

THE INFLUENCE OF MALL ON ENHANCING STUDENTS' LITERACY SKILLS

by

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Abstract:

This study investigates the influence of MALL (Mobile Assisted Language Learning) on enhancing students' literacy skills in the international program of accounting. The mobile-phone platforms worked as media of interaction with the students in the learning-teaching and outside the classroom. The mobile phone is used as a medium for practising both reading and writing. This research was a quantitative study using an experimental design. The population of the study was the students of the International Program of Accounting department. The result showed that Sig. (2-tailed) .197 > 0.05 which means there was no significant effect in the use of MALL to enhance the students' literacy skills in general. Instead, the use of MALL has a significant effect in improving the spelling which was Sig. (2-tailed) 0.043 < 0.05, and grammar for the plural and singular parts for Sig. (2-tailed) 0.025 < 0.05.

Keywords: mobile-phone, literacy skills, accounting students, Mobile Assisted Language Learning (MALL)

INTRODUCTION

Technologies have embarked on their roles in language teaching for decades. The mobile phone has been widely used worldwide, not merely for communication but also for education. In education, both teachers and students may use a variety of software to facilitate teaching-learning practices. The term Mobile Assisted Language Learning (MALL) refers to the use of a mobile phone to learn a language. Numerous studies on the use of cell phones in the language have been performed (e.g. Ameri, 2020; Y. Chen et al., 2017; Godwin-jones, 2011; Hsu et al., 2012; Jackson & KerrNorflett, 1997; Motallebzadeh & Ganjali, 2011).

Literacy skills, as parts of the language, play essential roles in the students' language development. Since each student may have a different ability in coping with the skills learnt in language learning such as reading, writing, speaking, and listening. Literacy skills discussed in this study are related to spelling, grammar, punctuation, and comprehension. Literacy skills are needed for the students to enable them to communicate appropriately. Numerous previous studies have demonstrated that conducting language learning instructions through mobile applications that make use of mobile media resources can help develop literacy skills such as vocabulary, grammar, reading, and writing, as well as listening. A study on the use of mobile

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multimedia tools to train dyslexic students showed that they could acquire better literacy skills and achieve better learning capability (Balakrishnan et al., 2015). The study conducted by Baleghizadeh & Oladrostam (2010), Alemi et al., (2012), Tai and Tai (2017) showed that learning grammar using mobile phones improve the students' grammatical accuracy. The use of mobile applications showed effectively and efficiently improve the learners' vocabulary (Hsu et al., 2012). A study by Alkhezzi and Al-Dousari (2016) was to determine the impact of using Telegram Messenger on teaching and learning in an ESP context. It determined the ESP learners' success in terms of vocabulary acquisition following the application of such a teaching technique. It discovered the ESP learners' performance after such a teaching technique applied in terms of learning vocabulary. However, it is crucial to apply certain strategies to improve the learners' grammar and writing proficiency. In correlation with the use of MALL, an analysis examining the development in comprehension, spelling, and phonological processing abilities by text messaging discovered no substantial difference between pre- and post-test scores. (Wood, C. , Jackson, E. , Hart, L. , Wilde, L. and Plester, 2012).

The use of mobile technology has become a primary concern for educators and researchers because it enables anywhere, anywhere learning (Roschelle, 2003 in Stockwell, 2008). Instead, Levy and Kennedy (2005 in Stockwell, 2008) note that just because a technology is effective in a non-learning environment does not guarantee that it will be successful in an educational setting. The portability of the mobile phone enables students to carry their learning materials with them and study anywhere, wherever. It also enables students to learn in a variety of locations (Miangah & Nezarat, 2012). Some studies investigated the use of MALL in improving vocabulary (Alemi et al., 2012; Sato et al., 2015), few studies also focus their attention on using MALL for improving reading (Murugan et al., 2017; Nizamani, 2017). However, studies related to the use of MALL in literacy skills are still limited (Balakrishnan et al., 2015; Falloon, 2013; Lin & Nzai, 2014), as well as the research for accounting students related to language learning were still limited, primarily related to literacy skills.

This study leads to the use of MALL in the teaching-learning process, specifically in terms of student performance improvement. MALL is distinguished from computer-assisted language learning by the use of personal, portable devices that allow new learning approaches while also emphasizing consistency and spontaneity in access and interaction (Kukulkska-Hulme & Shield, 2008). There are applications built to enhance the students learning skills in studying English for foreign language, either in specific purposes such as for nursing students (Harmanto, 2016) as well as to learn English in general for university students (e.g., Murugan, Teoh, & Liau, 2017; Richardson, Dellaportas, Perera, & Richardson, 2013; Stockwell, 2008). Besides that, some researchers investigate using specific platforms such as iPad and iPhone and how they help the students' learning (e.g., Godwin-jones, 2011; Stanley, 2013). It is expected that this study will also enrich the development of MALL that could embrace the students' need in learning English that involves literacy skills.

The term 'literacy' in language learning provides various definitions, it may refer to reading, or both reading and writing, and even it is used, even though very rare, in terms of reading, writing, speaking, and listening (Cambridge Assessment, 2013). In terms of English as a Second Language (ESL), the consequences of ESL literacy encompass six dimensions of language instruction, which are summarized by Krashen's five theories about language acquisition (1985). First, error recognition, in which correction to errors in English oral reading and writing will not help the language acquisition since it is a subconscious process. However, correction can be used by teachers carefully, and it aims to enhance students' awareness of

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certain points. Second, English grammar, spelling, and phonics should come at the last stage of language learning, and they aim to polish their speech and writing. Thirdly, learners cannot be forced to follow the sequence of language codes, such as spelling patterns. As a result, teachers should allow students to use "invented spelling." Fourth, a lot of reading and writing will build students' competence in which they can be acquired through natural reading/writing context related to material, phonics, and other subskills. Therefore, implicit teaching should be emphasised more compared to explicit instruction. Fifth, English reading, writing and conversation opportunities should be provided by teachers in which the materials should provide comprehensible input for the learners, which include the area of their interest or relevant topics. The last point is that students' motivation and self-confidence should be facilitated, and to decrease the students' anxiety, carefully selected activities, comfortable, positive, and exciting classroom situation situations should be managed (Fitzgerald, 1994).

The aim of this study is to determine whether or not foreign accounting students' literacy skills can be improved when the learning uses MALL. The international student of accounting uses English daily, especially during the learning-teaching activities. Therefore, they need to have good literacy skills. The research question is:

1. Does the use of MALL affect the students' literacy skills?

METHOD

Design

This study is a quantitative analysis that employs an experimental design. It aims to discover literacy skills' enhancement; therefore, this study used data obtained from one group pre-test and post-test design.

Population, sampling, and sampling technique

The population of this study was the students in the International Program of Accounting. The sampling used was nonprobability sampling in which in this kind of sampling the researcher chooses individuals as the individuals because they are "available, convenient and represent some characteristics" (Creswell, 2012: p.145). This study used a convenience sampling approach. The sample was the second-semester students of the International Program of Accounting. There are 22 students in one class, but those who conducted the pre-test were 18 students, and those who completed the post-test were 16 students. As a result, the researchers recruited 12 students to participate in both the pre- and post-test.

Instrument

The tests were taken from the Literacy Professional Skill Test Practice Test from the Department for Education (Test, n.d.). After the pre-test, the students learned to use applications to access their mobile phones as students. To study reading comprehension, spelling, grammar, punctuation, the researcher used the application from lessonwriter.com. While to improve their spelling, grammar, and punctuation, the researcher used kahoot.com in which used a kind of online game. After the treatment for about one month, in which they have an English lesson twice a week, the post-test was conducted to find out whether their literacy skills improved.

Data Collecting Technique

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The data were gathered from a pre- and post-test of one population. The procedure was carried out with the use of mobile apps. There were mainly two applications used during the treatment which are from lessonwriter.com and kahoot.com. In lessonwriter.com, the students did the task designed by the teacher either in class or outside the class. There were three assignments given to the students. The first assignment was for the students to do in class, and the rest were assigned outside the class. After the students did the tasks, the teacher would give feedback for their work. Besides lessonwriter.com in which the students did the assignments for reading comprehension, vocabulary, spelling, and grammar, another application was used during the classroom instruction, namely kahoot.com, a game platform.

The students did not need to download those applications since they can access them online. The first was lessonwriter.com in which the teacher found reading material related to the topic being discussed, then the teacher could create questions based on his/her designs/ideas, or the application would generate the teacher's questions. Besides the exercise provided for the students, this application also provides a lesson plan for the teacher. The teacher could assign the practice online; otherwise, the teacher might assign it offline using email or flashcards. The teacher did not explain each instruction in the assignment; therefore, the students must read the instructions carefully before doing the assignment. After the students accomplished the assignment, the teacher would check their work, gave marks and feedback. The students could read the feedback given by the teacher.

The second application was Kahoot.it. Unlike the lesson writer in which the students could do the assignment outside the class, this game should be played online, and a projector was needed to display the questions. The students then chose the correct answer by pushing the symbols from their mobile phones. The teacher could design her exercise or just take from others who shared their games. Below is an example of a game about punctuation used in the classroom. It was designed by giammarioj (<https://play.kahoot.it/#?quizId=298ebf1b-2428-4b86-bc97-084e632f727>).

Data Analysis Technique

The aim of this study is to determine if the use of MALL has an effect on the development of literacy skills. To begin, this study identified the trends in the data, which indicate the overall trends in the data between the pre- and post-test periods (Creswell, 2012:p.182). Besides that, inferential statistics were used to compare the data obtained from the pre-test and post-test. The paired sample t-test was then used to compare the substantial difference between pre- and post-treatment using MALL. The test results were then statistically analysed using the SPSS software version 15.0. To test the hypotheses, the paired samples t-test was used. The hypotheses for the study are:

H₀: There is no difference between the pre-test and post-test scores, which means there is no significant effect of MALL to improve literacy skills.

H_a: There is a difference between the pre-test and post-test scores, which means there is a significant effect of MALL to improve literacy skills.

To reject the null hypothesis, a level of significance must be established, which is described as "a probability level that represents the maximum risk you are willing to take that any observed differences are due to chance."(Creswell, 2012:p. 188). According to (Santoso,

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2014: p.265) the rules for decision making in paired sample t-test based on the significance level (Sig.) are as follows:

- 1.If Sig. value (2-tailed) < 0.05, then H0 is rejected and Ha is accepted,
- 2.If Sig. value (2-tailed) > 0.05, then H0 is accepted and Ha is rejected.

The data display used MS Office and Offline citation system using Mendeley Desktop (Turmudi, 2020).

RESULTS AND DISCUSSION

Results

As stated previously in the study's procedure, the students' treatment was using applications in mobile phones. There were two applications used, lessonwriter.com and Kahoot .it. The study results discuss three major items in the test of literacy skills, namely spelling, punctuation, and grammar, which includes vocabulary and reading comprehension. The data collected in this study were analysed to determine if there was a substantial difference between the pre- and post-treatment assessments of the students.

The first part was spelling in which the students had to choose one correct spelling out of three options provided in the test. The study's findings indicated that there was an increase in the mean score of the pre- and post-tests (Table 1). This indicates that there is a disparity in the mean score between the pre- and post-tests. However, the study's findings indicated a substantial difference in spelling between the pre- and post-tests in the literacy test for 0.043, which is lower than 0.05 (table 2). This indicates that the use of MALL had a significant impact on the students' spelling ability. According to the second language acquisition theory, spelling should not be taught last to polish their speech and writing (Krashen, 1985 in Fitzgerald, 1994). In terms of MALL use, a study that examined the development of reading, spelling, and phonological processing skills by text messaging discovered no statistically significant difference between pre- and post-test scores. (Wood, C. , Jackson, E. , Hart, L. , Wilde, L. and Plester, 2012).

Table 1. Paired sample statistics spelling

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Spell_PRE	6,6667	12	1,37069	,39568
	Spell_PO	8,0833	12	1,50504	,43447

Table 2. Paired Samples test for spelling part

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Spell_PRE - Spell_PO	-1,41667	2,15146	,62107	-2,78364	-,04969	-2,281	11	,043

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The second part of the literacy test was punctuation. The study's findings indicated that there was no statistically significant difference between pre- and post-test scores when using a cell phone to learn punctuation. It revealed that the paired sample standard deviation (2-tailed) was 0.171. (table 3). However, there was a substantial difference between the pre- and post-test means, indicating that the mean test score increased by 0.583 points (table 4). It differs from the result of the study conducted by Al-Wasy and Mahdi (2016), which showed a significant difference when using MALL for self-editing in grammar and punctuation.

Table 3. Paired Samples Test for Punctuation

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Punctuation_PRE - Punctuation_PO	-.58333	1,37895	,39807	-1,45948	,29281	-1,465	11	,171

Table 4. Mean score for punctuation.

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Punctuation_PRE	1,0000	12	1,20605	,34816
	Punctuation_PO	1,5833	12	1,16450	,33616

After the punctuation part, the third part of the literacy skills test was grammar. It is divided into three parts. In each part, the students had to complete the passage by selecting the correct answer. Grammar is a critical component of literacy skills since it is the primary reason for more unsatisfactory reading success in the second language than in the first. As Alderson (1984 in Chen, 2017) suggested, grammar and vocabulary aid in the interpretation of words and syntactic structures. The test result indicated that there was no substantial difference between pre- and post-test in the use of MALL for grammar learning, with the paired sample test Sig. (2-tailed) was 0.295, which was greater than 0.05. (table 5).

Table 5. Paired Samples for Grammar (all parts)

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	GrammarAll_PRE - GrammarAll_PO	,41667	1,31137	,37856	-,41654	1,24987	1,101	11	,295

However, based on the result of the pre-test and post-test part C - which was related to the plural and singular form of words - showed a significant difference in paired sample test Sig. (2-tailed) for 0.025, which was lower than 0.05 (table 6).

Table 6. Paired Samples Correlations for Grammar part C

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Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	Gram_C_PRE - Gram_C_PO	,66667	,88763	,25624	,10270	1,23064	2,602	11	,025

The result confirmed that the students developed their grammar accuracy even though only in a small part of it, and they have made significant improvement. This is consistent with the findings of a report conducted by Baleghizadeh & Oladrostam (2010), Alemi et al., (2012), Tai and Tai (2017) which showed that learning grammar using mobile phones improve the students' grammatical accuracy. A study by Rahimi and Soleymani (2015) in ESP context which aims to discover the ESP learners' performance after such teaching technique applied in terms of learning vocabulary and whether it can affect the learners' grammar and writing proficiency indicates that the use of mobile phones can be used effectively outside the classroom. However, in terms of teaching grammatical rules and writing, specific strategies are needed since there are certain limitations when using mobile phone apps.

Reading comprehension is one of the literacy tests. There are three parts to reading comprehension. All aspects of the reading comprehension showed no significant difference between the pre-test and post-test in which the paired sample test Sig (2-tailed) was 0.551, 0.851, and 0.551, respectively. A study conducted by Wang and Smith (2013) showed that mobile devices to learn reading and grammar indicated a positive language experience. However, this study also found out that there were some limitations in using mobile phones as part of the learning project, unless some criteria applied to its usage. Additionally, a report on the impact of SMS on vocabulary retention and reading comprehension capacity of Iranian EFL learners used mobile learning. The study's findings showed that those who used SMS in the experiment group outperformed those in the control group by a large margin. The results also indicated that SMS was a useful and flexible learning tool that would eventually provide pedagogical implications in learning the language (Motallebzadeh & Ganjali, 2011).

This study's data showed that the test in all aspects of literacy skills in the pre-test (N=12), the mean score for it is 18.58 (SD = 5.946). Meanwhile, the mean score for the post-test is 20.41 (SD = 3.476). It showed that there was an improvement of the mean for pre-test and post-test (Table 6). As a result, there is a noticeable gap between the pre- and post-test means after students acquired English literacy skills through the use of MALL. for 0.028 (table 7).

Table 7. Pre-test and post-test for all skills

	N	Correlation	Sig.
Pair 1 pretest & posttest	12	,629	,028

According to Table 8, the paired sample test revealed a large difference in the mean of the pre- and post-tests of -1.833.

Table 8. Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 pretest - posttest	-1,83333	4,62863	1,33617	-4,77423	1,10756	-1,372	11	,197

The result of the paired sample test Sig. (2-tailed) showed no significant difference between pre-test and post-test results since the result shows .197, which was higher than 0.05. It means that the use of MALL has no significant effect on improving literacy skills. The data indicated that after each literacy skills component was analysed, the spelling part and grammar part C were proven to be significantly enhanced among other skills.

Therefore, it can be concluded that:

1. H0 is accepted since there is no statistically significant difference between the pre-test and post-test mean scores of the students using MALL to enhance literacy skills.
2. Ha is rejected because there is no statistically significant effect on MALL use to enhance literacy skills.

Discussion

Technology to enhance L2 learning has proven to bring about positive results in some studies on MALL use. For example, the use of technological functions on a mobile phone can result in an active learning process for vocabulary study, allowing learners to remember the target vocabulary more easily. Besides, in terms of learning parts of the language, mobile devices in learning the L2 would facilitate the learners to autonomous learners and promote autonomous learning. Hence, MALL's success should depend on the learners as autonomous learning, without neglecting other factors in the success of learning L2 (Pachler, Bachmair, & Cook, 2010 in Sato, Murase, & Burden, 2015). In addition to this, it is crucial to consider the mobile phones are one of the devices that can be used to facilitate L2 learning, the essential thing in the teaching-learning process using MALL is how to create autonomous learning as well, in which the learners are not merely accepting the knowledge and messages from their friends and teachers. However, they also need to respond to them so that the learning process would be successful, and the learners will also get the result of being autonomous learners. Mobile-assisted L2 learning can also promote learners' agency or autonomous learning, as a good MALL should place a premium on the learner's autonomy (Sato et al., 2015).

Literacy skills become critical components of language learning when MALL is used to facilitate language learning; it proved to be useful (Sato et al., 2015). Alemi states some limitations in terms of time-related to studying vocabulary (Alemi et al., 2012). The mobile phone application used in the treatment showed that the students' results for pre-test and post-test had significant improvement based on the mean. However, this study showed that mobile phone applications had no significant effect on the progress of their literacy skills. Due to the

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limited time when conducting the treatment in which the students only had the meeting twice a week, this study was conducted for only one month. Therefore, it is essential to have a more extended research duration to get a more satisfying result. Besides the time constraints, a more effective learning process related to literacy skills should be conducted to a better result.

According to Krashen (1985 in Fitzgerald, 1994) English grammar, spelling and phonics should come at the last stage of language learning, and they aim to polish their speech and writing. In the use of mobile applications of lessonwriter.com, the vocabulary comes first, to provide the learners with useful words that they will meet in the reading comprehension section. Such spelling patterns cannot be enforced on learners due to the sequence of language rules. As a result, teachers should allow students to use "invented spelling". Thus, the "invented spelling" was encouraged when the students used Kahoot.it, in which unconditionally they learn spelling the correct words in the forms of games.

Teaching grammatical rules and writing specific strategies is needed since there are certain limitations when using mobile phone apps. It differs from the result of the study conducted by Al-Wasy and Mahdi (2016) that demonstrated a major difference in the field of grammar and punctuation when MALL was used for self-editing. In reading skills, a lot of reading and writing will build students' competence in which can be acquired through natural reading/writing context related to material, phonics, and other subskills. Therefore, implicit teaching should be emphasised more compared to explicit teaching. Besides, English reading, writing, and conversation opportunities should be provided by teachers in which the materials should provide comprehensible input for the learners which includes the area of their interest or relevant topics (Fitzgerald, 1994). To facilitate the students' interest, the teacher provided topics relevant to the materials being studied in the English 2 subject. In this subject, one of the study's objectives is that they will be able to write a descriptive paragraph.

The shortcomings when conducting the treatment might also affect the students' motivation to do the exercise. For instance, when they had to play the games, but the internet connection was not good, they tended to stop playing the games and watch their friends, not answering the questions. The students' reluctance to conduct the test might become another factor in which some students show a decreasing score in the post-test. Besides, literacy skills contain at least two skills of learning the language, namely reading and writing; therefore, the teacher needed to facilitate various learning exercises to meet the goal and achieve the intended improvement.

According to Japanese research, 76.6 percent of university students spend more than 30 minutes a day reading or sending messages on their mobile phones, and 79.5 percent spend more than 30 minutes per day searching the Internet on their mobile phones (MyNavi Co. Ltd., 2012). It can be inferred that if the students have a small portion of that time for reading activities using their mobile devices, then it is expected that their reading abilities would be improved. However, there is one issue that that research was underestimated, and it was students' motivation. It indicated that instead of using mobile devices for socialising or browsing instead of the time spent on socialising or browsing, it is difficult to urge them to use mobile devices or less important things such as learning using them. Therefore, learning using mobile phones should be able to engage attention compared to when they use it for free games and social media, which is quite challenging (Wang & Smith, 2013).

CONCLUSION AND LIMITATIONS

The aim of this study is to determine the effect of MALL use on students' literacy skills. There are four aspects of literacy skills investigated in this study, which include spelling, punctuation, grammar, and reading comprehension. The use of MALL during the experimental stage involved the use of applications such as lessonwriter.com and kahoot.com. Based on the results of the study, it shows that the use of MALL has a significant effect in improving the spelling which was Sig. (2-tailed) $0.043 < 0.05$, and grammar for the plural and singular parts for Sig. (2-tailed) $0.025 < 0.05$. However, the use of MALL did not significantly affect the punctuation, grammar in general, and reading skills for Sig. (2-tailed) 0.171 , 0.295 , and 0.551 , 0.851 and 0.551 (for three parts of reading comprehension) respectively. In conclusion, this study shows that the use of MALL does not affect significantly the students' literacy skills in general since the overall literacy skills were Sig. (2-tailed) $0.197 > 0.05$.

This study has limitations in which it did not apply various teaching strategies during the treatment which might cause the students felt demotivating since they must do the task. The students were very enthusiastic when it came to the "game" for learning. This study was also conducted in a limited time so that the results were not significant. Instead of the limitations of this study, it is expected that the use of MALL in enhancing students' literacy skills can give pedagogical benefits in which the students' ability is not merely depending on the instrument used in learning. However, motivation is also one of the critical factors that influence education.

BIO-PROFILE:

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