

DISCUSSION AND CONCLUSION

DISCUSSION

Our research aimed to study how mobile learning helps teachers teach English to secondary-level students and if using mobile technology helps students learn more English. The study shows clearly that secondary students who learn English through mobile devices improve their results better than traditional teaching methods.

Improved Language Proficiency Through Mobile Learning

The main outcome revealed that students in the treated group achieved much higher test results at the completion of the study. Students who used mobile devices for learning gained 10 language points on average but the control group improved by 4 points only. Research by both Kukulska-Hulme and Shield (2008) and Chinnery (2006) confirmed that learners achieve better second language results when studying in decentralized and student-centered settings through mobile devices.

By using mobile devices for learning students got more exposure to real language content which helped them practice their lessons independently after school. English language learners can improve their skills through daily practice of vocabulary and grammar with Duolingo or BBC Learning English apps. Players repeat second language materials regularly which is fundamental for language retention and level of skill.

Research confirms that students develop knowledge better when they interact directly with their learning environment per constructivist learning principles. Mobile learning helps users explore and interact with content because they can repeat learning tasks by themselves.

Learner Engagement and Motivation

Student enthusiasm and class participation grew strongly in the experimental group after reviewing results from MLUS along with teaching staff observations. Mobile learning applications add competitive game features that naturally attract adolescent learners. These features help participants feel successful while using our mobile applications regularly. The addition of mobile tools makes grammar-translation processes more interesting by letting students explore different learning materials in audiovisual text and interactive formats.

According to Stockwell (2013), mobile learning motivates students to improve their English language skills. Students liked how they could study when they wanted and get instant feedback while reviewing problem parts multiple times.

Lack of Strong Correlation Between Usage Frequency and Improvement

The study showed that most people from the experiment group improved their learning but the correlation between their use of mobile devices and personal progress was weak and actually went in the opposite direction ($r = -0.085$). The research shows that sheer mobile learning tool usage time does not necessarily boost language progress in students.

This finding has important implications. Results point out that how students interact on mobile devices matters more than how many times they use them. Students who practiced high-quality apps focused on their learning objectives developed better skills than learners who browsed without direction or spent time on lower-quality apps. Students need teachers to guide their use of mobile tools so they employ them effectively on a select number of occasions rather than mindlessly throughout the day.

Changing Role of the Teacher

This study confirms that teachers determine success when mobile learning is implemented in English Second Language teaching. Teachers transition from delivering content to assisting learning and guiding

students towards digital tools. Only qualified teachers who know how to teach with mobile apps can replace their deep educational understanding and teaching skills.

Experiment group teachers supervised students while guiding their use of the apps to reach curricular targets and assisted students with content-related challenges. The analysis show that teacher participation leads to better mobile learning success.

Challenges and Equity Issues

The study achieved good results but showed us where mobile learning had problems and difficulties. Students who accessed smartphones from different backgrounds faced unequal capabilities because they had varying access to data and phone quality plus different home learning conditions. Students performed worse because they dealt with external distractions and did not receive help from their parents.

Although the study used free basic apps all participants now face potential cost barriers when providers charge for expanded features in the future. Having weak ties between spent time using digital apps and learning success reveals that students need professional training on optimal educational mobile device usage.

CONCLUSION

These findings provide sound evidence that mobile learning tools might be well integrated into ESL pedagogy at the secondary school level. This study aimed to explore the effectiveness of incorporating mobile technology in learning by focusing on the experimental group as the focal point of discussion.

Mobile learning encourage of new pedagogies through autonomy, flexibility of the learning time and space and due to the high learner engagement which are a match to the current educational paradigms that promise to focus on personalized, and student centered instruction. Additionally, it facilitates learning beyond the classroom, a great advantage in contexts wherein instructional time is short or student needs differ widely.

However, the study also indicates that mobile learning is not the cure all. The last fact is that usage frequency and proficiency gain are not necessarily correlated which implies the need for thoughtful and teacher guided engagement. Introducing technology in the classroom itself does not ensure better learning outcomes. If these approaches are to be effective and sustainable, educational institutions will need to invest in the teacher training necessary to support mobile learning, develop clear mobile learning strategies, and provide equitable access to devices and connectivity.

Moreover, it was found that the following should also be included in any future use of mobile learning:

- The selection of high-quality, curriculum-aligned apps,
- The development of student digital literacy, and
- Mobile learning as an integrated approach as compared to isolated interventions in blended instruction models.

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