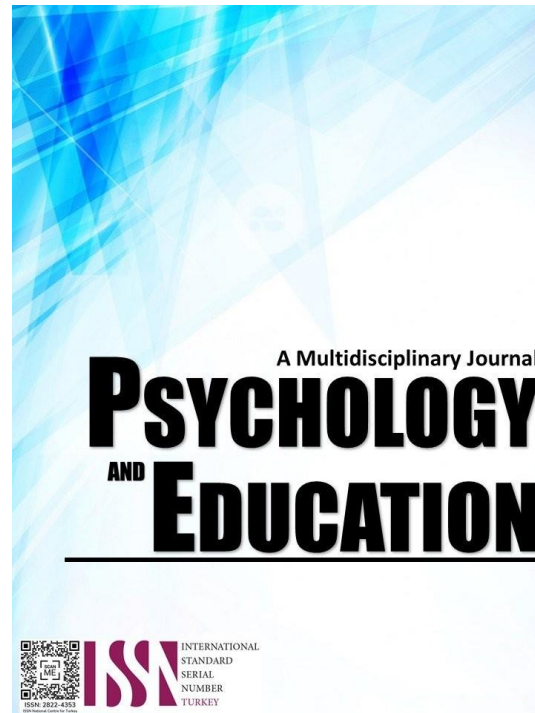


FACTORS IN USING MOBILE-ASSISTED LANGUAGE LEARNING TOOLS AND THEIR RELATION TO STUDENTS' BEHAVIORAL INTENTION



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Factors in Using Mobile-Assisted Language Learning Tools and Their Relation to Students' Behavioral Intention

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Abstract

This study, grounded in the Technology Acceptance Model (TAM), aimed to explore the factors influencing the utilization of Mobile-Assisted Language Learning (MALL) among Grade 7 modular distance learners at Sto. Domingo National Trade School in the Philippines. The collected data yielded positive responses in terms of perceived usefulness, perceived ease of use, and attitudes towards MALL, underscoring its positive impact on modular distance learning. Learners expressed a favorable perception of MALL's value and convenience, fostering a conducive environment for integrating it into English instruction in remote learning. The study found that students exhibited a willingness to adopt MALL tools for habitual, future, and interactional use. This indicates their positive disposition towards incorporating MALL into their learning routines, suggesting its potential for enhancing English language skills and facilitating interaction among students. However, it's noteworthy that the study did not establish significant relationships between the TAM components and students' behavioral intentions, challenging the applicability of the TAM model in this context. These results suggest that students, who are digital natives accustomed to mobile technology, may consider other factors beyond perceived usefulness and ease of use when determining their intentions. Limitations include a relatively small and homogenous sample of digitally native learners, limiting the generalizability of the findings. Future research could explore the influence of additional external variables on behavioral intentions and involve a more diverse participant pool. Moreover, the study recommends revising the TAM model to account for evolving user demands and examining contemporary mobile learning infrastructures. In light of these findings, practical recommendations include providing relevant and up-to-date mobile learning content, offering tutorials for new users, investing in ICT development, and carefully selecting MALL tools aligned with curriculum objectives. It is also crucial to consider MALL as a supplementary support rather than a replacement for traditional teaching methods.

Keywords: *mobile-assisted, language, tools, behavioral, intention*

Introduction

In recent years, mobile learning, or m-learning, has gained prominence in the field of education. Grant (2019) defines m-learning as the integration of learning tools with mobile processing devices, reflecting its growing importance in delivering instruction during health crises, such as the COVID-19 pandemic (Mussa, 2020). Despite its familiarity, learning facilitators continue to grapple with this technological innovation. Similarly, Turc (2017) noted the ongoing debate surrounding the definition of mobile learning.

Mobile Assisted Language Learning (MALL) is a specialized branch of mobile learning, dedicated to enhancing language learning through the utilization of mobile devices (Brenda and Mara, 2019). Various definitions of MALL exist within the literature, with Kang (2021) defining it as any form of linguistic instruction involving handheld devices such as mp3 players, computers, smartphones, and tablets. MALL represents a departure from traditional classroom settings, liberating learners from the constraints of physical spaces and timetables.

In this context, Krull and Duarte (2017) conducted a systematic review of journal publications from 2011 to 2015, identifying trends in higher education mobile learning research. Their findings indicated the growing diversity of m-learning research, with a focus on mobile applications, software systems, and the predominant use of mobile devices. Miangah and Nezarat (2012) categorized mobile devices as portable tools fostering connectivity, social interactivity, context sensitivity, and individuality. Mussa (2020) emphasized the convenience of mobile devices for accessing information anytime and anywhere. However, it is crucial to recognize that while mobile devices offer numerous advantages, they cannot replace traditional materials entirely, but rather complement them in the evolving landscape of instructional delivery.

As Turc (2017) observed, MALL succeeds Computer Assisted Language Learning (CALL) and constitutes an approach to language education facilitated by portable mobile devices. The prevalence of mobile learning in language education, with smartphones as a primary tool, is significant, as noted by Mutiaraningrum and Nugroho (2021). They conducted an empirical study in 2021, "Mobile Assisted Language Learning Application in Higher Vocational Education in Indonesia," which underscored the transformative potential of mobile-assisted language learning. Their research revealed four essential attributes characterizing this approach: practicality, portability, accessibility, and flexibility. Czerska-Andrzejewsk (2016) further supports this view, elucidating how MALL can be implemented in various educational contexts, including face-to-face, distance, online, self-paced, and calendar-based learning environments. Understanding these diverse settings is crucial for designing effective mobile-assisted language learning programs that cater to the unique needs of learners.

Research Questions

The study aimed to determine Mobile Assisted Language Learning and its effect on English language learning of the Grade 7 students of Sto. Domingo National Trade School in distance learning. Specifically, it sought to answer the following questions:

1. How may the factors in using mobile-assisted language learning be described in terms of?
 - 1.1. learner's perceived usefulness;
 - 1.2. learner's perceived ease of use; and
 - 1.3. learner's attitude;
2. How may the behavioral intention of using mobile-assisted language learning be described in terms of?
 - 2.1. habitual intention;
 - 2.2. future intention; and
 - 2.3. interactional intention;
3. Is there any significant relationship between factors in using mobile-assisted language learning and their behavioral intentions of use?

Literature Review

Thematic analysis of the literature reveals a multifaceted landscape within the realm of Mobile Assisted Language Learning (MALL). The advent of mobile learning, prompted by the urgent need for technological intervention in education during the pandemic, introduced MALL as a specialized branch. While the definition of mobile learning faced debates, it was generally characterized by the integration of mobile technology into educational systems (Grant, 2019). MALL, an application of mobile learning, concentrates on language acquisition (Kang, 2021; Brenda & Mara, 2019) and is seen as the successor to Computer-Assisted Language Learning, boasting practicality, portability, accessibility, and flexibility (Turc, 2017; Mutiaraningrum & Nugroho, 2021). The scope of MALL has expanded with technological advancements, evolving from basic mobile phones to smartphones, and encompassing various platforms and tools.

Various studies reveal a consistent positive perception of Mobile Assisted Language Learning (MALL) in language education. Researchers such as Azli et al. (2018), Soleimani et al. (2014), AlDakhil and AlFadda (2022), Habib et al. (2022), Ali et al. (2019), Lin (2020), and Kim and Lee (2016) have found positive MALL's impact on language learning. Azli et al.'s (2018) survey of vocational college students found that most participants favored MALL, highlighting its potential to enhance teaching and learning. Soleimani et al. (2014) and AlDakhil and AlFadda (2022) also reported positive perceptions of MALL, noting its practicality and effectiveness in improving language acquisition.

Habib et al. (2022) emphasized the diverse use of MALL software and identified key factors influencing students' readiness and motivation to adopt MALL. Ali et al. (2019) reported a favorable attitude toward MALL among Pakistani ESL students and emphasized its collaborative and comfortable learning environment. Lin (2020) explored the acceptance of MALL among Chinese college EFL instructors, finding strong acceptance and suggesting training sessions for better usage. Kim and Lee (2016) highlighted the usefulness of the Technology Acceptance Model (TAM) in analyzing students' acceptance of MALL and identified key factors influencing its adoption.

Within this diverse context, technological innovations have been utilized in line with the purpose of MALL. Social media platforms have emerged as powerful tools for communication and information sharing, enhancing instructional efficiency (Madrigal, 2020). Mobile gamification adds an element of enjoyment and motivation to learning (Fithriani, 2021), while multimedia apps and messaging services aid in improving English language skills (Katemba, 2022). Online Learning Management Systems (LMS) offer comprehensive MALL solutions, catering to the diverse needs of students (Ghounane, 2020). Additionally, there are complementary MALL media, such as e-books, which facilitate digital document reading (Toyokawa et al., 2020), and video communication services, enabling virtual teacher-student interaction and proving effective in conjunction with other media (Anggraeni, 2022).

Numerous quantitative research studies conducted during and after the COVID-19 pandemic underscore the effectiveness of MALL in enhancing students' academic performance. These studies highlight MALL's contributions to improving listening, speaking, reading, and writing skills (Sutrisna et al., 2020) and emphasize WhatsApp's potential for supporting English instruction in distance learning (Mulyono et al., 2021; Nihayati and Indriani, 2021; Yuskandina and Wahyuna, 2021; Haron et al., 2021). Rooted in the Technological Acceptance Model, international studies consistently report the perceived usefulness and effectiveness of MALL in enhancing English language learning (Sari and Sulisty, 2022; Nuraeni, 2021; Ali et al., 2020), often leveraging social media platforms (Hidayati and Husna, 2020; Wiranegara and Hairi, 2020).

In summary, these studies collectively demonstrate the widespread recognition of MALL as an effective tool for language learning, with students and educators acknowledging its practicality, convenience, and positive impact on language acquisition. These findings underscore the potential of MALL to revolutionize language education and enhance learners' language proficiency, offering valuable insights for educators and curriculum developers.

Reflecting on this literature, several research gaps emerge, prompting the present study. These include the need for evidence on the

integration of MALL tools in English language learning within a distance learning context, limited studies demonstrating the effectiveness of MALL in such settings, and the importance of examining these factors within the specific Philippine educational context. Despite the positive perceptions evident in previous research, the study is motivated by a desire to further investigate and validate the potential of MALL in enhancing English language learning, particularly within the unique context of distance education.

Methodology

Research Design

The selection of participants followed purposive sampling, specifically targeting students who possessed both internet connectivity and mobile devices. The research adopted a descriptive-correlational research design, focusing on a group of 7th-grade learners currently engaged in modular learning through the utilization of the mobile-assisted language learning platform known as Quizzizz. As stated by Siedlecki (2020), the use of a quantitative approach allows for a systematic characterization of conditions, individuals, or populations in their natural state. Moreover, it facilitates the description of characteristics and issues within a specific unit, organization, or population. The primary objective of this research is to elucidate relationships among variables rather than inferring causation. Descriptive correlational studies prove valuable in delineating how one phenomenon interrelates with another, especially when the researcher lacks control over independent variables—those presumed to influence the dependent or outcome variable (Lappe, 2000). Therefore, this research employs a quantitative approach to identify, observe, and measure both samples and variables without any form of manipulation.

Respondents

This research took place at Sto. Domingo National Trade School, a public junior-senior high school nestled in Sto. Domingo, Nueva Ecija. During the research period, the school exclusively utilized modular distance learning for students in grades 7 to 9. The vocational administrator of the school, acting as the approving authority, meticulously followed the research protocol.

Respondents involved were consisted of 100 male and female grade 7 students who are taking up English classes in modular distance learning with the same English teacher. Purposively sampling technique was employed to select the respondents. In terms of age group, those within 12-16 age range participated. During the learning delivery, respondents are already active users of the MALL application, Quizzizz, provided by their English teacher. All respondents were observed to have mobile phone, internet connection and access to the mobile application, Quizzizz.

Table 1. *Distribution of Respondents*

Section	N	Frequency
A	54	18
B	50	22
C	53	18
D	52	21
E	53	21
Total	262	100

Table 1 presents the distribution of the respondents of the study. They were chosen based on the criteria of having at least one mobile gadget and internet connection. A digital survey conducted on Facebook Messenger was first utilized to determine the learners who met the primary facilitating conditions. From five classes the researcher handled for the SY 2021-2022, there were one hundred learners selected to participate in this study.

Instrument

The primary data collection instrument employed in this study was a survey questionnaire, aligned with the research problem. The questionnaire's cover page included general instructions for the survey and a consent form for the respondents. Its purpose was to gather responses regarding the utilization of mobile-assisted language learning (MALL). In accordance with the theoretical framework, the questionnaire encompassed independent variables, such as perceived usefulness and perceived ease of use, as well as dependent variables, including attitude and behavioral intention. These variables were derived from key components of the Technological Acceptance Model (TAM) and were integrated into the questionnaire administered to the participants.

The initial phase of the study involved assessing the respondents' perceptions of the independent variables, providing an initial understanding of their perspectives on the MALL tool. The questionnaire used in this study was adapted from Ghani et al. (2019), who employed secondary students as their sample group to gather information and analyze the use of the MALL tool. However, to align with the objectives of this research, additional questions related to behavioral intention were included in the second part of the questionnaire. In total, the questionnaire comprised 33 items, with each item being rated on a Likert scale ranging from 1 to 4.

To distribute the survey questionnaire, both digital and printed copies were used, with Google Forms serving as the digital platform. To ensure the reliability of this measurement instrument, the results of reliability tests conducted by Ghandi et al. (2019) using Cronbach's Alpha coefficient were referenced. These tests confirmed that all components of the questionnaire exceeded a reliability

score of 0.75, indicating a high level of reliability. Specifically, Perceived Ease of Use (PEU) demonstrated a reliability coefficient of 0.818, 0.870 for Perceived Usefulness (PU), 0.846 for Attitude (AT), and 0.757 for Behavioral Intention to Use (BI).

Regarding validity, the questionnaire's items and overall content underwent validation and evaluation by five Subject Matter Experts (SMEs), as consulted by Ghandi et al. (2019). Additionally, since modifications were made to the questionnaire in this research, a panel of evaluators from this study assessed the modified version to confirm its content validity.

Procedure

After obtaining approval from the vocational administrator of Sto. Domingo National Trade School, the data collection process for this study was conducted in July 2022. The participants in this research consisted of 100 Grade 7 Quizzizz users who were purposefully selected. The researcher invited these respondents to voluntarily participate in a survey focused on mobile-assisted language learning. The survey included participant consent forms, which were prominently featured on the cover page. These consent forms explicitly included the study's objectives and assured respondents of the completely voluntary nature of their participation, emphasizing that there were no associated risks. Additionally, the forms guaranteed anonymity for the respondents and the confidentiality of their data. Each participant, upon agreement to take part, signed their consent form.

Respondents were provided with both printed and digital copies of the survey questionnaire, depending on their preference, while the consent form was distributed exclusively in printed format. The survey consisted of 33 questions, which were adapted from Ghani et al.'s (2019) work. These questions gathered quantitative data using a four-point Likert scale, ranging from "strongly agree" (assigned a score of 4) to "strongly disagree" (assigned a score of 1). It's important to note that the questionnaire was originally developed with reference to a modified version of the technology acceptance model, as outlined by Ghani et al. (2019). The 33 questionnaire items were categorized into four constructs, encompassing five items related to perceived usefulness (PU), six items associated with perceived ease of use (PE), five items evaluating attitude (AT), and twelve items assessing behavioral intention (BI).

Data Analysis

The following procedure of analysis was used:

To describe the factors in using mobile-assisted language learning, frequency count and weighted mean formula were employed.

To describe the behavioral intention of using mobile-assisted language learning, frequency count and weighted mean formula were employed.

To determine the significant relationship between factors in using mobile-assisted language learning and their behavioral intention of use, Pearson Correlation was used.

Results and Discussion

Factors in using mobile-assisted language learning

This section covers the quantitative data and analysis of the responses in the questionnaire which comprises the four variables derived from TAM. These components are the parts of the questionnaire. Answers were collected through accomplishing the printed or digital survey and were recorded in the Microsoft Excel.

This section was designed to elicit information about the aspects of MALL guided by TAM framework which depicted a clearer image of their opinions in all. To answer the problem number one, the responses regarding MALL were analyzed. This requires weighted mean with verbal description for statistical analysis. A detailed examination of the results indicates the degrees of agreement in the four aforementioned categories: PU, PEU, and AU. The results addressing the problem number one are discussed in the following tables.

Table 2. *Learners' Perceived Usefulness*

<i>Learner's Perceived Usefulness</i>	<i>W.M.</i>	<i>V.D.</i>
1. The educational digital game improved my learning performance.	2.91	Agree
2. The educational digital game increased academic productivity.	2.82	Agree
3. The educational digital game made it easier to study course content.	2.97	Agree
4. The educational digital game enhanced the effectiveness of learning.	2.87	Agree
5. I find the educational digital game useful.	3.07	Agree
<i>A.W.M.</i>	2.93	Agree

Legend: 3.25-4.00, Strongly Agree; 2.50-3.24, Agree; 1.75-2.49, Disagree; 1.00-1.74, Strongly Disagree

The first component, perceived usefulness (PU), aimed to gather insights into how a mobile-assisted language platform could enhance learners' English tasks and performance. Table 2 illustrates that learners perceived mobile-assisted language learning in the form of educational digital games as highly useful, with a mean score of 3.07. They expressed agreement with the idea that digital games facilitated easier content comprehension, improved their learning performance, and enhanced the overall effectiveness of their learning. Although increasing academic productivity received a slightly lower mean score of 2.82, it still fell within the range of agreement. These findings underscore the relevance of mobile-assisted language learning in current educational activities and highlight its utility,

indicating a positive perspective among students regarding MALL's role in English tasks and academic performance.

Notably, this quantitative result aligns with the concept of learning through games, which contributes to cognitive development, as proposed by Jean Piaget's Cognitive Development Theory (1962). The Quizizz application, with its feature of providing immediate feedback and answers in a game format, allowed learners to engage in self-assessment, enabling them to monitor their progress and knowledge acquisition (Rahaya & Purnawarman, 2018). Additionally, learners could access various games with the same content from reputable sources within the Quizizz interface, as endorsed by their English teacher. This feature encouraged increased participation in practice activities and quizzes related to the lesson, explaining the agreement with all the statements regarding perceived usefulness.

These findings corroborate the research of Guo et al. (2020) and Azar and Tan (2020), who similarly highlighted the perceived usefulness of MALL, particularly during the pandemic period, both by learners and teachers. They emphasized the effectiveness of digital gaming in English language learning and its potential to enhance students' language skills. Similarly, Sutrisna et al. (2020), involving English lecturers, reported positive perceptions of MALL, suggesting significant implications for both teachers and students.

Furthermore, these results align with Fithriani's (2021) study, which explored the benefits of MALL for students' learning outcomes and emphasized its effectiveness, particularly in enhancing vocabulary mastery. Likewise, Ali (2020) reported that students perceived the integration of MALL as a valuable tool for improving their English language skills, highlighting the numerous beneficial features it offered.

Table 3. *Learners' Perceived Ease of Use*

<i>Learners' Perceived Ease of Use</i>	<i>W.M.</i>	<i>V.D.</i>
1. I find the educational digital game easy to use.	2.88	Agree
2. Learning how to use the educational digital game is easy for me.	2.85	Agree
3. It is easy to become skillful in using the educational digital game.	2.93	Agree
4. My interaction with the educational digital game is clear.	2.98	Agree
5. My interaction with educational digital game is understandable.	2.87	Agree
6. It is easy for me to find information through the educational digital game.	3.02	Agree
<i>A.W.M.</i>	2.92	Agree

Legend: 3.25-4.00, Strongly Agree; 2.50-3.24, Agree; 1.75-2.49, Disagree; 1.00-1.74, Strongly Disagree

The second component, perceived ease of use (PEU), aimed to capture respondents' opinions on how straightforward, convenient, and effortless they found the mobile-assisted language platform. Table 3 presents the results of perceived ease of use. In general, learners indicated agreement that the digital game made it easier for them to find information, scoring the highest mean of 3.02. They also expressed agreement regarding the platform's clear interaction, ease of skill development, user-friendliness, and understandable interface. However, they considered ease of learning as the lowest positive factor, with a mean score of 2.85. This reaffirms that learners perceived MALL as an easy-to-use tool for remote learning. The data analysis suggests that MALL can be a valuable learning tool that offers students portability and fosters a dynamic learning environment, as reflected in their survey responses. Consequently, the study's findings indicate that perceived ease of use can serve as a reliable indicator of students' technology adoption.

The positive perception of MALL's simplicity and ease can be attributed to the fact that the tool enables them to access game content on their own devices using convenient and portable gadgets, without requiring additional information or registration. Moreover, since there was no cost associated with downloading the app, learners could easily install it on Android, iOS, or Chrome devices. Additionally, they could access credible content by simply entering keywords related to the topic or lesson, eliminating the need for additional sign-ups. This allowed learners the opportunity to explore and take ownership of their learning, aligning with Albert Bandura's Self-efficacy theory (1977), which emphasizes individuals' belief in their capacity to control their own actions. In this context, self-efficacy in using the games provided a foundation for motivation and personal accomplishment, influencing factors such as learning strategies, goals, and academic achievements.

These observations align with the recommendations of Azar and Tan (2020), who saw MALL as a teaching aid that offered a platform for students to explore regardless of time and place. Similarly, Ali et al. (2020) reported similar results regarding the ease of use, with their learners finding MALL easy to use and manageable due to its convenient features.

However, it's worth noting that these findings differ from those of Guo et al. (2020), whose research did not establish a significant relationship between perceived ease of use and language learning. Consequently, learners in their study did not consider ease of use as a contributing factor to language learning.

Attitude (AU) towards Mobile-Assisted Language Learning (MALL) is centered on whether learners perceive its use as beneficial or detrimental to them. The data revealed a positive attitude among learners, with an average mean score of 2.95. Specifically, learners expressed a strong inclination to utilize MALL for their future coursework, earning the highest mean score of 3.01 (Table 4).

This indicates that the tool engenders favorable sentiments, positivity, and engagement, portraying it as a motivational aid for learning. Learners emphasized that they not only valued the benefits MALL offered but also admired it and planned to incorporate it into their future assignments.

Table 4. *Learners' Attitude*

<i>Learners' Attitude</i>	<i>W.M.</i>	<i>V.D.</i>
1. Studying using the educational digital game is a good idea.	2.93	Agree
2. I feel positive towards the use of the educational digital game.	2.95	Agree
3. I believe that the educational digital game helps to be more engaged in learning.	2.98	Agree
4. I generally favour the use of the digital game for learning.	2.89	Agree
5. I believe that it is a good idea for me to use this educational digital game for my future coursework	3.01	Agree
<i>A.W.M.</i>	2.95	Agree

Legend: 3.25-4.00, Strongly Agree; 2.50-3.24, Agree; 1.75-2.49, Disagree; 1.00-1.74, Strongly Disagree

The positive attitude observed can be attributed to several characteristics of the game-based MALL tool. Learners appreciated the customization options, allowing them to tailor the level of difficulty to their preferences. Multiplayer functionality, where they could adjust the level of competition and speed, further engaged them. The presence of time restrictions and random questions encouraged participation. Importantly, learners' rankings were displayed to motivate them, while maintaining the confidentiality of scores. The presence of these elements, such as avatars, levels, content unlocking, leaderboards, achievements, virtual goods, points, teams, and badges within the Quizizz app, contributed to learners' confidence, excitement, and energy during gameplay. Such enjoyment in the game environment, as mentioned by Khajavy et al. (2017), is a key motivational factor for learning and contributed to respondents' positive perceptions of MALL in their tasks.

This finding is consistent with previous studies by Guo et al. (2020), Maarouf (2022), and Lawrence (2015), which also highlighted students' positive attitudes towards MALL and the everyday use of mobile devices. It also aligns with Azar and Tan's (2020) results, where a significant number of respondents had a favorable attitude towards the use of technologies, including MALL, for language teaching during lockdowns. This suggests that learners found MALL to provide an enjoyable and engaging learning environment.

Furthermore, this observation resonates with Ali et al.'s (2020) findings, which indicated that a majority of their respondents viewed MALL positively as a novel aspect of learning that maintained their interest and provided motivation and confidence. Collectively, these studies illustrate the role of MALL in fostering a positive and motivating atmosphere among students.

Behavioral intention of using mobile-assisted language learning

In order to answer the problem number two, frequency count and weighted mean were used for statistical analysis. Problem number two asks the behavioral intention of using mobile-assisted language learning. Specifically, it sought to collect information regarding the habitual, future, and interactional intention of use of the learners. Respondents were asked to answer the component number four of the questionnaire using four-Likert scale. Microsoft Excel was used to record the data of the participants' responses that were later converted into statistical results to gain the weighted mean of each aspect. Results addressing the problem number two are discussed in the following table.

Table 5. *Habitual Intention of Use*

<i>Habitual Intention</i>	<i>W.M.</i>	<i>V.D.</i>
1. I intend to frequently use the mobile digital game to practice lesson.	3.06	Agree
2. I intend to use the educational digital game heavily.	3.12	Agree
3. I intend repetitively use the educational digital game as often as possible.	3.25	Strongly Agree
4. I intend to use digital game regularly in the forthcoming time.	3.09	Agree
5. If I had enough time, I would use the digital game application.	3.2	Agree
6. I will spend a lot of time on using mobile learning for academic use.	3.22	Agree
<i>A.W.M.</i>	3.14	Agree

Legend: 3.25-4.00, Strongly Agree; 2.50-3.24, Agree; 1.75-2.49, Disagree; 1.00-1.74, Strongly Disagree

Table 5 presents the habitual intention. Habitual intention refers to the behavioral intention of use in which learners perceive to develop a study routine that accompanies the use of mobile-assisted language learning tool. It measures the extent to which an individual acts responsibly and has control over the process of learning with mobile devices. As shows in the table, learners display strong positive intention to use the tool heavily which was indicated as the highest objective (mean score of 3.12) while using it frequently to practice the lesson as the lowest (mean score of 3.06). Overall, the findings reveals that all the items in the habitual intention are generally positively perceived and looked forward by the learners with AWM of 3.14. This implied that learners are eager to make use of gamified learning a habit.

Learning on online platforms is expected of students during the Covid-19 pandemic, which encourages them to develop good online learning habits, particularly the usage of mobile for education. Today, using a smartphone for academic purposes is commonplace. On the mobile learning platform, learners have gradually grown accustomed to utilizing smartphones for study. This result may be explained by the features of the game and its settings, which enable challenges, leaderboards, competition, cash, and badges. By providing rapid feedback, satisfaction, and a sense of accomplishment, the applications were evaluated by the students as having motivation-activating effects. Because of its convenience, rewarding system, group setting, and ability to establish a routine, gaming

applications are thought to have assisted learners in developing learning habits. Aside from this factor, MALL tools also promote self-efficacy in which learners are allowed to explore their learning through mobile games. The concept of student self-efficacy was created in the framework of Bandura's social cognitive theory. It is the conviction that learners hold regarding their aptitudes and capacities for gathering facts and turning them into knowledge. The ability to learn well has grown closely correlated with a student's sense of self-efficacy. Among the knowledge structures that exert a persistent influence on a person's successful growth, particularly in terms of academic performance, are self-efficacy beliefs. Self-efficacy beliefs, or students' assessments of their aptitude for academic work, foretell their capacity to complete such activities (Razzaq et al. 2018). These may be the contributing factors on the positive perception of learners in planning to make gamified learning a habit.

Table 6. *Learners' Future Intention of Use*

<i>Future Intention</i>	<i>W.M.</i>	<i>V.D.</i>
1. I intend to use educational digital game throughout this school year and the next.	3.29	Strongly Agree
2. I intend to make use of the functions of MALL to help with my future academic activities.	3.2	Agree
3. I intend to use MALL to do my future homework.	3.24	Agree
4. I intend to use MALL to access and learn new information	3.19	Agree
5. I intend to use the services provided by MALL	3.23	Agree
6. I am willing to download application programs for MALL	3.27	Strongly Agree
<i>A.W.M.</i>	3.24	Agree

Legend: 3.25-4.00, Strongly Agree; 2.50-3.24, Agree; 1.75-2.49, Disagree; 1.00-1.74, Strongly Disagree

Table 6 shows the future intention of learners. Future intention is the measurement of the strength of an individual's intention to use mobile learning in the future assuming that it is available to them (Ajzen, 1991). According to Venkatesh et al. (2003), learners' acceptance of their use behavior is mostly dependent on their future intentions. In the context of mobile learning, it assesses a person's dedication to using mobile learning if the option becomes available to them in the future. Due to the actual situation where the study is conducted, where the adoption of mobile-assisted language learning is still at an early stage and in some cases, learners are encouraged to utilize mobile learning, this study evaluates behavioral intention rather than actual use.

As the table reveals, learners show optimistic view of using gamified tool in the future. They intend to use educational games both this academic year and the following (highest mean score of 3.29). Also, they agreed to use the services provided by the tool in their future academic activities, homework, and accessing new information. This demonstrates that, depending on the advantages they see from using mobile learning technologies, students are willing to adopt and use them. One of the criteria highlighted in the literature and supported by this study is the evidence of ICT efficacy. Performance expectancy is mostly used in technology acceptance studies that explain ICT effectiveness as a factor that influences future intention to utilize a system.

Future intentions imply that learners who are more innovative are more likely to adopt new technological innovations than learners who are less innovative. Higher levels of personal innovation are predicted to have students who are more eager to include mobile learning into their studies in the future. The impact of personal innovation on behavioral intention to adopt mobile learning has been studied in the past with positive outcomes. Aside from that, Quizziz included colorful and user-friendly interface, game-like graphics, avatars, and sound (Namara & Murphy, 2017). It may also be viewed that the lessons were properly aligned with the provided game contents that can be an important aspect on the decision of the respondents for the future use of the tool. With proper integration with the objectives of the lesson, learners who are users of the gaming platforms acquire the aligned competencies while playing them without realizing it. Alignment of the game with the topic stimulates learners' interest, involvement, and connection with the lesson (Zhao, 2019).

Table 7. *Learners' Interactional Intention of Use*

<i>Interactional Intention</i>	<i>W.M.</i>	<i>V.D.</i>
1. I intend to recommend the app to others	3.24	Agree
2. I spend my spare time using to connect to other students in my class	3.2	Agree
3. I like to enroll in another course that integrate MALL tool	3.22	Agree
4. I intend to use digital games to make friends	3.19	Agree
5. I intend to continue using the tool to support distance learning interaction	3.18	Agree
<i>A.W.M.</i>	3.20	Agree

Legend: 3.25-4.00, Strongly Agree; 2.50-3.24, Agree; 1.75-2.49, Disagree; 1.00-1.74, Strongly Disagree

Table 7 shows the intention of use in terms of interaction purposes. Interactional intention can also be identified a component of behavioral intention. This is the extent to which a user believes that people have significant factor on the reasons they should use a mobile learning system to connect and build relationship with others. This can be implied that learners have good intention to adopt gamified for communicating purposes.

As can be seen in the Table 7, learners' purpose to employ gamified tool for interaction is in the range of agreement. This indicates that learners are willing to communicate to people using the tool. Specifically, recommendation of the app to other learners has the highest mean (3.24). This can be perceived as suggestion of learners of a wide employment of the tool to create a community of MALL

users. On the other hand, interaction in remote learning has the lowest mean (3.18), however, still in the range of agreement. This can be described as learners have least eagerness to connect to others because not having the real time interaction.

Su and Chao (2022) noted that people might adopt new technology by imitating what others do. The motives can be different, such as to meet to expectations, to compete, or to be driven by incentives. Social influence can be used to explain interactional intention. According to Alraja (2016), social influence is the extent to which people are persuaded to use a new system. Social impact is considered to be a component of behavioral intention according to Bozan et al (2016). The main motivations for using the MALL tool to support MDL among learners who have access to facilitating conditions are to be accepted by their peers, to advance in social standing, or to feel motivated by the environment. Thus, these can be attributed as factors why learners exhibit a strong desire to use the MALL tool.

Relationship between factors in using mobile-assisted language learning and the behavioral intention of use

Table 8. *Correlations between independent TAM Constructs and Behavioral Intention Components*

Correlations		Habitual Intention	Future Intention	Interactional Intention
Perceived Usefulness	Pearson Correlation	0.085	0.076	0.093
	Sig. (2-tailed)	0.402	0.453	0.356
	N	100	100	100
Perceived Ease of Use	Pearson Correlation	0.089	0.065	0.023
	Sig. (2-tailed)	0.378	0.522	0.818
	N	100	100	100
Attitude	Pearson Correlation	0.085	0.076	0.001
	Sig. (2-tailed)	0.398	0.454	0.989
	N	100	100	100

** Correlation is significant at the 0.01 level (2-tailed).

Behavioral intention (BI) of use refers to the certain degree to which the learners are willing to use the platform for learning English language at present and in the future, habitual learning and interactional purposes. On the other hand, behavioral intention is guided and determined by the three major variables (perceived usefulness, and perceived ease of use) according to the result of the study of Miller and Khara (2010) and Naeini (2012).

Studies in the literature review (Naeini, 2012; Ghani et al., 2020; and Guo et al., 2020) indicated that attitude, perceived usefulness, and perceived ease of use can affect the behavioral intention.

Table 8 indicates the variables in the study having not correlated. The data examined the extent to which the independent variables (PU, PEU, AT) predicted students' behavioral intentions to use mobile-assisted language learning in English learning (HI, FI and II as the dependent variables). The correlation coefficients ranged from 0.001 to 0.093. It can be said that there were no significant relationships among these constructs.

The relationships between the variables were examined using correlation. Two phenomena are correlated if they are related in a systematic way (Phuangthong & Malisawan, 2005). The correlation coefficient was used to calculate correlation. The correlation is greater the closer the coefficient is to 1.0. The Pearson Correlation analysis was used to determine the significance of a correlation coefficient based on its magnitude (closeness to 1) and sample size. Correlation coefficients between sets of variables were generated using SPSS, and the hypothesis is supported if the probability is greater than 0.01 (Phuangthong & Malisawan, 2005). The correlations were generated to investigate the factors in using mobile-assisted language learning tools and their relation to students' behavioral intention components. Furthermore, significant relationships are considered when significant level is at least less than 0.01. It is further examined the extent if the independent TAM variables are related to the behavioral intentions. The data reveals the analysis of the following hypothesis.

Hypothesis 1: There is significant relationship between learner's perceived usefulness and their habitual intention of use.

The study utilized Pearson correlation to examine whether students' perceived usefulness (PU) had a predictive relationship with their habitual intention of use. However, the results, as shown in Table 8, revealed that there was no significant influence of the independent variable PU on students' habitual intentions. The correlation coefficients were found to be 0.085, with a p-value of 0.402, indicating no statistically significant relationship. Contrary to the hypothesis, this finding does not support the idea that students with positive perceptions of MALL's usefulness were more likely to exhibit positive intentions to use MALL habitually. Consequently, this analysis decisively rejects Hypothesis 1.

Hypothesis 2: There is significant relationship between learner's perceived usefulness and their future intention of use.

In examining the relationship between perceived usefulness and future intention, the Pearson correlation coefficient was calculated to be 0.076. This finding indicates that there is no significant relationship between these two variables, as the correlation coefficient exceeds the predefined significance level of 0.01 set for this study. Furthermore, the analysis reveals that perceived usefulness is negatively correlated with future intention. In summary, the data does not support Hypothesis 2, as this correlation analysis does not

confirm a meaningful association between perceived usefulness and future intention.

Hypothesis 3: There is significant relationship between learner's perceived usefulness and their interactional intention of use.

The hypothesis proposed that positive perceptions of the ease of use of Mobile-Assisted Language Learning (MALL) would play a crucial role in predicting positive interactional intentions among learners. However, the data analysis resulted in a statistically significant correlation coefficient of 0.093 at $p < .001$, revealing that this relationship is indeed significant. This analysis contradicts Hypothesis 3, as it indicates that positive perceptions of MALL's ease of use do not strongly correlate with positive interactional intentions among the learners.

Hypothesis 4: There is significant relationship between learner's perceived ease of use and their habitual intention of use.

Table 8 provides evidence that there is no significant correlation between perceived usefulness and habitual intention, with a correlation coefficient of 0.089 that exceeds the 0.01 significance level. In essence, these two variables do not exhibit a meaningful correlation. This outcome diverges from the hypothesis, which suggested that positive perceptions of Mobile-Assisted Language Learning (MALL)'s ease of use would strongly predict learners' habitual intention to use. However, the data did not substantiate this hypothesis.

Hypothesis 5: There is significant relationship between learner's perceived ease of use and their future intention of use.

A correlational analysis was performed to examine the hypothesized connections between two variables: perceived ease of use and future intention. Table 8 displays the correlation coefficient (0.065) along with the significance level (0.522) for these independent and dependent variables. The results reveal that Hypothesis 5, which proposed that ease of use would predict future intention of use, is not supported by the data. In other words, perceived ease of use does not appear to be a reliable predictor of future usage intentions.

Hypothesis 6: There is significant relationship between learner's perceived ease of use and their interactional intention of use.

To explore the connection between students' perceived ease of use and their interactional intentions, a Pearson correlation analysis was conducted. Table 8 displays a correlation value of 0.023, indicating that the independent variable, perceived ease of use, does not significantly influence students' interactional intentions. This means that the prediction that those who held positive views about the ease of using MALL would have a bearing on their habitual intention of using it is not substantiated by the data. The correlation analysis, with a significance level of 0.818, demonstrates that these findings do not align with Hypothesis 6.

Hypothesis 7: There is significant relationship between learner's attitude and their habitual intention of use.

The Pearson correlation coefficient for examining the relationship between attitude and habitual intention yielded a value of 0.085. In accordance with the criteria mentioned, correlation is considered supported when the probability is greater than 0.01. In this case, the data suggests a negative correlation between learners' attitude and the concept of habitual intention. This evidence does not align with Hypothesis 7, as it indicates that learners' perceived attitude is not a reliable predictor of their intention to use MALL habitually.

Hypothesis 8: There is significant relationship between learner's attitude and their future intention of use.

The data presented in Table 8 reveals that the independent variable does not exert a significant impact on students' future intentions, as indicated by a correlation value of 0.076. Contrary to the hypothesis, which predicted a link between a positive attitude towards MALL's utility and positive perceptions of habitual intention of use, the data does not support this prediction. Consequently, it is evident that Hypothesis 8 has been rejected, as the two variables are found to be distinct and not strongly related in this analysis.

Hypothesis 9: There is significant relationship between learner's attitude and their interactional intention of use.

The data reveals a correlation value of 0.001 between attitude and interactional intention of use, indicating a negative correlation. As shown in Table 13, it is evident that the independent variable, attitude, cannot be regarded as a contributing factor to students' interactional intentions. Furthermore, the analysis highlights that the attitude variable does not exert a significant influence on the interactional constructs, with a significant level of 0.989. This underscores a negative correlation and relationship between the two variables. Consequently, the findings from this correlation analysis do not align with Hypothesis 9.

From a theoretical standpoint, within the framework of the Technology Acceptance Model (TAM), which encompasses the independent variables of perceived usefulness (PU), perceived ease of use (PEU), and attitude towards use (AT), there appears to be no discernible influence on the components of behavioral intentions (BI), including habitual intention (HI), future intention (FI), and interactional intention (II). These independent variables were employed to gauge students' perceptions and their intention to use mobile technologies for English learning. However, the empirical data does not align with the proposed hypotheses. This is underscored by the results, which indicate coefficient values for these three variables ranging from 0.001 to 0.093, all of which are statistically insignificant at a level greater than 0.01. This suggests that the current research model does not adequately represent the collected data.

It is possible to interpret this finding by considering that even though students hold positive views regarding the usefulness and ease of use of Mobile-Assisted Language Learning (MALL) tools, they may be seeking additional factors that influence their intentions. It's worth noting that the study participants are digital natives who have grown up with digital media and have been immersed in a digital environment since birth. They are accustomed to using mobile devices as part of their daily lives, spending several hours each day on

mobile browsing. Consequently, they may not find the positive perceptions of usefulness and ease of use to be sufficient contributing factors to their behavioral intentions. For them, using mobile devices is second nature, and they do not consider it particularly challenging.

Another aspect that may have influenced the results is the new learning setup imposed by the circumstances, where participants had to adapt quickly to the changing conditions (AlDakhil & AlFadda, 2021). Evidence from the field suggests that mobile learning has had a positive impact on behavior and satisfaction during the COVID-19 pandemic (Kumar et al., 2022). Since the aim of mobile learning is primarily to supplement existing learning methods rather than replace them, this shift was contingent on changing trends and technology.

Interestingly, these results are in line with a study by Al-Hamad et al. (2021), which found that perceived usefulness and continued use had a negative impact on attitude, potentially reducing students' intention to use mobile learning. Additionally, the study underscores that the conditions imposed by the pandemic have altered the relationship between perceived usefulness and behavioral intention, emphasizing the evolving role of mobile learning. Ultimately, the effectiveness of mobile learning is not solely determined by its efficacy but also by how a learning community perceives its relevance in a given context (Kumar et al., 2022).

Conclusions

Factors in Using Mobile-Assisted Language Learning

The collected data that answered the problem number one which was analyzed concluded positive responses to perceived usefulness, perceived ease of use, and attitudes which identified and described positive effects of MALL in modular distance learning. The most obvious finding to emerge from this result is that through the lens of TAM, learners embraced and actively participated in MALL learning.

Learners' Perceived Usefulness

Based on the results, it can be concluded that the respondents had a favorable opinion of how valuable MALL is to them. The majority of respondents said they agreed with all of the statements about perceived usefulness and considered each statement to be acceptable. The results signify that the respondents thought using MALL would be very beneficial to them in carrying out their tasks. The favorable opinion of these students thus creates a favorable climate for educators to integrate MALL for delivering English instruction via remote learning.

Learners' Perceived Ease of Use

The results for the questionnaire's items on perceived ease of use indicated that respondents' perceptions of their use of MALL were favorable. They agreed with the assertion made on the simplicity of utilizing MALL. This signifies how convenient MALL is perceived as improving learners' English skills.

Attitude Towards Use

This study found that Sto. Domingo National Trade School students held positive attitudes towards mobile-assisted language learning. Learners agreed on all items for the component, attitude. This can signify that MALL tools in greater relevance with English language learning is perceived impactful to the learners. Thus, this promotes effectiveness and motivation among them.

Behavioral Intention of Use

The data collected and evaluated to answer problem number two resulted in favorable response to the behavioral intentions, habitual, future and interactional. When investigating the learners' behavioral variables, the result concluded that they are willing to adopt MALL tools. The investigation of the behavioral intention components were considered to be exploratory in nature due to the lack of previous studies of mobile learning that considered moderators. The findings for moderators need to be verified in further studies.

Habitual Intention of Use

Learners positively perceive to develop a study routine that accompanies the use of mobile-assisted language learning tool. A study pattern that involves with using a mobile language learning application is favorably perceived by learners. They clearly believe they have influence over the way in which they study using mobile devices. This highlighted that mobile devices were being deliberately adopted by students for the goal of establishing learning habits. They were excited and inspired to embrace mobile devices as an innovative tool for practice that might actively involve them in enhancing English skills.

Future Intention of Use

The findings concluded that learners positively accept the intention of using MALL at a good level. Users with MALL experience is more likely to have the intentions to use MALL for learning in the future. Conclusively, this signifies that learners have strong and positive conviction regarding the potential use of MALL tools and their role in changing and improving the ambiance and process of learning.

Interactional Intention of Use

According to the data analysis's findings, it can be concluded that regular use of the tool was believed to improve learners' interaction and communicative processes. The data thus supports their intention to use MALL technologies to foster connections between other students. The inclusion of MALL in language classes allowed the students the chance to access a variety of helpful materials, try out various English-language activities, and connect with their peers and teachers. The mall tool is perceived as suitable tool for encouraging students' interaction and communication outside of the classroom. It makes it possible for both teachers and students to provide lessons without having to interact in person.

Relationship between factors in using mobile-assisted language learning and the behavioral intention of use

The current study does not confirm the theory that TAM components can predict students' behavioral intention to use MALL. The current theoretical framework model does not represent the collected data. The TAM model does not appear to work well in describing factors that affecting the behavioral intentions of the learners. The key constructs of this study showed there is no significant relationships with one another and has no direct and indirect impacts on students' behavioral intention to use MALL. This signifies that learners' perceptions of the use of MALL and their connectedness in the intention of use have changed. The following are the conclusions for the hypotheses.

- a. There is no significant relationship between learner's perceived usefulness and their habitual intention of use.
- b. There is no significant relationship between learner's perceived usefulness and their future intention of use.
- c. There is no significant relationship between learner's perceived usefulness and their interactional intention of use.
- d. There is no significant relationship between learner's perceived ease of use and their habitual intention of use.
- e. There is no significant relationship between learner's perceived ease of use and their future intention of use.
- f. There is no significant relationship between learner's perceived ease of use and their interactional intention of use.
- g. There is no significant relationship between learner's attitude and their habitual intention of use.
- h. There is no significant relationship between learner's attitude and their future intention of use.
- i. There is no significant relationship between learner's attitude and their interactional intention of use.

Despite of the positive result, this study also has limitations. The sample size was relatively small and homogeneous. Learners who participated in this study are digitally native which means they are active users of mobiles. They cannot represent the characteristics of the whole population inside and outside the school of the research locale. These respondents also cannot represent all the learners in junior high school in the Philippines.

Based on the findings of the study, the researcher suggests some recommendations for future researchers to improve this field of mobile learning and pedagogical implications for language teachers, educational institutions, and system designers to implement MALL environment in formal and informal classroom.

The practical recommendation based on the conclusion one is that successful mobile-assisted language learning adoption in schools may be suggested to decision-makers ensuring that students find mobile learning both useful and easy. This may be done by providing relevant and up-to-date mobile learning content to ensure that students can benefit from mobile learning during distance learning and providing tutorials for new users about how to use mobile-assisted language learning tools.

Following conclusion of willingness and intention to adopt MALL tools, this suggests pedagogical implications and implementation of MALL environment in which the following may be considered:

Institutions of education may continue investing to ICT development and may widen the opportunities for teachers and students to improve digital teaching-learning literacy by providing technological programs and software and by creating intervention classes, workshops, and trainings.

Utilization of mobile technology in formal and informal classroom is recommended, however, few modifications are required to meet the curriculum. Teachers should choose MALL tools that are appropriate with the lesson and content standards. These considerations should include the relevance of the purpose of the game with the lesson objectives, the game difficulty, the allotted to conduct the game, and the interest of the learners.

The mobile application, Quizziz is one of the MALL tools that are being developed nowadays using different technologies offering different design and format. Facilitators should carefully choose and select tools that are appropriate to learners' needs and interests.

On an important note, utilization of MALL tools in different modalities of learning should not substitute the traditional method of teaching but merely as a support provider for both teachers and students.

The results also show that there is a need to redesign the TAM model to align it with the evolving demands of users and learners. Future studies may add additional external variables aside from perceived usefulness and perceived ease of use. The influence of potential external factors, such as subjective norm, self-efficacy, technological variables, perceived outcome, perceived enjoyment, and perceived MALL performance on students' behavioral intents to use mobile-assisted language learning in remote learning may be used to understand how students' intentions use mobile devices for informal English learning. Given that the data for independent variables are not significant for BI components, challenges and barriers of using MALL can be further examined in future studies. Also, learners who responded to the study are active and experienced users of mobile technology, employing a different group with unexperienced or a combination of the two are recommended to generate different result. Finally, the research's conclusions do not completely correspond to current trends in mobile learning environments. This study may also be extended by investigating different variables, model variables and causal effects. Therefore, similar research must be done to address more contemporary mobile learning infrastructures or conditions since mobile technology is continuously developing. It is strongly advised to conduct additional study using TAM because there has not been much done to address behavioral intention to MALL and relationships among relevant factors.

A large and heterogeneous sample, and other external variables can be added to further determine the significant relationship of the independent TAM variables to behavioral intention components. This research was conducted focusing the perception of learners in remote learning, further research must consider the adoption of mobile technology inside the classroom among the different levels of learners. Additional external variables may also be added to further test out the factors affecting the perception of behavioral intention of the learners. Also, with the fast changes and development of technology, further research is recommended to cope up with an in-depth knowledge and understanding on the effect of mobile-assisted language learning in the success of learner's academic performance.

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