

Perspectives and Attitudes towards Self-directed MALL and Strategies to Facilitate Learning for Different Learner Groups

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Abstract

Mobile learning emerged around 2005 and in the past 15 years, mobile computing devices such as laptops, smartphones, and tablets have become a reality with a strong presence in all fields, with education as no exception. In a quantitative study involving nearly 72,000 undergraduate students in 12 countries, Brooks (2016) found that 96% owned a smartphone and 93% had a laptop. 93%, 46%, and 41% of these students considered laptops, smartphones, and tablets as important or very important to their academic success respectively. However, studies on attitudes towards the use of mobile technologies for language learning have produced mixed results and were generally divided by the positive-negative line without looking at specific perspectives held by learners and how to facilitate learning for those with different attitudes. The current study adopted design-based research and collected data from 57 tertiary TESOL teachers from 46 Vietnamese universities over two years using a survey, interview, pre-test, and post-test as well as records of app uses to shed light on perspectives towards MALL (Mobile Assisted Language Learning). Findings revealed five different attitudes towards self-directed learning with mobile technologies and proposed various strategies to facilitate learner groups with different attitudes.

Keywords: Mobile-assisted language learning (MALL), self-directed learning, perspectives, attitudes, strategies

Introduction

Vietnamese Ministry of Education and Training (MOET) insisted on the crucial role of qualified teachers and set high proficiency standards for them, for example, TESOL tertiary teachers must achieve Level 5 proficiency in a C1 CEFR equivalent scale (MOET, 2008). For teachers to meet the requirement, however, the greatest challenge was oral skills, as listening, speaking, and pronunciation was reported as the major areas of continuing difficulty (Bich Van, 2013; Quynh Trang, 2014). Many TESOL teachers were found unable to communicate with foreign teacher trainers in English (Nguyen, 2019). Improving teachers' language proficiency, therefore, is of critical importance in both helping them to meet their professional requirements and enhance English teaching quality across the country.

For those in major cities like Hanoi or Ho Chi Minh City, where good language schools, qualified teacher trainers, various resources, and an English-speaking environment were easily available, this did not seem too challenging. However, all other teachers would have to regularly travel long distances to attend training. Sending teacher trainers to small towns to deliver on-site training, which MOET did between 2011 and 2017, was found to be of limited efficacy (Quynh

Trang, 2018; Yen Anh, 2016) and providing TESOL teachers with language professional development (PD) remained particularly challenging for provincial areas (Nguyen, 2019) therefore alternative forms of providing English training were needed.

MALL offers a potential solution to providing language training to TESOL teachers living outside major cities in Vietnam for several reasons. Firstly, it reduces the travelling time for both educators and trainees to deliver or acquire training. Secondly, it is cost-effective for geographically dispersed learners (Welsh et al., 2003).

Previous research suggested that Vietnamese TESOL teachers met the requisite conditions for MALL thanks to their ownership of up to four mobile devices and the availability of Internet access (Murphy et al., 2014). Studies also found that mobile learning was effective in providing training in the Asia-Pacific region (Murphy et al., 2017), therefore it can be expected to be feasible in the context of Vietnam. This study, therefore, investigates self-directed MALL implementation to identify specific perspectives and strategies to facilitate self-directed learning with technologies for groups of learners with different attitudes.

Review of Literature

Perspectives and Attitudes towards MALL

Perspective and attitude are often used interchangeably due to their similar meanings. According to Literary Devices Editors (n.d.-b), a perspective is a point of view while an attitude is generally a behavior a person adopts toward other people, things, incidents, or happenings (Literary Devices Editors, n.d.-a). This study adopts the differentiation by Hereford (n. d.) that attitude is an aspect of perspective and hereafter refers to perspectives as a more general viewpoint and attitudes as involving more specific behaviours regarding MALL while accepting that they can sometimes be used interchangeably.

Perspectives and attitudes towards MALL were found to significantly and directly affect learners' behaviours and engagement (Yoo & Han, 2013). Many studies have since then confirmed the importance of learners' perspectives and attitudes in determining mobile learning adoption and acceptance (Al-Emran et al., 2016; Hussein, 2017; Liaw & Huang, 2015). However, until recently, the literature revealed diverse results regarding students' perspectives towards learning with mobile devices (Şad & Göktaş, 2014) with both negative (Metruk, 2019; Pruet et al., 2016) and positive attitudes (Karimi et al., 2010; Pruet et al., 2016) and consensus has not been reached.

Early studies of MALL implementation showed both students' reluctance and unwillingness to adopt mobile technologies (Stockwell, 2007), as well as enthusiasm and eagerness (Stockwell, 2008). This division in attitudes towards mobile technologies was also found in a large-scale study with nearly 1100 preservice teachers who were in disagreement about whether to use mobile phones in their future teaching and the suitability of these tools for teaching and learning purposes (Şad & Göktaş, 2014).

In the last few years, however, there have been a number of studies presenting favourable attitudes towards MALL (Briz-Ponce et al., 2017; Busulwa & Bbuye, 2018; Iqbal et al., 2017; Lintunen et al., 2017; Nguyen & Yukawa, 2019; Quan, 2019; Steel, 2017). A 2019 literature review on mobile learning in higher education contexts revealed that while MALL "seems to have secured its place in teaching and learning foreign languages" (Metruk, 2019, p. 5), attitudes still played an important role in its adoption. While mobile technologies were associated with positive

learner perceptions of collaborative learning, however, there were still concerns that they also increased students' disengagement and decreased deep critical thinking (Heflin et al., 2017).

In Vietnam, students' attitudes towards MALL have been mainly found to be favourable. 85% of the 76 English-major students participating in a 2013 study showed clear positive attitudes towards MALL (Dang, 2013). For non-English major students, a study with 928 student participants showed that 61.2% held positive or very positive attitudes towards learning technologies while only 9.8% indicated negative ones (Ngo & Eichelberger, 2019). These results were consistent with the generally positive attitudes observed among the majority of 970 students of English in the context of little ICT incorporation into the English curriculum (Ngo, 2017).

While the above studies showed positive signs towards MALL adoption and acceptance in the Vietnamese higher education context, they all adopted survey data with mainly Yes / No or agreement scale questions regarding the helpfulness of MALL for language skills. This quantitative approach, while producing generalisable results, failed to identify what specific attitudes learners held about MALL and how these attitudes influenced behaviours and engagement with mobile technologies. It is therefore essential to conduct more qualitative research to shed light on specific attitudes among learners towards MALL and identify strategies to facilitate learning for learner groups with various attitudes.

Behaviours and Strategies

Previous MALL research has produced mixed results regarding learners' behaviours in various contexts ranging from active engagement to reluctant adoption. In Australia, while students acknowledged the shortcomings of mobile apps, they still enjoyed the flexibility, adaptability, authenticity, enjoyment, pedagogical benefits, and digital literacy offered by MALL (Steel, 2017). In Portugal, students were found very willing to recommend MALL, but not so keen on adopting it (Briz-Ponce et al., 2017). Many studies in Asian countries including Thailand, Hong Kong, and Vietnam also found differences in competitiveness, learning styles, levels of anxiety, and comfort with technology among rural and urban students (Chiu & Churchill, 2016; Ngo & Eichelberger, 2019; Pruet et al., 2016). These studies presented various behaviours among learners with different contexts, however they have not investigated how these are influenced by learners' perspectives, and if various strategies are needed for groups of learners with different attitudes.

The need for more research on the topic was confirmed in a recent study on learner behaviours. Pham et al. (2018) analysed usage behaviours of 53,825 active users of the English Practice app from 12 countries and found that it was used most often at 8-9 pm and least often at weekends and on Mondays, with about 5 minutes each session and an average of 10 uses before uninstalling it. These results shed light on specific behaviours regarding MALL and provide important implications for learning design and implementation strategies in this current study, resulting in simplified tasks, reduced content, and the timing of announcements. However, the fact that participants stopped using the app after an average of 50 minutes raises questions regarding strategies to help sustain learners' engagement. The current study, therefore, seeks the answers to the following questions:

1. What are the general perspectives and specific attitudes that learners hold towards MALL in the context of Vietnamese higher education?
2. What are suitable strategies to facilitate groups of learners with different attitudes?

Methods

Methodology and Theoretical Frameworks

The study focused on the specific research context of a developing country and involved tertiary teachers whose learning is affected by a range of variables in their real-life settings such as heavy workloads, therefore design-based research (DBR) was adopted as the research paradigm. DBR was defined as “a systematic but flexible methodology [which] aimed to improve educational practices through iterative analysis, design, development, and implementation, based on collaboration among researchers and practitioners in real-world settings, and leading to contextually-sensitive design principles and theories” (Wang & Hannafin, 2005, pp. 6-7). This definition highlighted the dual focus of the approach on theory building and practice improvement in educational contexts (Anderson & Shattuck, 2012), which were also the aims of this project. The iterative cycles of course design, implementation and evaluation enabled the identification of specific attitudes and strategies to improve current practice regarding MALL implementation in Vietnam. These aims aligned well with the focus of DBR on solving real-world problems with consideration of the participants’ contexts.

The theoretical framework of this exploratory study was made up of three components. The Framework for analysing mobile learning by Sharples et al. (2005) established the conceptual foundation for the didactic relationship between technology and learning based on a constructivist approach. To frame the course design and implementation for data collection cycles, the Seamless language learning framework mediated by ubiquitous technology (Wong et al., 2012; Wong & Looi, 2011) was adopted thanks to its coverage of the essential characteristics of mobile language learning in light of the constructivist learner-centred and context-aware approach. Finally, the Technical quality model by Sarrab et al. (2016) was employed for the selection of mobile technologies for research participants of the three-course cycles designed for data collection. These formed a sound theoretical framework for the study.

The Course Cycles

The data collection process involved three cycles of an online PD pronunciation course as informed by DBR. After the completion of each cycle, the course was redesigned and re-implemented with consideration given to solving problems that arose during the previous one. The first course was a pilot study to identify feasibility and possible challenges. Data were collected in the last two iterations after ethics clearance was granted by The University of Queensland.

The research participant recruitment notice was posted for two weeks on the researcher’s personal Facebook page, and on Saigon TESOL and VietTESOL, two closed Facebook groups for Vietnamese teachers of English. Eligible criteria were full-time TESOL teachers from Vietnamese universities with access to a desktop PC/laptop/tablet and/or a smartphone with the Internet connection. Preference was given to those based outside major cities, had at least three years of teaching experience, had not lived overseas for more than one year, or had lower than 7.5 IELTS Speaking or equivalent so they could benefit most from the course.

Interested candidates filled in an online registration form and were sent the information sheet and consent form. They could also ask questions or further discuss the study before making up their minds. Research participants were selected from those who returned the signed consent form on a first-come, first-served basis, with careful consideration so that there were no more than seven

participants from the same province; both male and female, as well as both those under and above 40 years old, were included to ensure the diversity of the sample and avoid demographic bias. The three-course cycles are summarised in the following table:

Table 1

Summary of the Three-Course Cycles

	Cycle 1: Sep-Dec 2016	Cycle 2: Jul-Sep 2017	Cycle 3: Feb-Apr 2018
Length	12 weeks, 2 phases	6 weeks Self-directed learning	6 weeks Self-directed learning
Weekly online meetings	2h	1h	1h
Participants	4 All female 3 universities 100% provincial 5-10 years of experience, (7.3 years average)	28 27 female, 1 male 20 universities 100% provincial 2-25 years of experience, (8.7 years average)	29 27 female, 2 male 28 universities 41.4% provincial 1-22 years of experience, (9.3 years average)

Table 1 outlines important differences among the course cycles, for example in the first implementation, the course lasts three months with both guided and self-directed learning (SDL). SDL was found feasible so in the next iterations the guided learning component was removed and contact time was reduced to make it more cost-efficient and time-saving.

After the second iteration, the collected data were analysed and the course was redesigned. For the third iteration, TESOL teachers in major cities were also accepted in the course and the preferences on experience level and English proficiency were removed. The inclusion of a wider variety of participants made it possible to test the results of the previous cycle in a wider context and with a more demographically diverse sample.

Data Collection Methods

In both the second and third course cycles, data were collected using the same methods for consistency. Table 2 summarises the methods used:

Table 2

Methods of Data Collection

<i>Methods</i>	<i>Data collected</i>	<i>Analysis</i>
1. Pre-course questionnaire - Qualtrics platform - Open-ended questions - Likert scale	Participants' background, current practice, device, technological competence	Descriptive statistics Thematic analysis of open-ended responses
2. Pre- and post-test - Transcription of read-aloud - Automatic speech recognition	Participants' challenges, overall accuracy, and intelligibility	Summary tables Score comparison

3. App usage - ELSA Speak, Speaking Pal, Google Docs voice typing, How to speak English, English 3S, Otterwave apps - Levels completed - Progress summary	Screenshots showing participants' behaviours and self-directed learning via work completed, practice frequency, achievement and progress	Frequency of practice and amount of work completed Edmodo learning management system
4. Post-course interviews - Semi-structured - Open-ended questions - Online interview using Zoom	Participants' perspectives, attitudes, behaviours, and recommendation for each technology used	Thematic analysis using NVivo Perspectives, attitudes, behaviours, and strategies

The pre-course questionnaire was sent out four weeks in advance to serve learning design, and the online interview was scheduled within four weeks of the six-week course completion. Among the data collection methods, interview responses played the most important role in providing deep insights into participants' perspectives, attitudes, and behaviours towards MALL. Some example interview questions were where, when, and how they engaged with each app and what they liked and disliked about it. Interview data were used in combination with app usage screenshots, and pre- and post-test results to identify participants' attitudes and behaviours to identify suitable strategies for them.

Results

Perspectives towards MALL

Interview responses, app usage screenshots, and attendance check from all the participants in two-course cycles revealed three consistent perspectives towards MALL among the participants: curious (72.5%, n=37), critical (58.8%, n=30), and keen (68.6%, n=35). The curious participants stopped engaging with mobile apps after the first week or two of the courses due to loss of interest (27.5%, n=14) or impatience (49%, n=25). The curious participants generally completed less than 50 levels of in-app practice in six weeks, spent under 15 minutes a day on average engaging with technologies, and attended less than half of the six weekly meetings. The keen learners, on the other hand, exceeded the recommendations both in terms of the amount of time invested (30 minutes a day) and a number of levels completed (5 levels per day). They generally completed more than 200 levels of app practice during the course, spent over 30 minutes a day on learning, and attended at least five out of six weekly meetings. Critical participants, however, were generally more engaged than the curious but less committed than the keen learners. Learners with different perspectives were found displaying various attitudes and behaviours towards MALL.

Among those who shared a keen perspective towards MALL (68.6% of the cohort, n=35), subgroups with different attitudes were observed. While all the keen participants reported that they proactively spent much time interacting with mobile technologies, interview responses revealed various reasons for their high levels of engagement: some stated they found MALL useful (54.9%, n=28) or fun (35.3%, n=18), while others said they pursued a sense of achievement (23.5%, n=12). The different attitudes helped divided keen participants into three groups of learners who saw

engagement with mobile technologies as a useful learning tool (the favourable), a game to play (the playful), or a rewarding competition (the ambitious). Table 3 presents the average statistics of groups with five different specific attitudes towards MALL:

Table 3
An Overview of Groups with Different Attitudes

		Weeks with results submit- ted	Total levels complet- ed	Apps used	Online meeting s attended	Practice time per day (mins)	Teaching experience (years)	IELTS equivalent
The curious (n=14)	<i>Avg</i>	1	13.2	2.0	2.2	19.8	7.6	6.75
	<i>Range</i>	0-3	0-41	1-4	0-6	0-60	2-18	5.0-7.5
The critical (n=14)	<i>Avg</i>	3.3	54.1	2.4	3.6	30.0	6.8	6.4
	<i>Range</i>	0-6	2-113	1-4	1-6	15-60	2-14	5.5-7.5
The favourabl- e (n=19)	<i>Avg</i>	4.9	289.2	3.2	4.6	78.4	12.8	6.4
	<i>Range</i>	1-6	12- 1189	1-5	1-6	10-240	3-25	5.5-7.5
The playful (n=7)	<i>Avg</i>	4.8	277.7	3.8	5.1	53.2	18.8	6.75
	<i>Range</i>	2-6	28-770	2-5	1-6	5-90	12-20	6.0-8.0
The ambitious (n=9)	<i>Avg</i>	5.6	499.4	3.9	5.2	88.1	15.8	6.6
	<i>Range</i>	3-6	57- 1189	3-5	2-6	15-180	3-25	6.0-7.0

The average statistics indicate that the ambitious were the most committed and engaged, followed by the favourable and playful while the critical and curious were the least engaged with MALL. Similarly, those with the most teaching experience were those with a keen perspective, while the most junior was critical and curious. On the other hand, the group with the highest English language proficiency was curious with eight participants having an IELTS score of 7.0 or higher.

Specific Attitudes and Strategies

The Curious

Among the participants showing a curious perspective towards MALL, 14 (27.5%) displayed a consistent attitude and behaviour towards most of the mobile technologies used during the course.

These participants showed great eagerness in engaging with MALL at the beginning, as recalled by one of them:

*It [using apps for pronunciation practice] is **fun** and we can take time to go, even go to the restroom. We can bring the tablet with us and do the practice there... Not so much, around 15 minutes - I mean that's the time when I'm in the toilet.... Early in the morning when I wake up, I bring the tablet to the toilet with me and at night time, too. (2W2)*

The participants used a tablet to engage with MALL in the toilet where her little children could not follow and interrupt her practice. However, she was enthusiastic and eager for two weeks only, then stopped practicing, quoting her busy schedule and too much freedom of choice as the reasons:

“If there is something compulsory, if I had to engage, I'll be more serious” (2W2).

She seemed to only want to see how MALL was, and that was it. Another curious participant went into more details explaining why she only engaged with the recommended apps for only a short period:

*I was one of the first people who submitted the ELSA test scores. I was **inspired at first**, but **I got bored very quickly**, it just was my personality type, so I think I just tried ELSA for some days only. And afterwards, when I received the promotion code from you, about 10 days afterwards, at the time I was kind of losing my motivation, so when I got the code, **I just tried some higher levels for one or two times**. Those were difficult levels and I did have some **problems** with my pronunciation so of course I would need to face with lots of difficulties because it told me that I had some kinds of problems blah blah, so **I lost interest and I stopped trying** (3T6)*

The above participant was quick both to try out things and drop them, and this short interest span was what characterised a curious. She engaged with the app twice but completed only few levels each time. Even when finding out she had some pronunciation problems, she stopped using the app due to a loss of interest and not wanting to face difficulties.

In addition to the short interest span, the curious also showed little persistence when dealing with technical difficulties (Participants 2S6, 2S7, 2T3, 2W2, 3F1, 3F4, 3S5, 3T3, 3T4) once the initial curiosity and eagerness faded out. In the interviews, these participants most often described themselves as impatient (2S4, 2S6, 2S7, 2T3, 2T5, 2T9, 2W2, 3F1, 3F8, 3S5, 3T3, 3T6), lazy (2S6, 2T3, 2T5, 2T9, 3F1, 3S5, 3T4, 3T6), and fun-loving (2T3, 2T9, 2W2). Moreover, many curious participants also reported that they were very busy with heavy workloads and family commitments (2S6, 2S7, 2T3, 3F1, 3F8, 3S5, 3T3, 3T4).

Interview responses also revealed suitable strategies for the curious. Some claimed they felt overwhelmed if given too many instructions or resources (2S6, 2S7, 3T6). This suggested that bite-sized learning with a few small tasks a day, like watching a 3-5-minute video or spending 10 minutes completing 2-3 levels of in-app practice, may be suitable for this group of learners who generally spent less than 15 minutes per day on MALL. Some participants also reported they needed pushing (2W2, 3F1, 3F6, 3T3) as well as instructions and reminders from the instructor (2S4, 2T3, 2T9, 3F8). Considering that two-thirds of the group stopped engagement with MALL

after the first week (71.4%, n=10), this would be a practical strategy. Other possible strategies that suit the short interest span of the curious were careful scaffolding of learning instructions, timing, and peer pressure.

The Critical

When asked what they thought about MALL, some displayed critical perspectives, and 14 (27.5%) of the cohort displayed a consistently critical attitude towards the technologies they used during the course. One participant, for example, believed that MALL was:

“not the best way in learning English. We can combine using phones, laptops and books and attending classes” (3T9).

To this learner, mobile technologies should only be used as a supporting method rather than the main approach for learning.

Another participant, on the other hand, expressed her preference of having a real teacher over a video:

“I always want to have a real teacher in reality so that the teacher can check things, because I don't like imitating the videos or repeating any people in a recording. I need a real teacher” (3T8).

This preference was shared by another critical learner who believed mobile devices were:

“just for messages and phone calls, so I'm not really learning using my phone. When it comes to learning I prefer using books” (3T5).

Interestingly, while they were critical about MALL, 61.9% (n=13) of the participants claimed they were serious learners and followed provided instructions. They maintained their engagement for most of the course, generally submitted their practice result screenshots every other week, and attended nearly four out of six weekly online meetings on average. The reason for her critical but serious attitude was explained by one participant:

“I like to practice from the book, but we need someone who can correct us. But the book can't give feedback, it's the problem” (3F3).

MALL provided provincial participants with a rare learning opportunity that did not involve long-distance travel and costs, so they stayed engaged despite their critical attitudes. Another driving force was the learner's responsibility, as described by a participant:

Because I think that I'm a student in your class and I have the duty and the responsibility to finish the work every day, because you're a very responsible teacher and uploaded everything in the morning, every day, so I have to duty to finish everything. (2T8)

The sense of responsibility motivated the critical complete provided tasks. This serious attitude was shared by most other participants with critical attitudes towards MALL (2S8, 2W3, 2W5, 2W7, 3S4, 3S9, 3T1, 3T5, 3T8).

In comparison to the curious learners who usually stopped using apps after about a week, the critical had a more steady engagement and effort invested. Overall, an average critical learner finished under 60 levels (one-third of the recommended number), used more than half of the apps recommended, attended over half of the weekly meetings, and spent the suggested 30 minutes a day on their assigned tasks.

For suitable strategies for critical learners, interview responses indicated they insisted on daily instructions, obligatory tasks, more tests, and harder assessment. Nine out of ten critical participants preferred receiving detailed daily learning instructions to self-directing their practice. Others suggested having more and harder assessment tasks (2S9, 2T8, 3F4, 3T5, 3T9). Only four critical kept engaging with MALL after the course, which suggested pushing and reminders from the instructor and peers were essential in sustaining their engagement.

The Favourable

Among the participants with keen attitudes towards learning with technologies, 80% (n=28) stated in the interview that they enjoyed self-directed MALL since it was useful in helping them improve their pronunciation. Of these, nearly two-thirds expressed enjoyment while engaging with mobile technologies and saw it as a daily habit or routine with frequent and active engagement with mobile technologies. The participants with this favourable attitude towards MALL accounted for the largest group among the cohort (n=19, 37.3%).

One common characteristic among the participants with favourable attitudes towards MALL was that they voluntarily and proactively engaged with mobile technologies, as described below:

*It took about 5-6 minutes for a video, but I watched it many times, 2-3 times, and then I practiced. Then I saw **another video, and I watched more and more, more than what you sent me. I kept watching the suggested videos.** (2W6)*

The participant completed more work than recommended thanks to their perceived benefits, and this applied to other technologies as well:

*So useful resources... I **always looked through them all.** I could not finish some of the exercises sometimes, but I looked through all of them... I love them. I keep them and when I have time and will look back at them once again and practice again. I believe that I can use them for my teaching in the future. (2W6)*

While some curious (2S4, 2S6, 3F8) and critical (3T1) participants ignored the provided resources or found them overwhelming, the favourable found new uses for the provided technologies. Participant 2S2 organized speaking tests using Google Docs voice typing, Participants 3S3 and 2W1 used speech recognition tools to dictate long passages at work and keep a daily diary respectively.

Many participants of this group (2S2, 2S10, 2W1, 2W6, 3F5, 3F7, 3S1, 3S2, 3S6) tried to set fixed time frames in their daily agendas for their pronunciation practice using apps, which indicated methodical behaviours. Participants 3S6 always practiced her pronunciation between 3:00 and 3:30 pm, and another stated:

“I scheduled a fixed time after finishing my job to practice - it's not hard to find the time” (3S1).

Participant 3F7 recalled:

*I tried to spend a **definite amount of time each day** on practice, **even these days when the course was over**, I'm still exploring the other uses of ELSA app and do the levels I haven't finished yet. **Half an hour or an hour a day now, even on holiday**, when I have free time. I enjoy it. (3F7)*

The participant formed a learning habit that lived on afterward. Similarly, many favourable kept engaging with provided apps after course completion (2S10, 3F7, 3F10, 3S1, 3S8). The reported reasons were the usefulness of MALL and the participants' sense of responsibility. While both the favourable and critical were responsible learners, their different attitudes resulted in different levels of commitment and engagement.

Many of the favourable stated they preferred to be sent daily instructions (2S2, 2S3, 2S10, 2T1, 3F5, 3S3, 3S7, 3T7) while others can self-direct their learning based on provided guidelines. Therefore, an effective strategy for this group would involve daily instruction provision as a starting point. Despite being highly persistent learners in problem-solving (2S3, 2S10, 3F5, 3F7, 3F10, 3S1, 3S2, 3S3, 3S7), most favourable participants insisted that the instructor guidance and peer support were essential in case of problems they could not deal with by themselves. Minimal instructions were required for these participants as they were independent self-directed learners. Letting them explore MALL on their own and providing peer and instructor support only in case of issues, therefore, seem to be the best strategies to facilitate the favourable's learning.

The Playful

Among the keen participants, a small group (n=7, 13.7%) showed a highly playful attitude towards MALL. One participant reflected on how she engaged with Google Docs voice typing:

*“When I did the dictation, I **tried different things**. It was **like I played with it**. Sometimes, I spoke very quickly, sometimes very slowly, word by word, to see what happened” (2S1).*

Like a child with a new toy, she tried the technology in various ways to see what it could do. The same playful attitude applied to other technologies she used, for example with the ELSA Speak app:

*I **played with the app**. I **shouted**, like when singing karaoke, I shouted out to see what happens. I remember once, I **uttered a sound without any sense**, and it accepted (laughs) I was sitting next to my husband, so I gave him my phone and asked him to say something. Then after he failed the first time, he failed, but he also **played a trick on the app**, and after we **tried different ways** and finally the app gave up for no reason... We knew that it was not good (laughs) but **maybe we terrified it**. (2S1)*

The participant had great fun playing with the apps, and it was worth noticing it was the process that brought her joy rather than the learning content itself. While her pronunciation

accuracy might not improve, she had exciting moments testing the apps, which motivated her to keep using them, as admitted by other playful learners (3F7, 3F2).

Besides the fun, the playful claimed that rewards were also a motivator:

“Three stars were the motivation for me to keep practicing. When I got three stars for a level, I wanted to move to another level and wanted to get another three star - they are my motivation. (3F2). The enjoyment in getting the rewards triggered a sense of achievement and motivated further engagement with the apps (3F7).

Some even found it addictive (2S1, 3F2):

*“Whenever I have free time, I try to practice, especially with ELSA because I prefer it to other apps. When I practiced, I felt it was easy to get **addicted** and I **didn't want to stop it**” (3F2). The above participants viewed MALL as a game or pastime and focused on the fun and enjoyment as it was relaxing rather than serious work for them.*

However, it was worth noticing that many of this group did things largely dependent on their mood (2S1, 2T3, 3F2, 3F7, 3F9, 3S2, 3T10). One participant recalled:

“It depends on my mood. When I had good mood, I did lots of practice but when I was tired for example, I did little” (3F2). Similarly, another participant reported “When I felt like using it, I used it, it didn't bother me a lot, so I like it” (3F9).

Obviously, these playful participants used an app when in the mood for it, not because they found it useful or necessary, and did not feel bad about not using a recommended technology. The learning-like-playing attitude made the playful very active learners with high levels of engagement. On average, they completed about 100 levels more than the recommended numbers and spent twice as much time as suggested and attended at least five out of six online weekly meetings.

Although some playful could self-direct their learning with few instructions from the researcher (2T3, 3F2, 3F7, 3S2), they all insisted on being provided with daily instructions as a starting point for their explorations. Many insisted on adding more games and challenges to make MALL more appealing (2S1, 2T3, 3F2, 3F7, 3F9, 3S2). More importantly, having real-time interaction with peers and the instructor helped them stay on track and engaged when they were not in the mood for learning or the wow factor had faded (3T10). To the playful who often described themselves as those who loved challenges (2T3, 3S2, 3T10) but got bored easily (2S1, 2T3, 3S2, 3T10), impatient (2S1, 3T10), hot-tempered (2S1), and fun-loving (2S1, 2T3), peer interaction and instructor involvement were important strategies in maintaining their high levels of engagement with MALL.

The Ambitious

Among those with keen perspectives towards MALL, 42.9% (n=12) of the participants focused exclusively on achievements rather than fun and enjoyment (the playful) or usefulness (the favourable). Of those, nine showed a great degree of determination in completing all practice available, always aiming for the best performance, and leaving no tasks undone (2S10, 2W6, 2W8, 3F2, 3F7, 3F10, 3S2, 3S8, 3T2). This extreme behaviour characterised the ambitious participants,

the second smallest group of the cohort (n=9, 17.6%). The ambitious completed nearly twice as many levels as the playful and favourable and invested the most time of all groups in engaging with MALL with an average of 90 minutes per day. This group was, therefore, the most committed and engaged of the cohort.

While being aware that the instructions provided were suggestions rather than obligations, the ambitious could not help finishing everything available. Participant 3F2 recalled:

*“ELSA is very interesting ... and it's free, so I want to try to finish it, **I really want to complete all the levels in the app.** I enjoyed it so much”.*

For other technologies like Speaking Pal and English 3S apps, which she thought of as only “okay”, she still completed all the available levels (770 altogether) (3F2).

In addition to the highest quantity, the ambition also aimed for the top results, as reflected by a participant:

*“I am **obsessed with a sense of achievement** so if I skip like one exercise, like do Exercise 1, and skip Exercise 2, I can't do it. **I want to complete everything with a 3 star**” (3T2).*

Such a desire for achievement and rewards was similar to that of the playful, however, the focus was on performance rather than enjoyment. Unlike the playful who saw MALL as a game or pastime, and the favourable viewed who it as a useful tool, the ambitious aimed for perfection:

*I just kept the goal each day for what I have to finish every day... **I needed to do everything before the report and meeting**, I scheduled myself when I have free time to finish things... **In case I couldn't finish all, if I leave things unfinished, I felt not relaxed until the end of the day.** (3S8)*

The above ambition was highly methodical, responsible, and consistent in learning efforts. When the initial eagerness had worn out, after the course was over or even once they completed all the available levels, some ambitious (3F2, 3F7, 3S2, 3T2) repeated difficult levels and tried to get three stars in all of them, as recalled below:

*Before, when I could say a word correctly for one time, I didn't practice it again and did the next thing, but now **I'll do it again and again until I can say it correctly, 2,3 or 4 times, even 5 times...** Before, I was keen on completing the task, now I aim for **best quality and accurate pronunciation.** (3S2)*

Heavy workloads were not an excuse for not disengagement for the ambitious, who often described themselves as very patient (2S10, 2W6, 3F2, 3S2), hard-working (3F2, 3S2, 3S8) and highly motivated as reported below:

***I'm the kind of person who is not getting demotivated easily.** We can encounter [problems] in our life, it's normal, but the way we recognize the mistakes and determine how to correct them is more important. It's not easy for me to get demotivated. (3F10)*

Such a positive attitude, persistence, and strong motivation enabled the ambition to complete most works with top performance in comparison to the other groups.

For the ambitious, as very busy but highly engaged learners (2S10, 2W6, 2W8, 3F2, 3F7, 3F10, 3T2), minimal instructions and requirements were necessary. The most suitable strategies for this group, therefore, are to provide only highly relevant content and technologies and setting reasonable amounts of work with strategic scaffolding so that they do not become overwhelmed. Moreover, open-ended guidelines were found useful in providing them with a starting point from which they can flexibly self-direct their learning and decide what to focus on or how much to complete. Positive experiences, enjoyable results, and the flexibility of learning will sustain the Perfectionists' learning and engagement with mobile technologies.

Discussion

Attitudes towards MALL

Data analysis revealed five different attitudes towards MALL: curious, critical, favourable, playful, and ambitious. However, it was also observed that there were participants with multiple attitudes or changed their perspectives from time to time. For example, 77.8% of the ambitious (n=7) and 57.1% (n=4) of the playful also showed a favourable attitude towards particular apps. Participants 3F2, 3F7, 3S2 showed three different attitudes towards different mobile technologies (ambitious, playful, and favourable). While the typical characteristics of those attitudinal patterns were not mutually exclusive, the favourable and the playful have different focuses and purposes whereas the difference between the favourable and ambitious was more of degree than of kind.

The overlaps in attitudinal patterns suggested that participants may change their attitudes and move between groups. Participant 3T10, for example, showed favourable attitude to MALL in the first two weeks of the course, then due to her heavy workload from her PhD study, faculty managerial position and being a mother of three, she became a playful, engaging less actively but played with apps together with her children.

The results of this study are in line with the increasingly positive attitudes towards MALL found in recent studies regarding Vietnamese learners' attitudes (Dang, 2013; Ngo & Eichelberger, 2019; Ngo, 2017). However, previous literature mainly focused on the generally positive and negative perspectives and rarely identified specific attitudes among learners. The current project has added to scholarship by identifying five specific attitudinal patterns among the different learner groups.

Among the few studies on specific attitudes towards MALL, Lintunen et al. (2017) found learners could be keen or critical towards learning with technologies. The consistent results across different studies suggest that similar learner attitudes may exist across different educational settings and cohorts of learners. However, there were also different attitudes identified in the current study from those proposed in previous projects, for example, the playful and ambitious, which could be accounted for by the differences in cultural contexts.

Moreover, while previous research suggested that teachers' and students' attitudes and behaviours may or may not change when they engage with mobile technologies (Busulwa & Bbuye, 2018; Campbell & Geertsema, 2017; Chiu & Churchill, 2016; Sarhandi et al., 2016), their focus has mostly been on performance and engagement with a single technology. This study has shed light on the fluid, changeable and complex nature of learner attitude towards different technologies

at different points of time, which results in different learning behaviours and justifies the need for specific strategies to suit different learner groups.

Strategies to Facilitate Learner Groups with Different Attitudes

In acknowledgement of the complexities regarding MALL attitudes and behaviours, this study has proposed specific strategies for learner groups with different perspectives. It also argues that there exist some generally feasible strategies for facilitating learning with technologies that suit all groups.

Firstly, results revealed that bite-sized learning helped facilitate learning among different groups. Bite-sized learning was defined as small chunks of content that can be completed within ten minutes (Kukulska-Hulme et al., 2015). This strategy was suitable for busy learners with heavy workloads and family commitments since it enabled them to resume learning where they left it off whenever possible (Reinders & Pegrum, 2015). The flexibility and convenience of bite-sized learning (Fletcher, 2010; Sharma et al., 2017) make it feasible and practical for learners across all contexts.

Secondly, instructor feedback and peer interaction were highly appreciated by most groups. Two-thirds of the cohort (74.5%, n=38) insisted on the significance of instructor feedback and mistake correction, which apps failed to provide them with. This is consistent with previous findings regarding the value of peer feedback (Campbell & Geertsema, 2017; Gabarre et al., 2017; Van Rensburg & La, 2017), inadequate feedback provided by apps (Talib et al., 2017) and the significance of teacher feedback (Arnold, 2018; Stockwell, 2012). This study, therefore, argues that instructor feedback and peer interaction are critical to successful MALL implementation.

Finally, most learner groups preferred being sent daily instructions. This suggests the necessity for regular, open-ended, clear, and succinct instructions to make learning consumable, not overwhelming, and flexible for self-directed learners. This is in line with previous research findings that provided instructions that need to be clear (Johnson et al., 2013), simple (Talib et al., 2017), step by step (Ariffin, 2017), and brief (Kumar & Mohite, 2017). While these studies were carried out in different Asian countries, these global requirements for learning instructions may also be applicable in other contexts beyond the region.

Conclusion

This study has identified three general perspectives and five specific attitudes towards MALL and suitable strategies for learner groups with different attitudes. It has also discussed participants' attitudinal changes, overlaps among them, and proposed strategies to facilitate learning for most learners: bite-sized learning, instructor feedback, peer interaction, and clear, succinct open-ended learning instructions.

While the current study confirms previous findings regarding effective strategies to facilitate MALL learners, it has furthered understanding regarding perspectives and attitudes regarding MALL. It has also studied how the fluid, changeable, and complex nature of attitudes influenced learners' behaviours. This study contributes to the literature by proposing both specific strategies that are useful in facilitating self-directed MALL for different learner groups with different attitudes as well as general measures suitable to all learners in the context of Vietnam. These

strategies take learners' perspectives, attitudes, and behaviours into consideration and therefore can be practical and applicable to other educational contexts than that of Vietnam.

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