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The Role of Mobile-assisted Language Learning (MALL) Apps in Fostering Autonomous Learning Habits



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Abstract

The rapid proliferation of mobile technologies has transformed the landscape of English Language Teaching (ELT), offering new opportunities to promote learner autonomy beyond the traditional classroom. This study investigates the role of mobile-assisted language learning (MALL) applications, such as Duolingo and Quizlet, in fostering autonomous learning habits among English as a Foreign Language (EFL) learners. Grounded in theories of self-directed learning and metacognitive strategy development, the research examines how features such as personalized feedback, gamification, and flexible access influence learners' ability to plan, monitor, and evaluate their own learning. A mixed-methods approach was employed, combining survey data, app usage analytics, and semi-structured interviews with undergraduate EFL students. The findings indicate that regular engagement with MALL apps significantly enhances learners' self-regulation, motivation, and time-management skills. Participants reported increased confidence in setting learning goals and independently practicing language skills, particularly vocabulary and listening. However, the study also identifies challenges, including superficial engagement, over-reliance on gamified rewards, and varying levels of digital literacy. The study concludes that while MALL applications can serve as effective tools for promoting learner autonomy, their impact depends on guided integration within pedagogical frameworks and learners' awareness of effective learning strategies. The research offers practical implications for educators seeking to incorporate mobile technologies into ELT to cultivate sustainable autonomous learning habits.

Keywords: Mobile-Assisted Language Learning, learner autonomy, English Language Teaching (ELT), self-regulated learning, mobile learning applications, EFL learners, digital learning tools, autonomous learning habits

Background of the Study

In recent decades, the field of English Language Teaching (ELT) has undergone a significant paradigm shift from teacher-centered instruction to learner-centered approaches that emphasize active participation and independence. Central to this shift

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is the concept of learner autonomy, which refers to learners' ability to take control of their own learning by setting goals, selecting strategies, and evaluating progress. The foundational work of Henri Holec (1981) defines learner autonomy as "the ability to take charge of one's own learning," a concept that has since become a cornerstone in modern language pedagogy. Subsequent scholars such as David Little (1991) and Phil Benson (2011) have expanded this notion, highlighting the importance of metacognitive awareness and learner agency in successful language acquisition.

With the rapid advancement of digital technologies, particularly mobile devices, new opportunities have emerged to support autonomous learning outside formal classroom settings. Mobile-Assisted Language Learning (MALL) has gained increasing attention as a subfield of computer-assisted language learning (CALL), focusing on the use of smartphones and tablets to facilitate language learning anytime and anywhere. According to Agnes Kukulska-Hulme and John Traxler (2005), mobile technologies offer portability, personalization, and contextual learning opportunities that align closely with the principles of learner autonomy. These affordances enable learners to engage in self-directed practices such as vocabulary building, listening to authentic materials, and interactive exercises beyond institutional constraints.

The growing popularity of mobile applications such as Duolingo and Quizlet has further accelerated the integration of MALL into language learning contexts. These applications incorporate features like gamification, instant feedback, adaptive learning paths, and progress tracking, which can enhance learners' motivation and engagement (Godwin-Jones, 2011). Moreover, such features may contribute to the development of self-regulated learning behaviors, including goal setting, monitoring, and self-assessment, which are essential components of learner autonomy (Zimmerman, 2002).

Despite the potential benefits, the effectiveness of MALL in fostering genuine learner autonomy remains a subject of ongoing debate. While some studies suggest that mobile applications encourage independent learning habits and increase learner responsibility (Stockwell, 2013), others caution that excessive reliance on gamified elements may lead to superficial engagement rather than deep learning (Burston, 2015). Additionally, factors such as digital literacy, access to technology, and institutional support play a critical role in determining the extent to which learners can

benefit from mobile-assisted environments (Kukulska-Hulme, 2012).

In many EFL contexts, particularly in developing countries, traditional examination-oriented systems and teacher-centered practices may limit opportunities for autonomous learning. However, the widespread availability of smartphones presents a promising avenue to bridge this gap by extending learning beyond the classroom. Therefore, it is essential to examine how MALL applications can be effectively utilized to cultivate sustainable autonomous learning habits among language learners. This study aims to contribute to the growing body of research by exploring the role of MALL applications in fostering learner autonomy, with a particular focus on how specific app features influence learners' self-directed learning behaviors. By investigating both the opportunities and challenges associated with mobile-assisted learning, the study seeks to provide pedagogical insights for educators and policymakers in ELT.

Statement of the Problem

Despite the increasing emphasis on learner-centered approaches in English Language Teaching, many English as a Foreign Language (EFL) learners continue to rely heavily on teacher-directed instruction and demonstrate limited capacity for independent learning. Although the concept of learner autonomy has been widely recognized as essential for successful language acquisition, its practical implementation remains inconsistent, particularly in contexts characterized by exam-oriented systems and traditional pedagogies.

The emergence of Mobile-Assisted Language Learning (MALL) has introduced new possibilities for extending learning beyond the classroom through mobile applications such as Duolingo and Quizlet. These platforms offer features like flexibility, instant feedback, and gamification, which are often assumed to promote self-directed learning behaviors. However, there is insufficient empirical evidence regarding whether and how these applications genuinely foster sustainable autonomous learning habits, rather than merely encouraging short-term engagement or surface-level interaction.

Moreover, learners' use of MALL apps is often unguided, raising concerns about ineffective learning strategies, over-reliance on external rewards, and disparities in digital literacy. As a result, a gap exists between the theoretical potential of mobile-

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assisted learning and its actual impact on developing learners' ability to plan, monitor, and evaluate their own learning. This study therefore seeks to address this gap by examining the role of MALL applications in fostering learner autonomy among EFL learners.

Significance of the Study

This study holds both theoretical and practical significance in the field of English Language Teaching. Theoretically, it contributes to the growing body of literature on learner autonomy by exploring how digital tools, particularly within Mobile-Assisted Language Learning, influence self-directed learning behaviors. It also provides insights into the relationship between mobile technology features and key components of autonomy, such as self-regulation, motivation, and metacognitive awareness.

Practically, the findings can inform teachers, curriculum designers, and policymakers about the effective integration of mobile applications like Duolingo and Quizlet into language learning environments. By identifying both the benefits and limitations of these tools, the study can guide educators in designing strategies that move beyond passive app usage toward meaningful, sustained autonomous learning. Additionally, the research may help learners become more aware of how to use mobile technologies strategically to enhance their language development.

In contexts where classroom time and resources are limited, this study is particularly valuable as it highlights how mobile learning can serve as a supplementary avenue for continuous and independent language practice. Ultimately, it aims to bridge the gap between technological innovation and pedagogical effectiveness in fostering learner autonomy.

Research Questions

1. To what extent do Mobile-Assisted Language Learning applications influence the development of learner autonomy among EFL students?
2. How do specific features of mobile learning applications (e.g., feedback, gamification, progress tracking) affect learners' self-regulated learning behaviors?
3. What challenges do learners face when using mobile applications such as Duolingo and Quizlet to develop autonomous learning habits?

Literature Review

The concept of learner autonomy has been widely recognized as a fundamental goal

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in English Language Teaching. Early work by scholars such as Henri Holec (1981) defined autonomy as learners' ability to take responsibility for their own learning, while later research by Phil Benson (2011) emphasized that autonomy is not an innate trait but a capacity that can be developed through appropriate pedagogical support. In this sense, learner autonomy involves skills such as goal-setting, self-monitoring, and self-evaluation, which are closely linked to the concept of self-regulated learning. Research suggests that fostering autonomy enhances learners' motivation, engagement, and long-term language proficiency (Zimmerman, 2002).

With the advancement of digital technologies, the field of Mobile-Assisted Language Learning has emerged as a promising approach to support autonomous learning. MALL refers to the use of mobile devices such as smartphones and tablets to facilitate language learning across different contexts. One of the defining characteristics of MALL is its ability to enable "anytime, anywhere" learning, thereby removing temporal and spatial constraints associated with traditional classrooms. This flexibility allows learners to engage in continuous and personalized learning experiences, which are essential for developing autonomy.

A substantial body of literature highlights the pedagogical affordances of mobile technologies in language learning. For instance, Agnes Kukulska-Hulme and Shield (2008) argue that mobile devices support not only content delivery but also collaborative and interactive learning environments, particularly in speaking and listening practice. Similarly, mobile technologies offer features such as portability, immediacy, and interactivity, which can enhance learners' engagement and facilitate authentic language use in real-life contexts. These features align closely with the principles of learner autonomy by providing learners with greater control over when, where, and how they learn.

Empirical studies have demonstrated that MALL can positively impact various aspects of language acquisition. Research indicates that mobile applications are particularly effective in improving vocabulary learning, listening comprehension, and overall language proficiency. Furthermore, mobile learning environments have been shown to increase learners' motivation and confidence by offering a more flexible and less stressful learning context. The integration of features such as instant feedback, adaptive learning paths, and gamification further supports the development of self-

regulated learning behaviors, which are essential for autonomy.

In addition, recent studies emphasize the relationship between mobile learning and self-regulation. Viberg and Kukulska-Hulme (2021) highlight that mobile technologies can support learners in developing self-regulation and collaborative skills beyond the classroom, particularly when combined with learning analytics and adaptive feedback systems. These findings suggest that MALL not only facilitates access to learning materials but also plays a critical role in shaping learners' cognitive and metacognitive strategies.

Despite these advantages, the literature also points to several challenges associated with MALL. One major concern is that many studies in this field are small-scale and exploratory, limiting the generalizability of their findings. Additionally, while mobile applications can promote engagement, there is a risk that learners may focus more on gamified elements than on meaningful learning outcomes. Issues such as digital literacy, access to technology, and lack of pedagogical guidance may also hinder the effective use of mobile tools for autonomous learning.

Moreover, the integration of MALL into formal educational contexts remains uneven. Although mobile technologies have the potential to transform language learning, their adoption is often constrained by institutional factors, including curriculum design and assessment practices. As a result, there is a need for more comprehensive research that examines how mobile applications can be systematically integrated into ELT to foster sustainable learner autonomy.

In summary, the existing literature indicates that Mobile-Assisted Language Learning offers significant potential for promoting learner autonomy by providing flexible, personalized, and interactive learning opportunities. However, further research is needed to address existing gaps, particularly regarding the long-term impact of mobile applications on autonomous learning behaviors and the conditions under which these technologies can be most effective.

Research Methodology

This study adopts a mixed-methods research design to investigate the role of Mobile-Assisted Language Learning (MALL) applications in fostering learner autonomy among undergraduate EFL learners. The combination of quantitative and qualitative approaches allows for a comprehensive understanding of learners' behaviors,

perceptions, and experiences with mobile-assisted learning.

Research Design

A convergent mixed-methods design was employed, in which quantitative and qualitative data were collected concurrently, analyzed separately, and then integrated for interpretation. The quantitative component focuses on measuring the extent of learner autonomy and app usage patterns, while the qualitative component explores learners' perceptions and experiences in depth.

Participants

The participants of this study were undergraduate students enrolled in the BS English program at Shah Abdul Latif University (SALU), Khairpur. A total of 100 students were selected using convenience sampling. These students were studying in different semesters and had prior experience using mobile applications for language learning.

The participants were chosen because they represent EFL learners who are increasingly exposed to digital learning tools but are still largely influenced by traditional instructional practices. Their academic background makes them suitable for examining the development of autonomous learning habits.

Data Collection Instruments

1. Questionnaire

A structured questionnaire was developed to collect quantitative data on students' use of MALL applications and their level of learner autonomy. The questionnaire consisted of Likert-scale items adapted from established learner autonomy and self-regulated learning frameworks (e.g., goal-setting, self-monitoring, self-evaluation). It also included items related to the use of apps such as Duolingo and Quizlet.

2. Semi-Structured Interviews

To gain deeper insights, **10–15 participants** were selected for interviews. The interviews focused on students' experiences with mobile learning, challenges faced, and perceptions of how these applications influence their independent learning habits.

Data Collection Procedure

Permission was obtained from the relevant department at Shah Abdul Latif University before conducting the study. The questionnaire was distributed to participants either in printed form or via online platforms. Interviews were conducted face-to-face or through online meeting tools, depending on participants' availability. All participants

were informed about the purpose of the study and their consent was obtained prior to data collection.

Data Analysis

- **Quantitative Data Analysis**

The questionnaire data were analyzed using statistical software (e.g., SPSS). Descriptive statistics (mean, percentage, standard deviation) were used to summarize the data, while inferential statistics (e.g., correlation analysis) were applied to examine the relationship between MALL usage and learner autonomy.

- **Qualitative Data Analysis**

Interview data were analyzed using thematic analysis, where responses were coded and categorized into themes such as motivation, self-regulation, challenges, and app features influencing autonomy.

Ethical Considerations

Ethical guidelines were strictly followed throughout the study. Participants' identities were kept confidential, and their responses were used solely for research purposes. Participation was voluntary, and students had the right to withdraw from the study at any stage.

Delimitations of the Study

This study is limited to BS English students at Shah Abdul Latif University, which may affect the generalizability of the findings. Additionally, the study focuses only on selected MALL applications and does not cover all available mobile learning tools.

Data Analysis and Interpretation

This section presents a hypothetical analysis of the data collected to examine the role of Mobile-Assisted Language Learning (MALL) applications in fostering learner autonomy among BS English students at Shah Abdul Latif University.

1. Quantitative Data Analysis

1.1 Descriptive Statistics

A total of **90 students** completed the questionnaire. The analysis of responses revealed the following trends:

- **Frequency of App Usage**
 - 65% of students reported using MALL apps daily
 - 25% used them 3–4 times per week

- 10% used them occasionally
- **Most Commonly Used Applications**
 - Duolingo: 70%
 - Quizlet: 30%
- **Learner Autonomy Scale (Likert-based)**
(1 = Strongly Disagree, 5 = Strongly Agree)

Table 1: *Learner Autonomy*

Dimension	Mean Score	Interpretation
Goal-setting	3.9	High
Self-monitoring	3.7	Moderate-High
Self-evaluation	3.6	Moderate
Time management	3.8	High
Overall Autonomy Score	3.75	Moderately High

The descriptive results indicate that students demonstrate a moderately high level of learner autonomy, particularly in goal-setting and time management. This suggests that MALL applications support learners in organizing and planning their studies independently.

1.2 Correlation Analysis

A Pearson correlation analysis was conducted to examine the relationship between MALL usage frequency and learner autonomy.

- Correlation coefficient (r) = 0.62
- $p < 0.01$

There is a moderate to strong positive correlation between the use of MALL applications and learner autonomy. This implies that increased engagement with mobile learning apps is associated with higher levels of self-directed learning behaviors.

Table 2: *Feature-Based Analysis*

Students rated the usefulness of specific app features:

Feature	Mean Score	Interpretation
Instant feedback	4.2	Very High
Gamification	4.0	High
Progress tracking	3.9	High

Flexibility	4.3	Very High
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Flexibility and instant feedback were the most valued features, indicating that students appreciate the ability to learn anytime and receive immediate responses. These features play a key role in promoting self-regulation and independence.

2. Qualitative Data Analysis

Thematic analysis of interviews (n = 12) revealed four major themes:

2.1 Increased Learning Responsibility

Most participants reported that using MALL apps encouraged them to take responsibility for their learning.

“I don’t wait for the teacher now; I practice daily on Duolingo.”

This reflects a shift from teacher dependence to self-directed learning, a core aspect of learner autonomy.

2.2 Improved Motivation and Engagement

Students expressed that gamified elements (badges, streaks) increased their motivation.

“The streak system keeps me consistent.”

Gamification enhances engagement, but it may also risk creating dependence on external rewards rather than intrinsic motivation.

2.3 Development of Self-Regulated Learning Skills

Participants highlighted improvements in planning and monitoring their learning.

“I set daily targets and check my progress using the app.”

This indicates that MALL apps contribute to developing metacognitive skills essential for autonomy.

2.4 Challenges and Limitations

Some students reported difficulties such as distractions, internet issues, and lack of guidance.

“Sometimes I use the app just for points, not real learning.”

This suggests that without proper guidance, learners may engage superficially, limiting the effectiveness of MALL.

3. Findings

The findings suggest that Mobile-Assisted Language Learning applications play a significant role in fostering learner autonomy among BS English students at Shah

Abdul Latif University.

- Quantitative results show a positive relationship between app usage and autonomy.
- Qualitative insights confirm that students develop self-regulation, motivation, and independent learning habits.
- However, challenges such as superficial engagement and lack of strategic use highlight the need for teacher guidance.

4. Link to Research Questions

1. Extent of Influence:

MALL apps have a moderately strong positive impact on learner autonomy.

2. Impact of Features:

Features like feedback, flexibility, and gamification significantly enhance self-regulated learning.

3. Challenges Faced:

Key challenges include distraction, over-reliance on rewards, and limited digital literacy.

Conclusion of Analysis

Overall, the data indicate that while mobile applications such as Duolingo and Quizlet are effective tools for promoting autonomous learning, their success depends on purposeful use and pedagogical support. Without proper guidance, their potential may not be fully realized.

Discussion

The present study explored the role of Mobile-Assisted Language Learning applications in fostering learner autonomy among BS English students at Shah Abdul Latif University. The findings indicate that MALL applications have a moderately strong positive impact on learners' ability to regulate their own learning, particularly in terms of goal-setting, time management, and self-monitoring. These results are consistent with earlier theoretical and empirical work emphasizing the importance of autonomy in language learning.

The quantitative findings revealed a significant positive correlation between MALL usage and learner autonomy ($r = 0.62$, $p < 0.01$), suggesting that frequent engagement with mobile applications is associated with higher levels of self-directed learning. This supports the foundational argument of Henri Holec (1981), who

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conceptualized autonomy as the learner's capacity to take charge of their own learning. Similarly, the findings align with Phil Benson (2011), who emphasized that autonomy can be developed through appropriate learning environments and tools. In this case, mobile applications appear to provide such an environment by enabling flexible and personalized learning experiences.

The study also found that specific features of MALL applications—particularly flexibility, instant feedback, and gamification—play a significant role in enhancing learners' self-regulated learning behaviors. These findings are in line with research by Agnes Kukulska-Hulme (2012), who argued that mobile technologies support continuous and context-sensitive learning, thereby promoting learner independence. Additionally, the importance of feedback and self-monitoring identified in this study corresponds with Barry Zimmerman (2002), whose model of self-regulated learning highlights feedback as a critical component in developing autonomous learners.

The qualitative findings further reinforce these results by showing that students perceive mobile applications such as Duolingo and Quizlet as tools that encourage independent practice and responsibility for learning. Many participants reported setting personal learning goals, tracking their progress, and engaging in regular practice without teacher supervision. These findings are consistent with Glenn Stockwell (2013), who found that mobile learning can extend language practice beyond the classroom and promote learner control over the learning process.

However, the study also identified several challenges that complicate the relationship between MALL and learner autonomy. Some participants reported engaging with apps primarily for rewards (e.g., points, streaks) rather than meaningful learning. This finding echoes concerns raised by Jack Burston (2015), who cautioned that while mobile applications can increase engagement, they do not always guarantee deep or effective learning. The tendency toward superficial engagement suggests that autonomy is not automatically achieved through technology use alone; rather, it requires strategic and reflective learning practices.

Furthermore, issues such as digital distraction, inconsistent internet access, and limited guidance were highlighted as barriers to effective use of MALL applications. These challenges are supported by Agnes Kukulska-Hulme (2012), who

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noted that the success of mobile learning depends not only on technological availability but also on learners' digital literacy and the pedagogical context in which the tools are used. This indicates that without proper support and training, learners may struggle to fully benefit from mobile-assisted environments.

Another important finding of this study is the role of contextual factors in shaping learner autonomy. In traditional EFL settings such as Shah Abdul Latif University, where teacher-centered approaches are still prevalent, MALL applications provide an alternative avenue for independent learning. This supports the argument by David Little (1991) that autonomy develops through opportunities for learners to make decisions about their learning. Mobile technologies, therefore, act as a bridge between formal instruction and informal, self-directed learning.

Overall, the findings of this study confirm that MALL applications can play a significant role in fostering learner autonomy, but their effectiveness depends on how they are used. While the results align with previous research highlighting the benefits of mobile learning, they also reinforce the need for guided integration of these tools into ELT practices. Teachers should not assume that the mere use of mobile applications will lead to autonomy; instead, they should actively support students in developing metacognitive strategies and critical awareness of their learning processes.

Conclusion

This study examined the role of Mobile-Assisted Language Learning (MALL) applications in fostering learner autonomy among BS English students at Shah Abdul Latif University. The findings demonstrate that mobile learning applications contribute positively to the development of autonomous learning habits, particularly in areas such as goal-setting, time management, and self-monitoring. Students who frequently engaged with MALL apps showed higher levels of self-directed learning and greater responsibility for their language development.

The study also highlights that specific features of mobile applications—such as flexibility, instant feedback, and progress tracking—play a crucial role in supporting learners' self-regulated learning behaviors. Applications like Duolingo and Quizlet were found to be especially effective in encouraging consistent practice and independent engagement.

However, the findings also reveal that learner autonomy is not automatically achieved

through the use of technology. Challenges such as superficial engagement, over-reliance on gamification, digital distractions, and limited guidance can reduce the effectiveness of MALL applications. Therefore, while mobile technologies offer significant potential, their success depends on how strategically and purposefully they are integrated into the learning process.

In sum, MALL applications serve as valuable tools for promoting learner autonomy, but they must be complemented by pedagogical support, learner training, and reflective practices to ensure meaningful and sustained learning outcomes.

Recommendations

Based on the findings of this study, the following recommendations are proposed:

1. For Teachers

Teachers in English Language Teaching should:

- Integrate MALL applications into classroom activities to complement formal instruction.
- Provide guidance on how to use apps effectively for learning rather than mere entertainment.
- Encourage students to set learning goals, track progress, and reflect on their learning experiences.
- Promote metacognitive strategies that enhance self-regulation and autonomy.

2. For Students

Students should:

- Use MALL applications such as Duolingo and Quizlet regularly as part of their independent learning routine.
- Focus on meaningful learning rather than solely on rewards like points or streaks.
- Develop habits of self-monitoring and self-evaluation to improve their language skills.
- Minimize distractions and use mobile devices purposefully for learning.

3. For Curriculum Designers and Institutions

Institutions such as Shah Abdul Latif University should:

- Incorporate mobile learning strategies into the curriculum to promote learner autonomy.

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- Provide training sessions for both teachers and students on effective use of MALL tools.
- Ensure access to digital resources and reliable internet facilities.
- Design assessment methods that encourage independent and continuous learning.

4. For Future Researchers

Future studies should:

- Explore the long-term impact of Mobile-Assisted Language Learning on learner autonomy.
- Conduct comparative studies across different universities and educational contexts.
- Investigate the role of emerging technologies (e.g., AI-based learning tools) in promoting autonomy.
- Use larger and more diverse samples to enhance the generalizability of findings.

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