




Factors that influence students' acceptance of mobile learning for EFL in higher education

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Abstract

Using mobile learning (m-learning) to study English as a foreign language (EFL) has provided new opportunities for innovative learning, particularly for today's younger generation who have grown up with digital technology. It can effectively promote teaching and learning by maintaining students' engagement. This study aimed to investigate the factors that influence university students' acceptance of m-learning for EFL in Taiwan. A survey questionnaire was administered to 327 participants, and the data was analyzed using descriptive statistics, t-tests, one-way ANOVA, and Pearson's correlation. The results indicated that all factors received relatively high scores, with perceived ease of use, attitude toward use receiving the highest scores. This suggests that students widely accept m-learning as a means of studying EFL. The key to creating a successful m-learning experience is for students to accept it as an educational tool and be willing to use it. Therefore, it is recommended that m-learning be considered as a potential tool to improve EFL students' language proficiency.

Keywords: m-learning, acceptance, EFL, university student, higher education

INTRODUCTION

Many studies have demonstrated the potential of mobile learning (m-learning) in enhancing students' learning experiences. For instance, a study by Saroia and Gao (2019) investigated the impact of m-learning on the academic performance of college students in Turkey and found that m-learning significantly improved students' language achievement. M-learning has the potential to immediately engage students' interests in the learning process by increasing their attention and communication (Kukulska-Hulme, 2012). The adoption of m-learning can help students in the digital age enhance their academic achievement, increase learning motivation, and foster participation (Busulwa & Bbuye, 2018). As a result, various higher education institutions in the world have adopted mobile technology and implemented m-learning paradigm in different aspects (Al-Rahmi et al., 2022).

In recent years, the majority of studies on m-learning have focused primarily on assessing its effectiveness and acceptance across various professional fields, as noted by Chee et al. (2017). However, some recent studies have

explored deeper into the factors that impact students' adoption and acceptance of m-learning. For instance, Almaiah and Alismaiel (2019) conducted a study that examined the factors affecting students' satisfaction and intention to use m-learning. They found that quality factors, such as system quality, information quality, and service quality, significantly influenced students' intention to use m-learning. Similarly, in a systematic study by Sophonhiranrak (2021), the factors influencing students' usage of m-learning in higher education were examined. The study revealed that mobile devices can be effectively used as learning tools for various tasks, and instructors should consider implementing them more in the classroom.

Over the last decade, m-learning, particularly, mobile-assisted language learning has emerged as a distinct field of study, with a growing body of literature investigating the use of different mobile devices in both formal and informal language learning settings (Stockwell & Hubbard, 2013). Students who study English as a foreign language (EFL) need a multifaceted approach to learn and acquire the language. Considering its accessibility, usefulness, mobility, high satisfaction

Contribution to the literature

- The paper has identified and analyzed the key factors that influence students' acceptance of mobile learning for English as a Foreign Language (EFL) in higher education.
- By providing concrete evidence on these factors, the paper effectively bridges the gap between theory and practice.
- The paper offers practical implications for educators and policymakers who are seeking to implement mobile learning initiatives for EFL in higher education.

rate, efficiency, ease of use, low-cost, effectiveness, accessibility, and fast feedback (Bassam Nassuora, 2013), m-learning can be an effective method for language learning to assist EFL students in improving their academic performance, on or off campus (Hsu et al., 2013). Kenning (2007) indicated that mobile technology offers an immense opportunity for language learners to study in a real language learning environment. Also, Gromik (2012) successfully conducted a research that integrated cell phone video recording feature as a speaking learning tool in class for EFL university students in Japan. Moreover, Hsu et al. (2013) proposed a personalized recommendation-based mobile language learning approach for guiding EFL students' reading, particularly for taking notes of English vocabulary translations. According to the results of the aforementioned research, m-learning via various technology applications on handheld devices can be effectively utilized by EFL students to assist in their language learning process.

Overall, the adoption of m-learning in higher education institutions continues to grow as more studies demonstrate its potential in enhancing students' learning experiences in various field. However, there is a lack of studies that focus on the application of m-learning in EFL field. Therefore, further research is necessary to comprehend students' acceptance of using m-learning for EFL studies. This study aimed to investigate university students' willingness to use m-learning for English learning purposes and the factors that influence their acceptance. In this study, acceptance was defined as students' willingness to use m-learning and examines the factors of perceived usefulness (PU), perceived ease of use (PEOU), attitude toward use (ATU), and behavioral intentions (BI).

LITERATURE REVIEW

M-Learning for Education

M-learning is defined as "learning across multiple contexts, through social and content interactions, using personal electronic devices" (Crompton, 2013, p. 4). Baran (2014) reviewed previous research on m-learning and characterized it as mobile, accessible, direct, situative, ubiquitous, convenient, and contextual, allowing one to learn anytime and anywhere. It has created a new learning revolution due to its unique

design that enable continuous and spontaneous access to learning contents and across-context interaction, gaining increasing popularity worldwide over the past two decades (Kukulaska-Hulme & Shield, 2008). Its portable nature and integrated accessibilities provide easy access to learning materials via the Internet (Woodill, 2010).

The utilization of mobile technology in learning has been prevalent for educational purposes by educators and researchers for decades (Hwang & Wu, 2014). Recent literature reviews of m-learning have constantly demonstrated its competence and effectiveness showing that students improved their learning progress in varied learning settings (Chee et al., 2017). M-learning can also be seen as an innovative learning and effective method through the use of handheld devices that can be accessed anywhere at any time (Huang, 2007; Kukulaska-Hulme & Shield, 2008), and is particularly being utilized for informal learning (Fallahkhair et al., 2007). Moreover, it was found that m-learning goes beyond permanency, collaboration, interaction, immediacy, space and instructional activities (Ogata et al., 2010). Unlike formal learning, which is restrained inside the classroom, learning through mobile technology can be done outside the confines of the classroom emphasizing its learner-centered approach and the lifelong experience that can be gained out of it.

The connection between m-learning and the field of education has strengthened throughout the years (Kukulaska-Hulme et al., 2009) since m-learning has been constantly implemented in global institutions, especially in higher education. With rapid mobile application development, users can gain a new level of learning experience (Shahrasbi et al., 2021). Immediate communication and collaboration through interactive wireless technologies without spatial distance are facilitated in m-learning. For instance, it allows students to share ideas, information, and notes, access feedback from peers and teachers, send SMS messages, and even manage learning through online classroom management systems (Priyatno, 2017). With m-learning, higher education institutions can satisfy students' need for advanced networking and offer them an appropriate learning environment in the digital age (Althunibat, 2015). Consequently, students' potential ability and innovative ideas can be sharpened creatively depending on the demands of their respective professional fields.

Chee et al. (2017) reported that language was the leading subject domain of m-learning studies between 2010 and 2015, accounting for 12.93% of the research. As a promising educational tool, m-learning has gained significant attention from EFL language educators who are eager to apply innovative teaching methods for language pedagogy. Consequently, many studies have explored the effectiveness of m-learning in language learning and have achieved promising results in improving EFL students' learning outcomes. For example, Lu (2008) conducted a study that employed m-learning for vocabulary acquisition, which showed that students under m-learning significantly recognized more words, and the participants had positive attitudes towards m-learning. Similarly, Nah et al. (2008) demonstrated the effectiveness of m-learning in improving the listening skills of Korean EFL students. In addition, a study by Shamsi et al. (2019) found that m-learning can reduce speaking anxiety for EFL learners while simultaneously increasing their motivation to learn. Mobile applications have also become a valuable educational tool for teaching EFL in Russia during the COVID-19 pandemic (Dolzich et al., 2021).

Technology Acceptance Model for M-Learning

The concept of technology acceptance refers to "a user's willingness to employ technology for the tasks it is designed to support" (Teo, 2011, p. 1). Among the various research models available to study technology acceptance, technology acceptance model (TAM) is the most widely used in the last decade. TAM framework has gained popularity as a theoretical model to understand technology adoption in different settings, including m-learning. The model was first proposed by Davis (1985) and was derived from theory of reasoned action (TRA) by Fishbein and Ajzen (1975). Since its inception, TAM has been used to predict the adoption and use of new technologies in the information technology community and to measure user acceptance of dynamic technologies. TAM has also been acknowledged by many researchers as an authoritative model that enables examination of domain-specific factors when exploring user technology acceptance and human behavior.

Many studies have recognized TAM as a reliable and influential model to understand users' acceptance of technology (Lee et al., 2003). It has been widely used to investigate the adoption of technology in various contexts, including m-learning. For instance, recently employed TAM to explore university students' intention to use m-learning management systems in Sweden and found that perceived usefulness had a significant positive influence on BI and ATU (Saroia & Gao, 2019). Similarly, Lu (2008) and Nah et al. (2008) have previously demonstrated that the four constructs of TAM: PEOU, PU, ATU, and BI, can effectively predict students' acceptance of m-learning in different

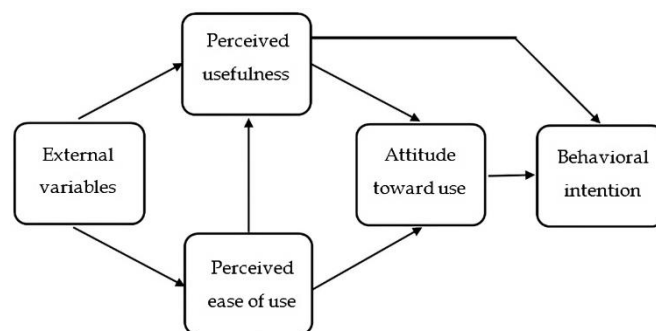


Figure 1. TAM research model for m-learning (Source: Al-Emran et al., 2018)

universities and their expectations for academic performance, effectiveness, and efficiency. A systemic review on TAM in m-learning conducted by Al-Emran et al. (2018) revealed that most studies adopted and extended TAM to external variables that require further investigation. Hence, this study adopts TAM to investigate the factors that may influence Taiwanese students' acceptance of m-learning for EFL learning in higher education, with a particular focus on PEOU, PU, ATU, and BI. The research model is shown in **Figure 1**.

Perceived ease of use

Davis (1989) described PEOU as "the degree to which an individual believes that using a particular system would be free of physical and mental effort" (p. 320). Previous researchers confirmed that PEOU can affect users' intention to adopt advanced technology (Chang & Tung, 2008). In other words, PEOU can be considered as the expected acceptance of technological applications. In this study, it is the student's belief in m-learning's informational accessibility, adaptability, and ease of use (Venkatesh, 2000).

Perceived usefulness

PU refers to "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989, p. 320). In this study, PU is the degree to which students recognize m-learning's capacity to increase their academic achievement and association with peers and lecturers, improving their learning quality and capacity and allowing them to complete assignments faster at anytime and anywhere.

Attitude toward use

ATU is defined as "the degree of evaluative affect that an individual associate with using the target system in his or her job" (Davis, 1993, p. 476). Fishbein and Ajzen (1975) measured attitude using a seven-point scale of semantic differentials consisting of adjective pairs; it was found to have accurate reliability and validity. In this study, ATU is referred to as the degree of evaluative affect that a university student associates with using m-learning for studying EFL.

Behavioral intention

Ajzen (1991) explained BI as "a measure of the strength of individual's intention to perform a specified behavior" and is considered an essential measurement of users' acceptance in using behaviorism. Furthermore, Venkatesh et al. (2003) described BI as the use of an arranged technology, which can have a momentous impact on user behaviors. m-learning is measured in this study to determine whether students favor its use and surpasses other multimedia learning methods for studying EFL.

Additionally, numerous studies have highlighted the impact of individual characteristics on m-learning acceptance. For instance, Suki and Suki (2007) found that heavy mobile phone users tended to access m-learning more frequently. Busulwa and Bbuye (2018) discovered that gender and age significantly influenced Tanzanian students' attitudes towards m-learning. Pruet et al. (2016) indicated that students' gender and home locations are the key to the learners' technology experience.

Likewise, Al-Emran et al. (2016) and Sophonhiranrak (2021) revealed that students' attitudes towards m-learning had a significant impact on whether mobile devices were being used as learning tools. In conclusion, TAM is a valuable framework for comprehending the adoption of m-learning. While PU and PEOU remain vital predictors of m-learning acceptance, other factors, such as ATU and BI, should also be considered when designing and implementing m-learning programs.

METHODOLOGY

To implement m-learning in academic institutions, understanding students' acceptance is important. This study investigated university EFL students' acceptance of m-learning and the decisive factors that may influence their willingness to embrace m-learning in Taiwanese higher education. Accumulated data were analyzed and used to identify the correlations among the participants' background characteristics, including gender, grade level, school location, and daily time spent on mobile devices.

Participants

A total of 332 university EFL students all over Taiwan were recruited to participate in this study. The majority of respondents are females (74.7%), which is a very common phenomenon of disparity in EFL-related major in Taiwanese higher education institutions. The number of participants from three major regions of Taiwan was almost equal: 118 (35.5%) students from the north, 112 (33.7%) from the central area, and 101 (30.4%) from the south. The majority of students were sophomores (n=186, 56.0%), followed by freshmen (n=94, 28.3%), juniors (n=37, 11.1%), and seniors (n=11, 3.3%). The

average time that EFL learners spend on mobile devices was 3 to 6 hours per day (n=187, 56.3%). Additionally, most students used m-learning at home (n=228, 38.4%) rather than on campus (n=201, 33.8%). It is important to note that because of m-learning's accessibility, it can be used whenever and wherever learners can engage in their education.

Instrumentation

The current study's questionnaire adopted the constructs of Davis' (1989) classic model of TAM, and the items were lifted and revised from other relevant questionnaires (Alharbi & Drew, 2014; Fathema et al., 2015; Sabah, 2016). It is divided into three sections: the first section contains 30 items, which measures the participants' m-learning acceptance using the four constructs namely, PEOU (nine items), PU (nine items), ATU (seven items), and BI (six items), scored using a 7-point Likert scale (1 for strongly agree; 7 for strongly disagree); the second section includes the participants' background characteristics like gender, grade level, school location, and daily time spent on mobile devices.

The questionnaire was translated into Mandarin Chinese with the aim of obtaining comprehensibility and accuracy of results. It was then revised by two bilingual experts to ascertain its accuracy, reliability, and validity. Next, it was administered to 55 EFL students in a university located in central Taiwan for pilot testing. In this study, PEOU, PU, ATU, and BI items achieved a Cronbach's alpha scores of 0.793, 0.907, 0.947, and 0.890, respectively and a total score of 0.960 indicating high consistency reliability. Result of Kaiser-Meyer-Olkin was 0.843 (p<0.001). According to Hair et al. (2010), a sample of 50 respondents with a factor loading of 0.75 and above is considered significant. In this study, factor loadings of PEOU, PU, ATU, and BI items were 0.795, 0.853, 0.886, and 0.870, indicating that each construct has significant correlation coefficient, and that factors unequivocally affected related constructs of consistency.

Data Collection and Data Analysis

A brief explanation about m-learning was given by the researcher before a paper-based questionnaire was administered to the participants. Accumulated data were then analyzed through descriptive statistics, t-test, one-way ANOVA and Pearson correlation using the latest version of SPSS.

RESULTS

Factors Influencing EFL Students' Acceptance of M-Learning

Perceived ease of use

PEOU was used to evaluate m-learning based on participants' perception of tool's intrinsic characteristics

Table 1. Means (M) & standard deviations (SD) of PEOU

		M	SD
PEOU1	It is easy for me to use m-learning for EFL.	5.60	1.274
PEOU2	I have clear and understandable interaction with m-learning for EFL.	5.43	1.133
PEOU3	I feel that it is easy to become skillful in using m-learning for EFL.	5.62	1.202
PEOU4	M-learning for EFL is flexible to use.	5.46	1.079
PEOU5	Learning to operate m-learning for EFL is easy for me.	5.99	1.027
PEOU6	It is easy for me to get m-learning to do what I want.	5.61	1.178
PEOU7	It is easy to access EFL information using m-learning.	6.10	0.976
Overall		5.69	0.915

Table 2. Means (M) & standard deviations (SD) of PU

		M	SD
PU1	Using m-learning for EFL enables me to accomplish learning tasks more quickly.	5.40	1.168
PU2	Using m-learning for EFL improves my study performance.	5.10	1.154
PU3	Using m-learning for EFL increases my productivity.	5.33	1.165
PU4	Using m-learning for EFL enhances my effectiveness.	5.25	1.152
PU5	I find m-learning useful for EFL.	5.56	1.107
PU6	M-learning for EFL improves my collaboration with instructors and classmates.	5.00	1.345
PU7	M-learning for EFL increases the quality of learning I receive.	5.33	1.134
PU8	M-learning for EFL allows instant access to learning modules regardless of my location.	5.63	1.359
Overall		5.32	0.945

Table 3. Means (M) & standard deviations (SD) of ATU

		M	SD
ATU1	I believe it is a good idea to use m-learning for EFL.	5.79	1.064
ATU2	I like the idea of using m-learning for EFL.	5.64	1.167
ATU3	Using m-learning for EFL is a positive idea.	5.53	1.170
ATU4	I believe that I will enjoy using m-learning for EFL.	5.51	1.257
ATU5	I think it is worthwhile to use m-learning.	5.68	1.072
ATU6	In my opinion, it is very desirable to use m-learning for learning English.	5.53	1.108
ATU7	I have a generally favorable attitude in using m-learning for EFL.	5.73	1.078
Overall		5.62	0.995

such as ease of use, flexibility, and friendly user interfaces. The descriptive statistics shown in **Table 1** indicates that PEOU of m-learning is significantly high, with a mean value of 5.69 and a standard deviation of 0.915. This means that, on average, participants found m-learning to be easy to use, flexible, and user-friendly. High mean value suggests that most participants rated intrinsic characteristics of m-learning positively.

Perceived usefulness

PU was used to evaluate the participants' perception on the extrinsic characteristics of m-learning, such as its efficiency and the effectiveness when used as a tool in studying EFL. As shown in **Table 2**, the mean value of PU is 5.32 with a standard deviation of 0.945. This indicates that, on average, students perceived m-learning as an effective tool for studying EFL. High mean value suggests that most students rated the extrinsic characteristics of m-learning positively, indicating that they find it useful in achieving their learning goals.

Attitude toward m-learning

ATU was used to evaluate the participants' general attitude toward the use of m-learning for EFL, which

include the idea of using m-learning, enjoyment it brings, desirableness, and worthwhileness. The mean value of ATU is 5.62 with a standard deviation of 0.994, as shown in **Table 3**. This indicates that EFL students' attitude towards using m-learning for language learning purposes is significantly positive. The high mean value suggests that most participants have positive attitude towards using m-learning for EFL learning, indicating that they see it as a desirable, enjoyable, and worthwhile tool for language learning.

Behavioral intention toward m-learning

BI was used to measure the participants' degree of intention toward using m-learning for studying EFL. As shown in **Table 4**, the mean value of BI is 5.01 with a standard deviation of 1.031. This indicates that the participants' BI to adopt and use m-learning for language learning is significantly high. The high mean value suggests that most participants have a strong intention to adopt and use m-learning for language learning in the future, indicating a potential for successful adoption and use of the technology.

Table 4. Means (M) & standard deviations (SD) of BI

		M	SD
BI 1	I intend to use m-learning for EFL.	4.51	1.387
BI 2	I prefer m-learning for EFL over other learning tools.	4.59	1.416
BI 3	I will recommend m-learning for learning English to my classmates.	5.10	1.184
BI 4	I plan to use m-learning for EFL in the future.	5.41	1.163
BI 5	Assuming that I have access to m-learning for EFL, I intend to use it.	5.42	1.182
Overall		5.01	1.031

Table 5. Pearson's correlation analysis of m-learning constructs

	PEOU	PU	ATU	BI	M	SD
PEOU	1.000				5.68	0.917
PU	0.711**	1.000			5.32	0.945
ATU	0.696**	0.774**	1.000		5.62	0.995
BI	0.544**	0.704**	0.728**	1.000	5.01	1.031

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; M: Mean; & SD: Standard deviation

Table 6. Differences in m-learning acceptance in terms of grade level

		M	SD	F	Sig.
PEOU	Freshmen	5.78	0.875	1.998	0.114
	Sophomores	5.67	0.892		
	Juniors	5.43	1.083		
	Seniors	6.05	0.668		
PU	Freshmen	5.42	0.872	3.045	0.029*
	Sophomores	5.35	0.894		
	Juniors	4.93	1.102		
	Seniors	5.67	1.107		
ATU	Freshmen	5.75	0.947	2.071	0.104
	Sophomores	5.63	0.925		
	Juniors	5.31	1.277		
	Seniors	5.88	0.930		
BI	Freshmen	5.05	0.873	0.537	0.657
	Sophomores	4.99	1.017		
	Juniors	4.91	1.358		
	Seniors	5.33	1.089		

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; M: Mean; & SD: Standard deviation

Correlation Analysis of Acceptance Factors

Pearson's correlation analysis is a statistical method used to find relationship between two or more variables. In this case, it was used to examine correlation between the four constructs, PEOU, PU, ATU, and BI. According to Evans (1996), the correlation strength is classified as very weak (0.00-0.19), weak (0.20-0.39), moderate (0.40-0.59), strong (0.60-0.79), and very strong (0.80-1.00).

Table 5 showed the descriptive statistics and correlations among the four internal constructs. The correlation coefficients ranged from 0.544 to 0.779, indicating that a moderate to strong correlation exists among the four factors. This means that there is a significant relationship between PEOU, PU, ATU, and BI, and they are all interrelated constructs that influence the adoption and use of m-learning for language learning purposes. This finding reinforces the importance of considering all four constructs when evaluating the adoption and use of m-learning for language learning purposes.

Individual Differences in the Acceptance of M-Learning for EFL

Gender and daily time spent on mobile devices

There was no statistical difference among four factors of acceptance in terms of participants' gender and daily time spent on mobile devices. Participants' acceptance of m-learning for EFL did not differ in terms of gender and average daily time spent on mobile devices.

Grade level

As shown in **Table 6**, a statistical difference was found in PU ($F = 3.040$, $p < 0.05$) of participants in terms of grade level. The post-hoc test was then applied to investigate the difference and found that the seniors (mean $[M] = 5.68$) had higher PU toward m-learning for EFL compared to those in other grade levels. This indicates that the seniors were more aware of the ease of use of m-learning and were apt to accept it in their language learning.

Table 7. Differences in m-learning acceptance in terms of school location

		M	SD	F	Sig.
PEOU	North	5.64	0.914	5.047	0.007**
	Central	5.53	0.977		
	South	5.92	0.799		
PU	North	5.30	0.846	3.283	0.039*
	Central	5.19	1.058		
	South	5.52	0.871		
ATU	North	5.56	0.961	7.351	0.001***
	Central	5.44	1.085		
	South	5.93	0.839		
BI	North	4.93	0.934	2.565	0.078
	Central	4.90	1.183		
	South	5.20	0.936		

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; M: Mean; & SD: Standard deviation

School location

As shown in **Table 7**, there were statistical differences in participants' acceptance of m-learning in terms of school location. The level of significance of PEOU ($F=5.047$, $p < 0.05$), PU ($F=3.283$, $p < 0.05$), and ATU ($F=7.351$, $p < 0.05$) reached 0.05, which means that school location significantly influenced students' perceived usefulness and attitude toward m-learning for EFL. The Post hoc test was then applied to investigate the differences and found that the participants from Southern Taiwan had a higher level of PEOU ($M=5.92$), PU ($M=5.52$), and ATU ($M=5.93$) than those that belong to other areas.

DISCUSSION

The results illustrated no significant differences in acceptance factors between male and female students. This finding was consistent with previous studies conducted by Al-Emran et al. (2016), which also found no gender differences in the acceptance of mobile technology for educational purposes. It suggested that both males and females perceived mobile technology as essential for educational purposes. This was understandable because both males and females shared the same perception that accepting mobile technology for educational purposes was necessary. In addition, there were no significant differences in the correlation among the four factors in terms of daily time spent on mobile devices. A possible explanation for this was that most students spend time navigating the Internet for personal activities rather than for language learning purposes. This finding was supported by prior researchers such as Suki and Suki (2007) that students who accessed the Internet the most with their mobile devices mainly used communication and personalization applications.

Nevertheless, the acceptance of m-learning for EFL appeared to be strongly associated with grade level, with PU being a significant factor. Senior students had a significantly higher PU score for m-learning compared to students in other grade levels. This indicated that

seniors recognized the benefits of m-learning and were more likely to use it for EFL. This finding was consistent with Huang's (2007) research. In addition, school location was found to be another important factor influencing m-learning acceptance, with both PU and ATU being strongly correlated. Students from southern Taiwan had a significantly higher level of acceptance towards m-learning for EFL compared to those from northern Taiwan, where the capital is located. This difference could be attributed to the fact that northern Taiwan students had better access to learning resources than their southern counterparts.

CONCLUSIONS

The results indicated that both PU and ATU are significant determinants of EFL students' acceptance of m-learning, having the greatest impact on its adoption. The study further highlights that students were open and receptive to incorporating m-learning into their EFL study routines. Consequently, educational institutions must develop programs that utilize mobile technology to enhance EFL learning. By providing students with enjoyable, highly-interactive, flexible, and easily accessible English learning tools such as m-learning, academic performance can be improved, and self-directed learning can be encouraged. Additionally, the research findings revealed that students' acceptance of m-learning for EFL differs significantly based on their grade level and school location. These insights were crucial for designing comprehensive and effective m-learning courses for EFL students in any educational setting.

Furthermore, this study emphasized the importance of proper implementation of m-learning in language learning settings. Firstly, educators should promote the effective use of m-learning to students. The study revealed that only senior students showed positive acceptance and support towards m-learning as a language learning tool. This implied that freshmen, sophomores, and junior students did not perceive m-learning as an effective instrument for language

learning. Secondly, to motivate EFL students and sustain their interest, enjoyable and entertaining learning applications and interactive language learning activities via m-learning should be provided. Academic institutions should also consider the potential of m-learning to enhance collaborative and interactive learning experiences, such as through the use of gamification or social learning platforms. This can help to foster student engagement and motivation, ultimately leading to improved learning outcomes.

While m-learning has the potential to enhance higher education delivery, there are still critical issues that need to be addressed urgently. For further research, it is suggested that other factors, such as school culture and the actual use of m-learning, which could influence the acceptance of learning, should be taken into consideration. Additionally, qualitative interviews could be conducted to gain further insights into students' perceptions, acceptance, attitudes, expectations, and needs regarding the utilization of m-learning.

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