

Mobile-assisted language learning in Vietnam: Insights from undergraduate English majors

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Abstract

This study investigates the perceptions of Vietnamese undergraduate English majors regarding Mobile-Assisted Language Learning (MALL) in English as a Foreign Language (EFL) context. Using a mixed-methods approach, data were collected through an online questionnaire and follow-up interviews. The findings reveal that most students prefer using portable devices for learning, as these enhance mobility and make studying more convenient across various settings. Participants perceive mobile-assisted language learning as more effective than traditional classroom methods in helping them achieve learning goals. A clear application layout and high-quality display were identified as key factors contributing to a positive learning experience. However, despite these advantages, some limitations were noted. Many students tend to use mobile devices primarily for entertainment after long academic days, reducing the time spent on learning activities. Moreover, mobile learning was reported to offer less meaningful interaction compared to face-to-face learning, potentially affecting its overall effectiveness. These insights suggest that while mobile learning holds significant promise for language development, its successful implementation depends on thoughtful design and learner engagement strategies.

Keywords: Mobile Learning (ML); Mobile-Assisted Language Learning (MALL); Learner perceptions; Vietnam

1. Introduction

Mobile learning (ML) has become an integral part of modern language education, offering learners greater flexibility and access to personalized resources through portable devices such as smartphones and tablets [1,2]. The evolution from computer-assisted language learning (CALL) to mobile-assisted language learning (MALL) has redefined the learning environment, allowing students to engage in self-directed study and enabling teachers to take on more facilitative roles [3].

In Vietnam, the early adoption of MALL faced major obstacles, primarily due to unreliable internet connections in schools and the limited digital skills of both teachers and learners. These challenges persisted even though the educational community generally viewed the approach as promising for language instruction [4]. However, these challenges have significantly diminished. By early 2024, nearly 80% of Vietnamese population had internet access, with smartphones being the primary device for connection [5]. This growing digital landscape has opened new opportunities for integrating ML into English language education, particularly at the university level.

Despite these advancements, research on how Vietnamese undergraduate English majors perceive and experience MALL remains limited. Understanding their perspectives is essential for evaluating the effectiveness of ML in enhancing English language learning in the Vietnamese EFL context and for guiding future instructional practices. This study aims

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to explore these learners' views, highlighting both the benefits and challenges they encounter in using mobile technologies for language learning.

2. Literature Review

2.1. Mobile Learning (ML) and Mobile-Assisted Language Learning (MALL)

ML has evolved significantly since the late 1990s. Initially focused on the use of mobile devices such as PDAs and phones [6], early definitions were hardware-centric and criticized for ignoring pedagogical aspects [7]. As technology advanced, researchers began to highlight the importance of learner mobility and real-world engagement. El-Hussein and Cronje [8] emphasized the ability to learn while moving, while Bidin and Ziden [9] underlined the anytime-anywhere feature of ML. Interactive elements such as multimedia and augmented reality have made ML more immersive and context-based [10].

Within this broader framework, MALL emerges as a specialized subset, combining the benefits of ML and CALL. MALL allows learners to use smartphones and other portable devices to access English learning materials like apps, online dictionaries, and videos [11]. Plana et al. [12] found that short language tasks via mobile messaging platforms like WhatsApp increased learners' confidence and interest. Though WhatsApp is less prevalent in Vietnam, local apps like Zalo and Facebook Messenger serve similar purposes. Dictionary apps also support vocabulary acquisition more efficiently than traditional tools [13].

2.2. Theoretical framework: Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis [14], has been widely applied to understand why individuals choose to adopt new technologies or computer systems. The model is built on two primary constructs: perceived usefulness and perceived ease of use. Perceived usefulness refers to the extent to which a person believes that using a particular system will enhance their performance, while perceived ease of use concerns how effortless they perceive the system to be [15]. These two perceptions significantly influence an individual's overall attitude toward adopting technology. In essence, the more useful and user-friendly a system is perceived to be, the more likely it is to be accepted and utilized. This relationship is visually represented in Figure 1 below.

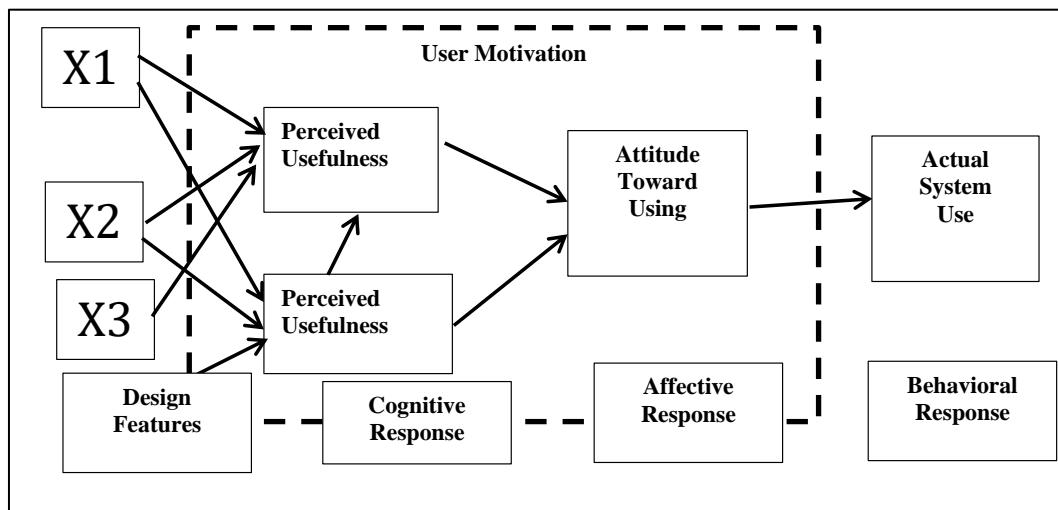


Figure 1 Technology Acceptance Model [14]

In the context of MALL, TAM serves as a valuable theoretical framework for predicting learners' willingness to engage with mobile learning applications [16].

2.3. Limitations of MALL

Despite its benefits, MALL presents several limitations that can reduce its effectiveness. Psychologically, many students use mobile devices more for entertainment than for academic purposes. After long study sessions, they are more likely to relax with games or social media than engage in further learning [17]. This tendency may limit the time and attention devoted to mobile-based educational activities.

Pedagogically, assessment through mobile platforms remains a challenge. It is difficult to ensure academic integrity during mobile-based tests, as verifying if the submitted answers are genuinely from the intended learner is problematic [17]. As a result, educators may be hesitant to incorporate MALL into formal classroom instruction [18], which limits its integration into structured learning environments.

From a technical standpoint, screen size significantly impacts the learning experience. Smaller screens often lead to eye strain and reduced readability [19], while overly large screens may increase cognitive load and hinder information processing [20]. These factors suggest the need for an optimal screen size to support comprehension and sustained focus.

Furthermore, ML can lead to feelings of isolation, especially in unstructured or solo learning environments. Rutkowska et al. [21] note that prolonged use without interpersonal interaction may lower motivation. Distractions from notifications or the learning environment also disrupt concentration [17]. These limitations highlight that the success of MALL depends on how effectively these challenges are addressed in real-world settings.

2.4. Vietnamese students' perceptions of ML

Vietnamese university students consistently view ML as a flexible and effective way to support English learning. Its portability allows learners to access vocabulary, pronunciation guides, and practice exercises anytime, transforming downtime such as commutes or short breaks into learning opportunities [22]. This ease of access fosters higher engagement, as students are no longer limited by traditional access to computer labs or classrooms.

MALL also enhances peer communication and collaborative learning. Messaging platforms such as Zalo and Facebook Messenger enable group discussions, peer feedback, and English practice beyond class hours. This aligns with findings by Tra [4], who noted positive student attitudes toward in-class and beyond-class MALL integration in Vietnamese universities.

Integration of ML into formal lessons further strengthens learning experiences. When instructors use mobile channels to distribute podcasts, quizzes, or reminders, students report increased satisfaction and perceive learning as more continuous and interactive. A study by Vo [23] revealed that students found portable devices easy to use and appreciated their role in reinforcing classroom instruction.

Importantly, ML also supports learner autonomy and motivation. Nguyen [24] found that English majors using mobile-assisted apps for listening practice reported greater responsibility for their learning, making strategic content choices and sustaining engagement over time. Similarly, Lai and Le [22] highlighted that MALL enhances vocabulary acquisition and pronunciation confidence, demonstrating the practical benefits of mobile-supported self-learning in Vietnam.

2.5. Research gap and research questions

While existing research in Vietnam has highlighted positive student attitudes toward MALL, most studies tend to examine general perceptions or focus on single skills, such as listening or vocabulary acquisition. Few have investigated the specific experiences of English-majored undergraduates or compared their perceptions of ML with traditional classroom methods in a comprehensive manner. In addition, although prior studies acknowledge the benefits of ML in promoting flexibility and learner autonomy, there is limited exploration of the challenges or barriers that may affect its effectiveness in real academic settings. Therefore, this study aims to address these gaps by examining the perceived effectiveness, practical usage, and limitations of ML tools among Vietnamese undergraduate English majors. By focusing on both the enabling factors and the constraints of ML from the learners' perspective, this research contributes nuanced insights to support pedagogical decisions and the meaningful integration of mobile technologies into English language programs in Vietnamese higher education.

To address this gap, my study will be developed in accordance with the three research questions presented below:

- Research question 1: What factors influence the perceived effectiveness of mobile learning in enhancing English language acquisition among Vietnamese undergraduate English majors?
- Research question 2: To what degree do Vietnamese undergraduate English majors perceive the use of ML applications as an effective tool for learning English compared to traditional classes?
- Research question 3: What are the potential challenges faced by Vietnamese undergraduate English majors when using mobile learning tools for improving their English acquisition?

3. Methodology

3.1. Sampling and Participants

The participants in this study were Vietnamese undergraduate students majoring in English, enrolled in classes taught by the researcher. An online questionnaire was shared via Zalo, accompanied by a participant information sheet explaining the study's aims, risks, benefits, confidentiality, and the right to withdraw. A consent form was also included to ensure informed participation. In total, 66 students completed the questionnaire. All reported at least one year of experience using MALL tools, making them suitable for evaluating its effectiveness in English learning.

At the end of the questionnaire, students could volunteer for follow-up interviews by providing their email addresses, which was considered implied consent. Four students agreed to participate in semi-structured interviews, offering more detailed insights into their personal experiences with MALL. Convenience sampling, a type of non-probability sampling in which the researcher selects individuals who are readily available and willing to participate [25], was employed to efficiently recruit participants within the researcher's teaching context while ensuring the collection of data relevant to the study's objectives.

3.2. Research Design

This study adopted a mixed-methods approach using a QUAN→qual sequential design, where quantitative data collection was followed by qualitative inquiry. According to Dörnyei [26], combining quantitative and qualitative methods allows researchers to offset the limitations of each and gain a more comprehensive understanding of complex issues. Numerical trends offer general patterns, while qualitative insights add depth and context. This integration not only enhances validity but also increases the credibility and broader acceptance of research findings [26].

The quantitative phase involved distributing close-ended questionnaires to investigate students' perceptions of MALL, focusing on aspects such as device and learner mobility, perceived usefulness, ease of use, and limitations. However, some unexpected results emerged, and most notably, nearly half of the participants expressed a preference for traditional classrooms over ML. This raised further questions and justified the qualitative phase, which involved follow-up interviews with selected students to explore the reasons behind their views in more detail.

3.3. Data Collection and Analysis

Data collection for the study involved two main phases: a questionnaire survey and semi-structured interviews. The questionnaire was distributed through JISC, an online platform that allowed easy access via smartphones or computers. It was adapted from a validated instrument developed by Almofadi [27] but modified to suit the Vietnamese context while maintaining its original structure for reliability. The final version included 31 items, divided into three sections: (1) effectiveness of mobile learning in English acquisition (11 items); (2) students' perceptions of mobile apps as learning tools (8 items); and (3) perceived limitations of mobile-assisted learning (12 items). All items used a 5-point Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree), which allowed for easy quantification and trend identification [25]. The responses collected through JISC were exported and processed in Microsoft Excel to create data tables showing the distribution of agreement levels for each item. These were presented as percentage breakdowns, highlighting students' overall attitudes and trends.

To gain deeper insights, the second phase involved semi-structured interviews, a method commonly used in applied linguistics [26]. Although guided by key questions, the interviews allowed for open discussion, creating a relaxed atmosphere for participants to share more freely. As Robson [28] notes, this openness can enhance the authenticity of the data. The qualitative data was then transcribed and analyzed through content analysis. This included pre-coding, initial and secondary coding, and the identification of themes and subthemes, which formed the basis for interpreting the findings in relation to the research questions.

4. Results

4.1. Questionnaire

4.1.1. Mobility of mobile devices

Table 1 Mean values for Mobility of mobile devices

| No | Questions | 1 = SD | 2 = D | 3 = N | 4 = A | 5 = SA | Mean |
|----|---|----------|----------|----------|----------|----------|------|
| 1 | Portability of mobile devices affects my ability to focus on MALL in English. | 2 (3%) | 4 (6%) | 0 (0%) | 50 (76%) | 10 (15%) | 3.94 |
| 2 | The portability of my mobile device enables learning in real context by using the real world as a classroom, allowing me to explore and learn from actual places and experiences. | 2 (3%) | 16 (24%) | 12 (18%) | 34 (52%) | 2 (3%) | 3.27 |
| 3 | Portability of mobile devices is important in shaping my personalized learning experience. | 6 (9%) | 46 (70%) | 8 (12%) | 4 (6%) | 2 (3%) | 2.24 |
| 4 | I prefer to use lightweight mobile devices for learning. | 2 (3%) | 4 (6%) | 0 (0%) | 20 (30%) | 40 (61%) | 4.39 |
| 5 | Portability of mobile devices supports my style of learning on the go. | 0 (0%) | 4 (6%) | 0 (0%) | 32 (48%) | 30 (45%) | 4.33 |
| 6 | Portability of mobile devices improve continuous learning experience such as learning in small bits whenever I have a few minutes to spare. | 10 (15%) | 40 (61%) | 6 (9%) | 6 (9%) | 4 (6%) | 2.30 |

Table 1 showed that 76% (n=50) agreed and 15% (n=10) strongly agreed that portability affects their focus on MALL. For using real-world contexts, 52% (n=34) agreed, while 24% (n=16) disagreed. However, 70% (n=46) and 9% (n=6) disagreed or strongly disagreed that portability shapes personalized learning, with minimal agreement. Preferences leaned strongly toward lightweight devices, with 61% (n=40) strongly agreeing and 30% (n=20) agreeing. Similarly, 93% (n=62) felt portability supports their learning style. In contrast, 76% (n=50) disagreed or strongly disagreed that portability enhances continuous learning in short intervals, while only 15% (n=10) agreed or strongly agreed. Overall, responses reflected mixed perceptions of portability, showing strong support for convenience and style but less confidence in its contribution to personalization and sustained learning.

4.1.2. Mobility of learners

Table 2 Mean values for Mobility of learners.

| No | Questions | 1 = SD | 2 = D | 3 = N | 4 = A | 5 = SA | Mean |
|----|---|--------|--------|---------|----------|----------|------|
| 7 | Learning anywhere and anytime allows me to maximise my time in learning. | 2 (3%) | 2 (3%) | 8 (12%) | 36 (55%) | 18 (27%) | 4.00 |
| 8 | Collaboration with peers from different places via mobile motivates me to learn more. | 0 (0%) | 2 (3%) | 0 (0%) | 34 (52%) | 30 (45%) | 4.39 |
| 9 | Learner mobility encourages knowledge sharing among learners from different places. | 0 (0%) | 2 (3%) | 2 (3%) | 40 (61%) | 22 (33%) | 4.24 |
| 10 | Learner mobility encourages interaction among learners from different places. | 4 (6%) | 2 (3%) | 0 (0%) | 30 (45%) | 30 (45%) | 4.21 |
| 11 | Learner mobility allows me to do "just in time learning" for learning specific knowledge whenever I need. | 2 (3%) | 4 (6%) | 6 (9%) | 30 (45%) | 24 (36%) | 4.06 |

As shown in Table 2, over half of the participants (55%, n=36) agreed that being able to learn at any time and place helps them make the most of their learning time, with 27% (n=18) strongly supporting this view. Few students were neutral (12%, n=8), disagreed (3%, n=2), or strongly disagreed (3%, n=2). Regarding collaboration via mobile devices, 52% (n=34) agreed and 45% (n=30) strongly agreed, totaling 97%, while only 3% (n=2) disagreed. For the statement about knowledge sharing through learner mobility, 61% (n=40) agreed and 33% (n=22) strongly agreed, with just 6% (n=4) either neutral or disagreement. The same high level of support was seen for mobility encouraging interaction: 45% (n=30) agreed, 45% (n=30) strongly agreed, and only 9% (n=6) disagreed. Finally, 45% (n=30) agreed and 36% (n=24) strongly agreed that learner mobility supports just-in-time learning, while only 9% (n=6) disagreed. Overall, the data indicates strong positive perceptions of learner mobility across all items.

4.1.3. Perceived Usefulness of MALL

Table 3 Mean values for Perceived Usefulness of MALL.

| No | Questions | 1 = SD | 2 = D | 3 = N | 4 = A | 5 = SA | Mean |
|----|--|----------|----------|--------|----------|----------|------|
| 12 | MALL helps me to achieve my learning goals much faster than brick and mortar classroom learning. | 4 (6%) | 4 (6%) | 2 (3%) | 28 (42%) | 28 (42%) | 4.09 |
| 13 | MALL makes learning process much easier than brick and mortar classroom learning. | 6 (9%) | 6 (9%) | 6 (9%) | 40 (61%) | 8 (12%) | 3.58 |
| 14 | MALL makes my learning process more efficient than brick and mortar classroom learning. | 4 (6%) | 4 (6%) | 4 (6%) | 24 (36%) | 30 (45%) | 4.09 |
| 15 | MALL is more advantageous than brick and mortar classroom learning. | 14 (21%) | 14 (21%) | 2 (3%) | 18 (27%) | 18 (27%) | 3.18 |

Table 3 shows that a large majority of students (84%, n=56) believed MALL enables them to reach their learning goals more quickly than traditional classroom methods. In contrast, 12% (n=8) disagreed with this view, and 3% (n=2) neither agreed nor disagreed. For the statement on ease of learning, 73% (n=48) responded positively, compared to 27% (n=18) who were neutral or disagreed. Similarly, 81% (n=54) felt MALL improves learning efficiency, while just 12% (n=8) disagreed. Finally, 54% (n=36) viewed MALL as more advantageous than traditional classrooms, slightly more than the 42% (n=28) who disagreed.

4.1.4. Perceived ease of use

Table 4 Mean values for Perceived ease of use.

| No | Questions | 1 = SD | 2 = D | 3 = N | 4 = A | 5 = SA | Mean |
|----|--|----------|----------|--------|----------|----------|------|
| 16 | Mobile learning apps have a clear layout. | 16 (24%) | 14 (21%) | 0 (0%) | 20 (30%) | 16 (24%) | 3.09 |
| 17 | Mobile learning apps offer a user-friendly interface. | 16 (24%) | 16 (24%) | 2 (3%) | 22 (33%) | 10 (15%) | 2.91 |
| 18 | Mobile learning apps offer useful tutorials. | 8 (12%) | 10 (15%) | 6 (9%) | 22 (33%) | 20 (30%) | 3.55 |
| 19 | Mobile learning apps do not require extensive technical knowledge to use them. | 10 (15%) | 10 (15%) | 2 (3%) | 22 (33%) | 22 (33%) | 3.55 |

As presented in Table 4, 54% of students (n=36) felt that mobile learning apps have a clear layout, whereas 45% (n=30) did not share this view. When asked about the user-friendliness of the app interface, opinions were divided equally, with 48% (n=32) agreeing and another 48% disagreeing; a small portion (3%, n=2) remained neutral. Approximately 63% of participants (n=42) believed that mobile learning apps provide helpful tutorials, while 27% (n=18) did not find them useful. In addition, 66% (n=44) felt that these apps are easy to use without requiring advanced knowledge, a view held by more students than the 30% (n=20) who disagreed.

4.1.5. Technical Perspective

Table 5 Mean values for Technical Perspective

| No | Questions | 1 = SD | 2 = D | 3 = N | 4 = A | 5 = SA | Mean |
|----|--|---------|----------|--------|----------|----------|------|
| 20 | The low resolution of mobile devices affects my learning capacity. | 8 (12%) | 14 (21%) | 2 (3%) | 28 (42%) | 14 (21%) | 3.39 |
| 21 | I feel it is very difficult to view text on mobile devices with small screen size. | 8 (12%) | 14 (21%) | 0 (0%) | 28 (42%) | 16 (24%) | 3.45 |
| 22 | Limitations caused by the low image resolution of mobile devices negatively affect my satisfaction with mobile learning. | 8 (12%) | 16 (24%) | 2 (3%) | 20 (30%) | 20 (30%) | 3.42 |
| 23 | The screen resolution of mobile devices cannot provide a comfortable learning experience. | 8 (12%) | 10 (15%) | 0 (0%) | 28 (42%) | 20 (30%) | 3.64 |

Table 5 indicates that the largest group of students with 63% (n=42) greed or strongly agreed that low screen resolution on mobile devices negatively impacts their learning while 33% (n=22) disagreed. Similarly, 66% (n=44) found it difficult to view text on small screens, compared to 33% (n=22) who disagreed. For the statement on image resolution affecting satisfaction, 60% (n=40) agreed, while 36% (n=24) disagreed. Lastly, 72% (n=48) felt that screen resolution does not support a comfortable learning experience, whereas 27% (n=18) disagreed. Overall, most students expressed concerns about the technical limitations of mobile devices in the learning process.

4.1.6. Psychology Perspective

Table 6 Mean values for Psychology Perspective

| No | Questions | 1 = SD | 2 = D | 3 = N | 4 = A | 5 = SA | Mean |
|----|--|----------|----------|--------|----------|----------|------|
| 24 | When commuting or travelling, I always prioritise entertaining myself with music, games and movies on my mobile device over learning. | 10 (15%) | 10 (15%) | 2 (3%) | 24 (36%) | 20 (30%) | 3.52 |
| 25 | After a busy day of working or studying, I always choose to engage in non-learning activities such as reading news or casual texting rather than learning. | 14 (21%) | 8 (12%) | 0 (0%) | 20 (30%) | 24 (36%) | 3.48 |
| 26 | I find it difficult to use mobile devices for learning or educational purposes due to my low motivation. | 16 (24%) | 16 (24%) | 2 (3%) | 20 (30%) | 12 (18%) | 2.94 |
| 27 | Mobile devices are specially designed for communication purpose and not for learning purpose. | 16 (24%) | 16 (24%) | 0 (0%) | 20 (30%) | 14 (21%) | 3.00 |

Table 6 reveals that 66% of students (n=44) preferred using their mobile devices for entertainment, such as music, games, and movies, over learning while commuting or traveling, whereas 30% (n=20) expressed disagreement with this view. Similar 66% (n=44) also preferred non-learning activities after a busy day, compared to 33% (n=22) who disagreed. Regarding the statement about low motivation hindering the use of mobile devices for learning, student opinions were evenly divided, with 48% (n=32) in agreement and 48% in disagreement. Additionally, 51% (n=34) believed that mobile devices are primarily designed for communication rather than educational use, slightly outnumbering the 48% (n=32) who disagreed with this perspective.

4.1.7. Pedagogical Perspective

Table 7 Mean values for Pedagogical Perspective.

| No | Questions | 1 = SD | 2 = D | 3 = N | 4 = A | 5 = SA | Mean |
|----|--|-------------|-------------|-----------|-------------|-------------|------|
| 28 | It is challenging to conduct supervised tests in mobile learning apps on mobile devices. | 14 (21%) | 12 (18%) | 0 (0%) | 20 (30%) | 20 (30%) | 3.30 |
| 29 | The lack of trust about the genuineness of test answers sent from mobile devices is a big concern in mobile learning. | 10 (15%) | 10 (15%) | 2 (3%) | 22 (33%) | 22 (33%) | 3.55 |
| 30 | Mobile learning cannot duplicate the interpersonal and direct interaction which is only available in traditional learning. | 14 (21%) | 16 (24%) | 0 (0%) | 18 (27%) | 18 (27%) | 3.15 |
| 31 | Regular interruptions and distractions in learning on the go stop me from learning. | 14 (21%) | 10 (15%) | 2 (3%) | 24 (36%) | 16 (24%) | 3.27 |

Table 7 shows that 60% of students (n=40) believed administering supervised tests through mobile learning apps is difficult, whereas 39% (n=26) did not share this opinion. Similarly, 66% (n=44) expressed concern over the reliability of test answers submitted via mobile devices, compared to 30% (n=20) who disagreed. Regarding the inability of mobile learning to replicate face-to-face interaction, 54% (n=36) agreed or strongly agreed, while 45% (n=30) held the opposite view. In addition, 60% of students (n=40) reported that frequent interruptions and distractions during mobile learning hinder their ability to study effectively, notably higher than the 36% (n=24) who disagreed.

4.2. Interview

To complement the questionnaire findings, interviews were conducted to gain deeper insights into students' perceptions of MALL. The responses revealed five key themes related to its effectiveness and usability.

4.2.1. Theme 1: Learning Anywhere

All four participants (S1–S4) emphasized the flexibility of studying in different locations. Mobile devices enabled them to learn English anytime and anywhere, enhancing their opportunities to practice outside of traditional classroom settings. They appreciated the convenience of accessing learning materials during travel or free moments. Their mobile devices also allowed interaction with English speakers through online platforms, making learning more engaging and immersive.

4.2.2. Theme 2: Self-Paced Learning

The ability to control one's learning pace was a common benefit. All respondents reported that mobile apps let them study according to their personal schedules. For example, S1 and S2 used ML tools during short breaks, highlighting the value of being able to learn in small time slots. This flexibility was especially beneficial for learners with busy lifestyles.

4.2.3. Theme 3: Portability

Portability was identified as a major advantage. Participants explained that mobile devices were easier to carry and use compared to traditional materials like books. S1 and S3 noted the convenience of studying on the go, while S2 mentioned that the high ownership of smartphones encouraged wider use of MALL among students.

4.2.4. Theme 4: Perceived Usefulness

When asked to rate the usefulness of MALL, S1, S2, and S3 gave it 4 out of 5, while S4 gave it 3. Most participants agreed that mobile learning improved their productivity. S1, for example, preferred using her mobile device to learn vocabulary at set times, finding it particularly effective at the beginner level. Although S4 had mixed feelings about productivity, all respondents found MALL helpful overall due to features like personalized content and the ability to learn from anywhere.

4.2.5. Theme 5: Ease of Use

Ease of use was reflected in app layout and technical demands. All four participants stated that a clean, user-friendly interface made MALL easier to navigate. S2 shared frustration with low-quality apps that had confusing designs. Additionally, S2 noted that some apps required technical know-how to operate properly, which could create obstacles for less tech-savvy users.

5. Discussions

5.1. Research question 1: What factors influence the perceived effectiveness of mobile learning in enhancing English language acquisition among Vietnamese undergraduate English majors?

One key factor influencing the perceived effectiveness of mobile learning in enhancing English acquisition among Vietnamese undergraduate English majors is the portability of mobile devices. As reflected in Table 1, 91% of participants agreed that portability enhances their ability to focus. This is likely because mobile devices allow learners to choose quiet, comfortable environments for study. As S1 shared, *"Using my phone makes it more convenient because I can study whenever I have some free time, as long as I'm in a comfortable place like a quiet café."* This highlights how portability facilitates focused, flexible learning, which students perceive as beneficial for their English acquisition.

Additionally, over half of the participants indicated that portable devices support situated learning in real-life contexts. GPS-enabled applications provide access to location-specific English content, such as descriptions of nearby landmarks, aligning with Lai and Le [22]'s concept of learning through environmental immersion. This real-world exposure was seen as an effective way to reinforce vocabulary and cultural knowledge.

However, many participants did not perceive portability as central to personalized learning. A likely reason is the limited screen size and functionality of mobile devices, which can hinder the use of complex educational apps involving multimedia and interactive elements. Larger screens may be more suitable for fully personalized, multitask-heavy activities.

Despite these limitations, students still perceived portability as essential for on-the-go learning, especially in urban settings. S2 remarked, *"Mobile devices are something almost all of us own these days,"* and added, *"it's very helpful in many aspects of life, especially when it comes to learning"* This reflects how portable devices fit seamlessly into their daily routines, enabling spontaneous, time-efficient language practice.

Interestingly, portability was not strongly associated with continuous learning by some participants. This may be due to a broader understanding of continuity in learning which includes formal language instruction and structured academic programs beyond microlearning via apps.

Another influential factor is learner mobility, defined as the ability to access English learning materials anytime and anywhere. Participants reported that this flexibility helped them make better use of limited time. For example, S1 shared, *"I can use Duolingo to quickly pick up basic vocabulary while I'm at the airport or waiting during a layover."*

Lastly, ML ability to support peer collaboration and global knowledge sharing was also perceived as effective. As S2 explained, *"You can practice English by chatting with native speakers, for example through communities or groups on Facebook."* This opportunity to interact with native speakers and learners worldwide was viewed as a motivating and enriching factor in developing English proficiency.

5.2. Research question 2: To what degree do Vietnamese undergraduate English majors perceive the use of ML applications as an effective tool for learning English compared to traditional classes?

Vietnamese undergraduate English majors generally perceive MALL applications as effective tools for learning English, particularly in terms of speed and personalization. As seen in Table 3, 84% of respondents agreed or strongly agreed that MALL helped them achieve learning goals faster than traditional classrooms. This may be due to the flexibility of mobile apps, which allow students to select specific content suited to their needs. Unlike fixed classroom syllabi, applications offer personalized and on-demand learning. S4 supported this, saying, *"Learning through a mobile phone feels much simpler, more supportive, and tailored to my needs, especially when the app has an easy-to-use design ... I don't believe I'd get the same level of personalised attention from a teacher at an English centre."* This finding reinforces Vo [23]'s conclusion that one key advantage of ML tools lies in their capacity to offer personalized learning experiences.

However, perceptions of MALL's overall advantages over traditional learning are mixed. While 54% agreed that it is more beneficial, 42% disagreed (Table 3). This contrast may stem from differences in Internet access and learning environments. S2 noted limitations like "*the poor Internet connection or Wi-Fi*" in certain areas, which may hinder MALL's effectiveness. Some students also raised concerns about self-discipline, with S2 commenting, "*When using mobile phones, it's easy to get a bit lazy and end up watching movies instead of studying, which is quite different from the more structured environment of face-to-face classes.*"

Ease of use is another factor that influences students' perceptions. Table 4 shows that opinions were divided: 54% agreed mobile apps had clear layouts, while 45% disagreed. Similarly, views on user-friendly interfaces were evenly split. Difficulties often came from low-quality apps with confusing designs. As S2 shared, "*They can make things harder for you, especially when the app has a poor interface that's not easy to navigate.*" Conversely, students praised well-designed apps. S1, S2, and S3 emphasized the importance of clear interfaces, with S3 stating, "*I really like apps like Duolingo because they have an easy-to-use interface.*"

Overall, Vietnamese undergraduate English majors tend to perceive MALL as advantageous, particularly for its speed, flexibility, and personalized learning experience. However, issues such as inconsistent app quality, potential distractions, and unequal access to technology lead to mixed views on its effectiveness compared to traditional classroom learning.

5.3. Research question 3: What are the potential challenges faced by Vietnamese undergraduate English majors when using mobile learning tools for improving their English acquisition?

Vietnamese undergraduate English majors face several challenges when using ML tools to improve their English acquisition. These challenges fall under three main categories: technical, psychological, and pedagogical.

From a technical perspective, the limitations of mobile devices can significantly hinder the learning experience. As shown in Table 5, over half of the respondents agreed that low-resolution screens and small display sizes negatively affect their ability to study effectively. Many students rely on low-end smartphones, which produce blurred images and strain their eyes during extended use. S3 illustrated this issue during the interview: "*Sometimes I leave my iPad at home and only have my iPhone with me, but I'm not really in the mood to start a lesson on it because the smaller screen just doesn't feel as comfortable to study on.*" However, S1 noted that using larger-screen devices like tablets improved the experience: "*As long as the screen isn't too small, around 10 inches or more like an iPad, I'm totally fine with using it for studying.*" These comments highlight that device quality plays a crucial role in ensuring a comfortable and effective learning environment.

Psychological challenges also impact the effectiveness of ML. A majority of students reported prioritizing entertainment over studying when using mobile devices, especially during commutes or after busy days (see Table 6). This suggests that physical and mental fatigue often lead learners to engage in more relaxing, non-academic activities such as music, games, or chatting. S3 admitted: "*Sometimes I feel really unmotivated to study on my iPad, especially after a long day, and I'd rather do something more relaxing that's not related to learning.*" This indicates that mobile devices, often viewed as sources of entertainment, may not always serve as effective learning tools depending on students' emotional or mental states.

Pedagogically, ML is perceived to lack the interpersonal interaction and engagement found in traditional classrooms. More than half of the participants believed that ML could not replicate the face-to-face interactions that motivate learners and support the development of social skills (see Table 7). S1 shared: "*Sometimes learning with others feels better, because having direct interaction helps boost my motivation and keeps me more engaged.*" Likewise, S4 said: "*I sometimes feel lonely when studying on my own... it's a completely different experience compared to interacting with real people in a physical classroom.*" These insights suggest that the absence of real-time human interaction in ML environments may hinder student motivation and long-term engagement.

List of Abbreviations

| Abbreviation | Meaning |
|--------------|-------------------------------------|
| CALL | Computer-Assisted Language Learning |
| MALL | Mobile-Assisted Language Learning |
| ML | Mobile Learning |

| | |
|------|-----------------------------|
| GPS | Global Positioning System |
| PDAs | Personal Digital Assistants |
| TAM | Technology Acceptance Model |

6. Conclusion

This study investigates Vietnamese undergraduate English majors' perceptions of how ML influences their English language learning. The findings highlight that most participants view ML as a valuable tool, especially for its flexibility, accessibility, and potential to support self-paced and personalized learning. ML applications were commonly used and appreciated for their interactive features, simple design, and ability to adapt to individual learning needs. These characteristics were seen to contribute positively to learners' vocabulary development and engagement outside the classroom.

However, while many students acknowledged the convenience and usefulness of ML, they also identified several limitations that affect its overall effectiveness. Technical issues such as small screen sizes and low-resolution devices, along with psychological distractions and a lack of interpersonal interaction, were noted as significant challenges. Some students emphasized that ML could not fully replicate the motivation and sense of community provided by face-to-face classroom settings. Additionally, unequal access to quality mobile devices and stable Internet connections emerged as barriers to consistent and effective use of ML.

All things considered, while ML is not perceived as a complete replacement for traditional classroom instruction, it is generally viewed as a complementary tool that can enhance English language learning when used appropriately. The insights from this study contribute to a better understanding of how ML is experienced by Vietnamese English majors and suggest that, with improvements in technology access, app quality, and instructional integration, ML can play a more effective role in supporting English language learning in higher education contexts.

Compliance with ethical standards

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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