

# Impact of Mobile-Assisted Language Learning (MALL) on Bhutanese EFL Learners' Perceptions and Learning Opportunities<sup>1</sup>

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## Abstract

Recently there has been a renewed interest in the implementation of mobile-assisted language learning (MALL) in language teaching in the English as a Foreign Language (EFL) and English as a Second Language (ESL) context. However, the use of MALL has not been investigated in Bhutan so far. This paper investigates Bhutanese learners' perceptions of MALL over an academic semester and how learners perceive MALL as a source of motivation, confidence, enjoyment, and opportunities to learn English for academic purposes. Data for this study were collected using questionnaires and reflections. Thirty-three (17 male and 16 female) students in the Bachelor of Arts program were recruited for this study. The results demonstrated that learners' perception of MALL changed over one semester as learners perceived MALL as an effective strategy to learn English for academic purposes. These findings contribute in several ways to our understanding of MALL and provide a basis for the implementation of MALL in language teaching. Implications and recommendations of the present study were also discussed.

## Resumen

Recientemente ha incrementado el interés en la implementación del aprendizaje de idiomas asistido por dispositivos móviles (MALL) en la enseñanza de idiomas en los contextos de inglés como lengua extranjera (EFL) e inglés como segunda lengua (ESL). Sin embargo, hasta ahora no se ha investigado el uso del MALL en Bután. Este documento investiga las percepciones que tienen estudiantes butaneses sobre el MALL como una fuente de motivación, confianza, disfrute y oportunidades para aprender inglés con fines académicos. Los datos para este estudio se recopilaron mediante cuestionarios y reflexiones. Treinta y tres estudiantes (17 hombres y 16 mujeres) en el programa de Licenciatura en Artes fueron reclutados para este estudio. Los resultados demostraron que la percepción del MALL por parte de los estudiantes cambió durante un semestre, ya que percibieron MALL como una estrategia eficaz para aprender inglés con fines académicos. Estos hallazgos contribuyen de varias maneras a nuestra comprensión del MALL y proporcionan una base para la implementación del MALL en la enseñanza de idiomas. También se discutieron las implicaciones y recomendaciones del presente estudio.

## Introduction

Mobile-assisted language learning (MALL) has become a key approach in language teaching and learning in the English as a Foreign Language (EFL) and English as a Second Language (ESL) contexts. While a variety of definitions of the term MALL have been suggested, this paper uses the definition suggested by Kukulska-Hulme (2020) who define MALL as a language learning approach in which smartphones and other mobile devices are used particularly when the learning environment offers many advantages and rewards. For example, MALL applications include *WhatsApp*, *WeChat*, and *Messenger*. Moreover, previous studies (Godwin-Jones, 2017; Kukulska-Hulme, 2020; Kukulska-Hulme & Viberg 2018) have documented MALL as an innovative approach for teaching and learning English in the second language (L2) classroom. Although some research has been carried out on MALL, there have been few empirical investigations into how to implement MALL in L2 classrooms to teach English (notable exceptions include Kim et al., 2013; Wu & Miller, 2020; Yurdagül & Öz, 2018). As a result, very little is currently known about the implementation of MALL in teaching and learning English as a second or foreign language.

Recent research (Chang et al., 2016; Dashtestani, 2016; Gao & Shen, 2020; Hoi & Mu, 2021; Hsu, 2013; Reynolds & Taylor, 2020; Tra, 2020; Zou & Yan, 2014) has been carried out on the implementation of MALL in the EFL context to investigate the perceptions of learners of MALL. For example, these studies were conducted in Asian countries like China (Gao & Shen, 2020; Zou & Yan, 2014), Taiwan (Chang et al., 2016; Hsu, 2013), Vietnam (Hoi & Mu, 2021; Tra, 2020), Iran (Dashtestani, 2016) and South Korea (Reynolds & Taylor, 2020). However, no single study exists on the implementation of MALL in Bhutan and specifically in teaching and learning English for academic purposes (notable exceptions include Singay, 2020). This

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generates a need to explore the implementation of MALL in Bhutan to teach English and better understand various perceptions that exist among learners towards MALL. To fill this gap, the current paper investigates Bhutanese learners' perceptions of MALL over one semester and how Bhutanese learners perceive MALL as a source of motivation, confidence, enjoyment, and opportunities to learn English for academic purposes.

## **Literature Review**

### ***Mobile-assisted language learning (MALL)***

In recent years, there has been an increasing amount of literature on the use of mobile devices in language teaching and learning (Pérez-Paredes et al., 2019; Wu & Miller, 2020; Ahmad, 2020; Kim et al., 2013; Yurdagül & Öz, 2018). These studies provide evidence that mobile devices can be an effective teaching tool in the language classroom. Moreover, results indicated that learners develop a positive attitude towards the use of mobile devices in the language classroom. For example, Pérez-Paredes et al. (2019) carried out a study to investigate how learners perceived mobile-driven language learning. Data collection was carried out in three countries (Belgium [70 participants], Spain [55], and United Kingdom [60]). Findings indicated that the learners perceived mobile learning as an effective learning tool to improve the target language. In a similar case, Yurdagül and Öz (2018) conducted a study to explore learners' attitudes towards the use of mobile devices in language learning. Participants were 294 university students. Results showed learners' positive attitude towards the use of the mobile device and recommended the future use of these devices in language learning. These findings were similar to those concluded by Ahmad (2020), who found that learners showed positive perception towards the use of the mobile device as a language learning tool; in addition, learners' curiosity to use a mobile device as a collaborative and networking tool. In the same vein, Kim et al. (2013) reported that mobile devices provided learning opportunities to engage more frequently in outside the classroom. It also found that learners supported the use of new technologies for teaching and learning inside and outside the classroom. Therefore, these studies concluded that learners perceived mobile devices as an effective tool for teaching and learning English.

A closer inspection of the existing literature indicated that the mobile device is an effective teaching and learning tool. For instance, many recent studies (Chen et al., 2019; Hao et al., 2017; Ma, 2017; Viberg & Grönlund, 2013) have found that there are many advantages to using a mobile device in language teaching, such as accessibility, effective pedagogy, collaboration, and personalization. For example, Chen et al. (2019) examined the perception of parents on the use of mobile technology in teaching language skills. The study revealed that the parents' view on MALL was positive due to the future accessibility of materials. Similarly, Hao et al. (2017) found that pedagogical merit was perceived as a strength of MALL by the students. In the same vein, Ma (2017) asserted that the use of mobile devices enhances learners' collaborative skills amongst their classmates, peers, and parents. Moreover, Viberg and Grönlund (2013) concluded that MALL helped learners to develop personalization in terms of choice and self-regulated learning.

### ***MALL in Asian context of English as a Second or Foreign Language***

In recent years, there are many well-documented studies on the implementation of MALL in the Asian context, such as in China (Gao & Shen, 2020; Zou & Yan, 2014), Taiwan (Chang et al., 2016; Hsu, 2013), Vietnam (Hoi & Mu, 2021; Tra, 2020), Iran (Dashtestani, 2016) and South Korea (Reynolds & Taylor, 2020). These studies found MALL a successful language learning pedagogy in an L2 classroom. For example, Gao and Shen (2020) studied the use of different strategies by Chinese ESL learners in the mobile technology-assisted learning environment. Data collection instruments used were questionnaires and interviews. Participants were 75 students undertaking the postgraduate program. The study concluded that learners adopted different strategies in a mobile-assisted environment. Furthermore, learners had a mixed perception of the use of mobile technology. Similarly, Zou and Yan (2013) found that learners' motivation to learn English using a mobile device was high.

In another study, Hsu (2013) investigated students' perceptions of learning English through mobile devices. Forty five international students undertaking graduate programs in Taiwan participated in the study. The results of the study showed that participants' attitude towards MALL varied accordingly to their culture. However, one interesting finding was that all the participants believed that the use of MALL was an effective language learning strategy. In the same vein, Hoi and Mu (2021) and Tra (2020) studies concluded that learners showed a positive attitude towards the use of mobile devices inside and outside the classroom. Additionally, learners welcomed MALL as a new approach to teach English. Similar findings were reported

by Dashtestani (2016), where learners perceived MALL as an innovative approach to learning English and showed a positive attitude towards MALL in learning English.

Regarding theories, recent developments in MALL have heightened the need for proper theories to support language learning using mobile devices in the classroom. There are some theories in the literature regarding language learning using mobile devices in the English language classroom. For example, the technology acceptance model (Davis, 1985), the interaction hypothesis (Long, 1990), the diffusion of innovation theory (Rogers, 1995), and the cultural-historical psychology (Vygotsky & Cole, 1978). However, there is an inconsistency with the use of theories in the previous studies indicating a lack of influential theory that remains crucial to our wider understanding of the implementation of MALL in the L2 classroom. Thus far, based on the evidence from the past studies we could not find any theories that fit the present study.

In all the studies reviewed here, MALL is recognized as an effective teaching and learning English in the ESL and EFL context. Therefore, this study examines Bhutanese students' perceptions of MALL using questionnaires and reflections over one semester. The study attempted to answer the following questions:

1. *How do Bhutanese learners perceive MALL after one semester?*
2. *How do Bhutanese learners perceive MALL as a source of motivation, confidence, enjoyment, and opportunities to learn English for academic purposes?*

## Method

### Participants and Setting

The present study was conducted in one of the colleges in Bhutan. The college was established in 2009. Presently, there are 1567 students and 200 faculty and staff members. The programs offered by the college are business, nursing, English studies, and anthropology, to mention a few. The majority of subjects are taught in English and participants were sophomores of undergraduate programs undertaking BA programs. There were thirty-three (17 male and 16 female) participants in the study and their ages ranged from 18 to 25. They had been studying English as a compulsory subject from pre-primary until they entered college. Most importantly, participants were informed before the start of the course that they had to attend the course. However, taking part in the research was on a voluntary basis and those interested to take part in the research signed a letter of consent before taking part in the study.

### Course Description

For the present study, the English for academic purposes course was taught using mobile devices throughout the semester due to restrictions and frequent lockdowns caused by the COVID-19 pandemic in Bhutan. Therefore, teaching was mostly carried out online. Consequently, the use of the mobile device was deemed appropriate due to its wide usage amongst the learners.

As illustrated in Table 1, the course consisted of three units divided into twelve weeks. Each unit lasted four weeks. In each week, learners were introduced to grammar and essay writing for 90 minutes. Throughout the study, students met twelve times. Each lesson included an introduction (15 minutes) to help learners become familiar with the topic. The next 60 minutes was spent on the presentation of the content through, for example, live video sessions, watching recorded videos, and presentation slides. In addition, a few discussions were also carried out through mobile devices. The last fifteen minutes were used for the follow-up and lesson closure. More importantly, all the topics were taught using a mobile device.

Unit	Week	Topics
1	1	<ul style="list-style-type: none"> <li>• Paragraph planning</li> <li>• Punctuation</li> </ul>
	2	<ul style="list-style-type: none"> <li>• Tense Review</li> </ul>
	3	<ul style="list-style-type: none"> <li>• Conditionals and Verb pattern</li> </ul>
	4	<ul style="list-style-type: none"> <li>• Flow of ideas in a paragraph: showing connections using Connectors</li> <li>• Phrasal and Prepositional phrases</li> </ul>
2	5	<ul style="list-style-type: none"> <li>• Noun phrases</li> </ul>
	6	<ul style="list-style-type: none"> <li>• Passives (modal verbs)</li> <li>• Hedging</li> </ul>
	7	<ul style="list-style-type: none"> <li>• Features and uses of a Classification paragraph</li> <li>• Flow of ideas in a paragraph: deliberate repetition</li> </ul>

		• Paraphrasing
		• Stating facts and opinions
8		• Comparing and contrasting
9		• Features and uses of a Comparison or Contrast paragraph
		• Flow of ideas in a paragraph: strategic use of pronouns
3	10	• Features and uses of a process paragraph
		• Flow of ideas in a paragraph: specialized linking words to signal a change in ideas
	11	• Arguing and persuading
	12	• Features and uses of a conclusion paragraph.
		• Flow of ideas in a paragraph: specialized linking words to reinforce ideas.

Table 1: Topics for English for Academic Purposes Course

**Data Collection Instruments or Materials**

Learner Perception Survey

The first research question elicited information on learners’ perceptions towards MALL for one semester. To answer the question, a learner perception survey was administered at the end of each unit (adapted from Kim, 2017). The survey consisted of five items and an open-ended response. Learners were asked to respond using a 5-point Likert scale ranging from strongly agree (5) to strongly disagree (1). To answer the first research questions, three survey items and one open-ended question were used: 1) In the future, I want to take an English for academic purposes class that uses a similar mobile learning platform, 2) I believe the use of the mobile device was helpful for learning English for academic purpose, 3) I believe the use of the mobile device was more useful to learning English for academic purpose than the traditional English lessons that I had in high/secondary school; and the open-ended question: 4) What are the strengths and weaknesses of MALL?

Reflection

To better understand the learner’s perceptions of MALL, a reflection of one participant was documented at the end of each unit. For the reflections, this learner was asked to rate MALL as a source of motivation, confidence, enjoyment, and opportunities at the end of each unit using a 1 to 10-point Likert scale (adapted from Kim, 2009; Kim, 2017).

Data analysis

The learner perception survey and reflection were analyzed quantitatively and qualitatively. Quantitative data were analyzed using SPSS to generate descriptive statistics, such as mean and standard deviation. The mean and standard deviation were used to examine learners’ perception of MALL. On the other hand, qualitative data were analyzed thematically. Open-ended responses were transcribed to develop themes based on the strengths and weaknesses of the MALL. Some important themes that emerged from the open-ended responses were effective learning strategy, easy access to teaching materials, difficulty comprehending the lesson, and poor internet connection.

**Results**

The first research question examined how Bhutanese learners perceived MALL as an approach to learning English for academic purposes and whether learners’ perceptions changed over one semester. To answer this question, learners’ responses to the three survey questions at the end of each unit were analyzed quantitatively 1) learners’ interest in using a mobile device to learn English in the future, 2) to what extent learners thought the mobile device was useful for learning English, and 3) whether or not learners thought the mobile device was more useful than the other approaches that they had in secondary school.

unit	Interest in Future MALL		Usefulness of Mobile device for English Learning		Effectiveness of MALL vs. Traditional Instruction	
	M	SD	M	SD	M	SD
1	0.76	0.502	0.70	0.684	0.85	0.834
2	0.88	0.485	1.06	0.609	1.24	0.792
3	1.12	0.893	1.30	0.951	1.73	1.069

Table 2: Descriptive statistics of learners’ perceptions of MALL

As shown in Table 2, learners' interest in MALL gradually increased over a semester. It is apparent from this table that learners' perception toward MALL at the beginning of the semester was low ( $M=0.76$ ,  $SD=0.502$ ); however, by the end of the semester it increased gradually ( $M=1.12$ ,  $SD=0.893$ ). For the usefulness of MALL for English learning, learners agreed that the use of the mobile device was useful for learning English ( $M=1.30$ ,  $SD=0.951$ ). Similarly, for the effectiveness of MALL, learners believed that MALL as a more effective approach than the others as indicated by the gradual increase in the mean score at the beginning ( $M=0.85$ ,  $SD=0.834$ ) and end of the semester ( $M=1.73$ ,  $SD=1.069$ ). Hence, these results suggest that learners perceived MALL as an effective strategy to teach English, and there is a change in perceptions towards MALL over one semester.

Open-ended responses on the strengths and weaknesses of the MALL were coded qualitatively. The themes identified in these responses are summarized in Table 3. In terms of strengths, the top two themes are effective learning strategy and easy access to teaching materials. Likewise, for weaknesses, the top two themes are difficulty comprehending the lesson and poor internet connection. The number in parentheses represents how many times these strengths and weaknesses occurred in an interview transcript.

Strengths	Weaknesses
Active participation (2)	Lack of concentration (1)
Opportunities to clear doubt (7)	Lack of motivation (3)
Better retention (2)	Difficult to comprehend the lesson (8)
Independent learning (4)	Poor internet connection (8)
Effective learning strategy (9)	Expensive data charges (2)
Easy access to teaching materials (7)	
Usability (3)	

Table 3. Strengths and weaknesses of MALL

The participants on the whole shared their responses on the strengths of the MALL. One of the strengths commented by the learners was an effective learning strategy. As one interviewee put it:

*Though mobile learning was more convenient for studying, I feel the face-to-face class was and is better for understanding the lesson as it is interactive with conducive environments.*

Likewise, learners also stated that easy access to teaching materials is an added strength of MALL. For example, learners mentioned using a mobile device helped them to refer to the recorded session. As one interviewee said: "we can access it anytime and anywhere".

On the other hand, learners also shared weaknesses of using a mobile device in language teaching. For instance, a few students commented that they struggle to comprehend the lesson. One participant commented:

*Sometimes, technical problems occur and we cannot hear our lecturers properly. Also, the lessons seem to lag and it is difficult to understand what is being said.*

Additionally, few learners mentioned poor internet connection that impeded MALL classes. For example, one interviewee said:

*Poor network services during online classes where we miss out on something from the lesson.*

In summary, these results show that learners perceive MALL as a better teaching approach over one semester due to more strengths as compared to the weaknesses.

The second research question investigated learners' perceptions of MALL as a source of motivation, confidence, enjoyment, and opportunities to learn English for academic purposes. In order to answer the question, we chose one learner who had performed all tasks and submitted surveys and assignments. He was asked to rate MALL as a source of motivation, confidence, enjoyment, and opportunities at the end of each unit (see Figure 1).

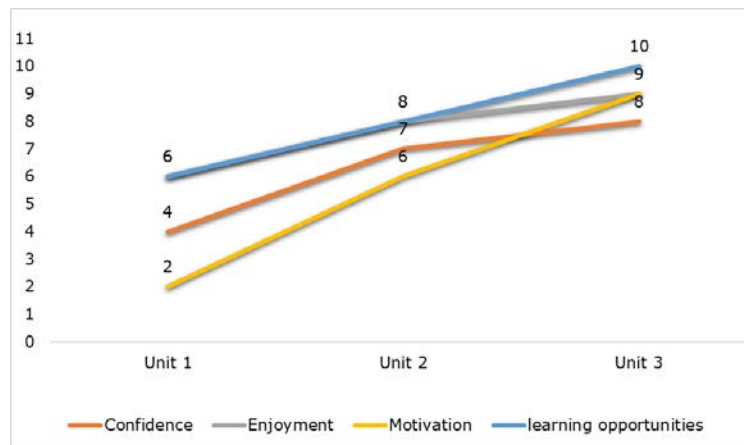


Figure 1 One learner's perception of MALL as source of motivation, confidence, enjoyment, and opportunities

As shown in Figure 1, the student's motivation, confidence, enjoyment, and opportunities of using a mobile device for learning English for academic purposes was low at the beginning of Unit 1; however, it gradually increased by the end of Unit 3. For instance, his confidence was low at the beginning of the semester but it was high by the end of the semester. Similarly, his learning opportunities increased rapidly after Unit 1; however, there was just a gradual increase after Unit 2. Taken together, these results suggest that using a mobile device to teach English for academic purposes helps learners to build motivation and confidence and is perceived as a source of enjoyment and opportunities.

## Discussion

Research Question 1 explored Bhutanese learners' perception of MALL over one semester. Data collected from the questionnaire and open-ended responses indicated that learners' perceptions towards MALL changed over one semester and also perceived MALL as an effective learning strategy for learning English for Academic Purposes. The results of the open-ended response indicated that the advantages of MALL were an effective learning strategy and easy access to teaching materials. However, learners also shared disadvantages of using MALL in the classroom, for example, difficulty to comprehend the lesson and poor internet connection. These results reflect those of Pérez-Paredes et al. (2019) who also found that learners improved their target language after being taught using a mobile device in the classroom. Likewise, this study supports evidence from previous studies (e.g., Ahmad, T. 2020; Dashtestani, 2016) which attest that there are many benefits of MALL, such as user friendly, collaboration, communication, convenience, and support learning as shared by the learners. However, the finding of the current study is contrary to that of Sad et al. (2020) who found that learners do not prefer mobile devices for learning language skills in the classroom. In addition, learners acknowledged the benefits of using a mobile device in learning, however, the learners asserted that it does not help them to develop intellectual skills which are necessary for the long term.

The second research question examined learners' perceptions of MALL as a source of motivation, confidence, enjoyment, and opportunities to learn English for academic purposes. Data collected from learner's reflections indicated that using mobile devices helped learners to build motivation and confidence and was also perceived as a source of enjoyment and opportunities. These results are in agreement with Chen et al.'s (2019) findings which showed that mobile-based language learning helps learners to build confidence in using language. Similarly, Reynolds and Taylor (2020) found that using a mobile application such as Kahoot motivates learners to learn English, thus, increasing language learning motivation. These results corroborate the findings of a great deal of the previous work (e.g., Soleimani et al., 2014; Xie et al., 2021), which showed that learners perceived MALL as a source of learning opportunities. For example, Xie et al. (2021) conducted a study to find the effects of mobile-based virtual reality on learners' oral proficiency. The study concluded that mobile-based virtual reality provided reliable learning opportunities to the learners.

However, there are classroom implications associated with the implementation of a new approach in the classroom and the current study is a case in point. The finding of the study offers some implications for learning and teaching using a mobile device. First, MALL is viewed as an approach to enhance learners' academic skills. However, teachers must take individual learners' preferences and styles into account while

using MALL in the classroom because some learners may not prefer learning through a mobile device. To conclude, the evidence from this study suggests that teachers must introduce different teaching approaches to balance the learning needs and styles of the learners who prefer different approaches and activities, which match their learning needs and styles. Second, a large number of students in the class can add up additional issues and challenges for implementing MALL in the classroom. In addition, the mobile network and device can be an additional implication. To use MALL in class, it is necessary to have a small number of students and better network coverage.

## Conclusion

The findings of the present study suggests that learners perceived MALL as an effective strategy for learning English for academic purposes and it helped learners to build motivation and confidence and was perceived as a source of enjoyment and opportunities. These findings contribute in several ways to our understanding of the perception of learners towards MALL and provide a basis for the future implementation of such a strategy in teaching English in L2 classrooms.

Importantly, the generalizability of these results is subject to certain limitations. For instance, the sample size was small, and looking at the effectiveness of MALL was beyond the scope of this study. Therefore, it is possible to conclude that other factors might have affected learners' perceptions, such as topics used in this study. Although the current study is based on a small sample of participants, the findings suggest MALL as an effective teaching and learning English strategy in the L2 classroom. Further research could also be conducted to determine the effectiveness of MALL on language skills and it is recommended that further research be undertaken using more participants using other data sources, such as interviews, class observation, and focus groups.

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