# Mobile-Assisted Language Learning: Impacts of Smartphones on College Students' Life and English Learning Experiences

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#### **ABSTRACT**

This paper aims to explore the influences of smartphones on college students' life and English learning. Two hundred college students were recruited from a national university of science and technology to fill out a questionnaire, designed to investigate their perspectives of using smartphones for English learning as well as the advantages and disadvantages of using smartphones in their daily life. It was found the daily activities these college students mostly engaged in on smartphones were things (eg. making a call, playing games, surfing on the net, and taking photos) other than learning English. A good number of students had eyestrain (81%, M=4.13) and neck pain (62%, M=3.8) because of using a smartphone. Nevertheless, 79% of the participants agreed that smartphones did provide them with useful application software (M=4.03), and 81% of the students had used smartphones to look up English vocabulary in their daily life (M=4.28). Implications drawn from this study will help English teachers as well as other educators to understand the influence of smartphones on college students' daily life and language learning.

Keywords: Mobile-Assisted Language Learning (MALL), smartphones, college students, English learning

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# I. INTRODUCTION

With the advance in technology and the advent of the information society, the age of smartphone has arrived. Today, many people possess at least one smartphone in their hands. In order to meet the demands of their consumers, smartphone companies are weeding out the old and bring forth the new constantly. Consequently, smartphones are no longer limited in a single type and their functions of communication now. In fact, smartphones provide a variety of features such as watching online videos and chatting with friends on community websites. The various applications on smartphones can bring convenience, particularly for language learning. Take college students for example, a dictionary on smartphone can be very useful when students do not know the meaning of certain English vocabulary. As application software is more and more advanced in the field of language learning, students are able to use smartphones to do more things via applications. They may even improve their four language skills of English (listening, speaking, reading and writing) through the applications. For instance, e-books grammar can be used to enhance grammar ability and writing skills.

Due to the increasing globalization and internationalization, English has long become an interlanguage used among different cultures of the world in many aspects, such as academia, business, commerce, and technology (Spolsky & Shohamy, 1999). Nonetheless, learners of English as a foreign language generally have the problem on falling short in exposure to English. For the majority of them, the English class is the only place to use English (Lu, 2008). As a result, students need to spend more time improving their English outside the classroom (Grace, 1998). Hulstijn (2001) suggests that students can use smartphones to learn new words via electronic

dictionary in their smartphones. Learning vocabulary via smartphones also enhances the information processing activities, making the activation and recognition spontaneous (cited in Lu, 2008).

In the very beginning of the twenty-first century, smartphones have already brought about many changes and significant impact on students' life and learning. Investigations into how English learners use smartphones in class and out of class are certainly of great importance to language educators. Therefore, this paper attempts to explore how college students use smartphones in their daily life, whether smartphone help them to improve their English, and what the positive or negative effects of using smartphones are for college students. This study therefore addresses the following research questions:

- 1. How do college students use their smartphones in the daily life?
- 2. Do college students use smartphones to learn English?
- 3. What features of smartphones do college students utilize for English learning?
- 4. What are the advantages and disadvantages of using smartphone?

#### II. LITERATURE REVIEW

Mobile-assisted language learning (MALL) refers to an enhanced method of language learning through the use of one particular handheld mobile device, such as smartphones, tablets, PDAs, and so forth (Miangah & Nezarat, 2012). Mobile learning creates diverse possibilities for innovative instructional methods to be carried out in more effective and efficient ways. As Kukulska-Hulme and Shield (2008) point out, MALL can provide students with rich, real-time, convenient, and contextual learning opportunities wherever they are (cited in Hsu, Hwang, Chang & Chang, 2013). For Hashemi and Ghasemi (2011), MALL not only serves as one



of the main language learning resources, but also contributes to the learning and utilization of new language skills (cited in Hsu, Hwang, Chang & Chang, 2013, p. 405). Furthermore, Sharples, Taylor, and Vavoula (2007) define learning via mobile devices as "a process of coming to know through conversations across multiple contexts among people and personal interactive technologies" (cited in Viberg & Grönlund, 2012, p. 9). In light of useful mobile devices, they provide not only good learning platforms for learners, but also an access to the trend of mobile learning (M-Learning).

There are different aspects of language that people can learn from using smartphones, including vocabulary, pronunciation, listening, reading, and grammar. Firstly, vocabulary plays a central role in language learning because language learners need to know a large number of words to be successful in language learning and communication. It also has a vital role to lay the foundation for the four skills of listening, speaking, reading, and writing (Alemi, Sarab & Lari, 2012). Kennedy and Levy (2008) conduct a study to provide learners with the option to get text messages with known words in different connections through Short Message Service (SMS) to their mobile phones with a total of nine or ten messages every week. Their findings demonstrate that the text messages on cell phones are quite useful for acquiring English vocabulary. Thornton and Houser (2005) send small lessons of vocabulary via e-mail to mobile phones of their students three times a day. They make learners read different texts with new words to comprehend the meaning of the words. They see increases of scores on post-tests which bring great encouragement to their students.

Apart from vocabulary, MALL is regarded as a useful way to improve students' pronunciation. Yannick (2007) mentions that the spoken aspect in mobile learning is quite significant, especially in

word-for-word learning since this device not only makes learners talk with ease by recording their own voice, but also enabled them to listen to what they have recorded before. Afterwards, teachers give some advice about the students' defects in pronunciation so that students are able to compare their own voice with correct pronunciation from dictionary on the mobile phone and get improved from this skill (cited in Miangah & Nezarat, 2012).

Using mobile-assisted language learning method also has certain effects on English listening for students. As Godwin-Jones (2007) points out, MP3 players have become a new mobile device for learning via listening in that several web 2.0 media, such as YouTube have become popular channels to provide audio and video materials for language learning (cited in Hsu, Hwang, Chang & Chang, 2013). Winke, Gass and Sydorenko (2010) also report that learners pay more attention to captions, followed by video and audio and acquired many words by associating them with visual images. They have therefore concluded that captioned video can aid the recognition of written word forms and the learning of word meaning, whereas non-captioned video is inclined to improve listening comprehension as it facilitates the recognition of aural word forms.

MALL has also been applied to improve the reading and grammar ability of language learners. Bomar (2006) points out that when students read a story and listen to it on their iPods, they have a better grasp of the main ideas and are better prepared to discuss the theme and plot. In order to gain further information about reading and grammar skills via mobile phones, Rutherford (1987) and Krashen (1989) conduct a further investigation in 2009 providing students with English reading and grammar learning materials in small modular chunks, and their findings show that the acquisition is improved when learning occurs in understandable and organized way. By



working as partners with students, educational institutions can more effectively launch the reading and grammar mobile program that places students at the forefront of learning (Miangah & Nezarat, 2012; Wang & Smith, 2013).

There are many advantages of using smartphones in the daily life. Smartphones provide lots of useful applications, such as navigation, camera and games, etc. to improve the qualities of life for everyone (Sarwar & Soomro, 2013). Due to its portability and simple operation, a smartphone with mobile computer operating platform facilitates work efficiency, improves qualities of life, and fosters highly participation or interaction (Casey, 2012). Furthermore, it is found to be very helpful for graduates in the U.K. to find a job via smartphone job-searching applications in that there are now one thousand kinds of career apps designed to help with different sides of job-hunting, including networking, job-searching, interview preparation, and CV writing (Hart, 2014). Learning via mobile phone also has a positive influence on the average test scores for students who make use of the LMA (Learning Mobile Author) software to prepare for the exams (Mcconatha, Praul, & Lynch, 2008). Smartphones can even help college students prepare for the entrance exam of graduate schools. Because some apps on smartphones are specially designed to help students study for the GMAT, these apps can evaluate grammar, vocabulary, reading comprehension, and problem solving skills (Narayan, 2013). Stockwell (2008) remarks that learners spend much time doing English tasks on smartphones to improve their four skills (cited in Miangah & Nezarat, 2012).

On the other hand, using smartphones could also result in harmful effects. Since smartphones are designed for reading at a close distance, users must constantly reposition the texts and graphics on screen. For those who use this electronic device excessively and hold it at a short distance, they might have a vision problem such as eye strain (Britt, 2013). There will be neck or back pain when users keep in poor posture by using their smartphones for a long period (Wilson, 2012). According to Bianchi and Phillips (2005), people addicted to mobile phones fail to control mobile phone usage so as to feel worried, anxious, and even depressed when their mobile devices are out of sight for some time (cited in Casey, 2012). Smartphones can further damage the interpersonal relationships of teens who use them excessively, not to mention the bad influence on their academic performance (Kane, 2013).

Several researchers have found negative impacts of smartphones on students' academic performance. As Town (2013) points out, students can waste much time due to their obsession on mobile phones doing things such as playing games, chatting, and talking to friends. This may explain why they fail to spend enough time on studying. Kukulska-Hulme and Traxler (2005) also indicate that smartphones do not provide useful applications for improving the four English skills (Listening, Speaking, Reading & Writing) because the programs are not designed for specific educational purposes.

#### III. METHODOLOGY

#### 3. 1. Context

This study was carried out at a national university of science and technology in Taiwan. The participants were recruited on campus from all the four colleges of the university, including the College of Engineering, the College of Electrical and Computer Engineering, the College of Management, and the College of Arts and Science. The students who had used smartphones in their daily life were recruited in this study.

# 3.2. Participants



The participants were 200 college students at the national university of science and technology. 48 students were from College of Engineering, 51 students from College of Electrical and Computer Engineering, 47 students from College of Management, and 54 students from College of Arts and Science.

#### 3.3. Instrument

The questionnaire designed for this study contains a total of 30 items divided into three sections. Section I includes 20 Likert-scale items with four major constructs: Language skills, features of smartphones, advantages of using smartphones, and disadvantages of using smartphones. Section II consists of six multiple-choice items which aim to investigate the minute details of using smartphones in

## IV. RESULTS & DISCUSSION

Research Question 1: How do college students use their smartphones in the daily life?

FIGURE 1 shows the results of a close-end question which requires the participants to check all the activities they would engage in with their smartphones. The most common things they often did turned out to be making a call (11%), playing games (10%), surfing on the net (10%), and taking photos

the daily life of the students. The third section is related to the personal information of the respondents.

The questionnaires were collected majorly in three places at the university. The first location was the basement of College of Arts and Science where there were lots of temporary seats which provided good opportunities for delivering the survey questionnaires because many students from different departments would pass by these seats to go to their classrooms to take general education course. The second place was the school library where a lot of students would go to take a break or prepare for their schoolwork. The third spot was the playground where many people did exercise or took P.E. class during which the researchers were able to take advantage of their leisure time to deliver a questionnaire.

(9%). The other common things the students reported included checking the time (9%), setting up alarm clock (9%), listening to music (9%), and watching videos (6%). Surprisingly, merely 3% of the college students used their smartphones to learn English. It revealed that the daily activities these college students mostly engaged in on smartphones were things other than learning English.



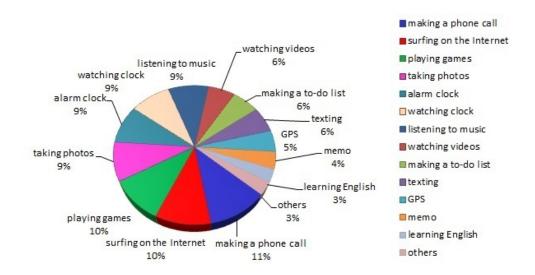


FIGURE 1: Things College Students Often Do with Their Smartphones

Research Question 2: Do college students use smartphones to improve their English language skills?

With respect to four language skills (see TABLE 1), only thirty-eight percent of the students considered the use of smartphones could enhance their English reading comprehension (M=3.21). A lower percentage of students (23%) agreed that smartphones were able to increase their English listening comprehension (M=2.96). Very few participants (15%) deemed it helpful to train their English oral skills via smartphones (M=2.73). Even fewer students (11%) indicated that they used

smartphones to improve their English writing (M=2.7). Nonetheless, many participants (88%) had utilized smartphones to look up English vocabulary words in their daily life (M=4.28). The results seemed to be in accord with the findings of Kukulska-Hulme and Traxler (2005) who argued that smartphones failed to provide useful applications for improving four English skills (Listening, Speaking, Reading & Writing) since they were not equipped with specific educational purposes. Stockwell (2008) also pointed out that learners felt it took long time for doing English tasks on smartphones to improve their four skills.



TABLE 1: Vocabulary and Four Language Skills

Questionnaire Item / (N=200)	SA/A	N	D/SD	Mean
1.Smartphones can enhance my English listening comprehension.	46(23%)	99	55	2.96
2.It is helpful to train my English oral skills via smartphones.	30(15%)	93	77	2.73
3.My English reading comprehension can be enhanced via smartphones.	75(38%)	87	38	3.21
4. I use smartphones to improve my English writing.	22(11%)	106	72	2.7
5. I look up English vocabulary via smartphones.	176(88%)	18	6	4.28

Research Question 3: What features of smartphones do college students utilize for English language learning?

TABLE 2 presents the types of smartphone features students may apply for English learning. It was shown that only half of the college students (50%) visited video-sharing websites on smartphones to learn English (M=3.47), while 49% of the students listened to radio broadcasting via smartphones to learn English (M=3.43). A little less than half of the students (44%) utilized application software of

smartphones to learn English (M=3.33). A lower percentage of students (29%) found that community websites on smartphones were beneficial for English learning (M=3.14). Just 27% of the participants made use of voice-over-IP software to improve their English speaking via smartphones (M=3.03). The students had made some use of smartphone features such as visual films and audio broadcasting perhaps because videos and audios could benefit the recognition of written words and listening comprehension in English (See Winke, Grass & Sydorenko, 2010).



TABLE 2: Smartphones Features for English Language Learning

Questionnaire Item / (N=200)	SA/A	N	D/SD	Mean
6. The community websites on smartphone are beneficial for English learning.	57(29%)	111	32	3.14
7. I visit video-sharing websites on smartphones to learn English.	100(50%)	82	18	3.47
8. I learn English through application software of smartphones.	87(44%)	85	28	3.33
9. I listen to radio broadcasting to learn English via smartphones.	98(49%)	77	25	3.43
10. The voice-over-IP software of smartphones helps me to practice English speaking.	53(27%)	105	42	3.03

Research Question 4: What are the advantages and disadvantages of using smartphones?

TABLE 3 shows the college students' perspectives on the advantages of using smartphones in their daily life. Many students (79%) agreed that smartphones did provide them with useful application software (M=4.03). Around half of the participants (52%) even believed that smartphones had improved the quality of their lives (M=3.46). Nevertheless, fewer students (34%) found it helpful to use their smartphones to look for a job (M=3.05) or

prepare for school (M=3.04). Merely fourteen students (7%) agreed that smartphones could help them prepare for the entrance exam of graduate school (M=2.55). Although the application software of smartphones did not seem to help these Taiwanese college students to prepare for exams, Narayam (2013) had reported that some apps available on smartphones and tablets did help many U.S. students practice for the exam of GMAT (Graduate Management Admission Test).



TABLE 3: Advantages of Using Smartphones in College Students' Daily Life

Questionnaire Item / (N=200)	SA/A	N	D/SD	Mean
11. I utilize my smartphone to prepare for school exams.	67(34%)	68	65	3.04
12. Using smartphone helps me to prepare for the entrance examination of graduate school.	14(7%)	104	82	2.55
13. Using a smartphone makes it easier for me to find a job.	68(34%)	82	50	3.05
14. Learning via smartphone improves my quality of life.	103(52%)	77	20	3.46
15. Smartphones provide me with useful application software.	158(79%)	37	5	4.03

Table 4 shows college students' opinions about the disadvantages of using smartphones. Many students (81%) agreed that using smartphones caused eyestrain (M=4.13). Besides, more than half of the participants (62%) developed neck pain from using smartphones (M=3.8). The good news was that few students (32%) had worse academic performance owing to smartphone addiction, while only a small number of students (18%) suffered from

smartphone obsessive-compulsive disorder (OCD) (M=2.69). Merely 16% of the students felt alienated from their friends due to smartphone usage (M=2.81). The results seemed to accord with Britt (2013) who also found that using smartphones excessively and holding smartphones at a short distance could possibly cause eyestrain.



Table 4: Disadvantages of Using Smartphones in College Students' Daily Life

Questionnaire Item / (N=200)	SA/A	N	D/SD	Mean
16. I get eyestrain because of using a smartphone.	162(81%)	34	4	4.13
17. Using a smartphone causes neck pain.	123(62%)	67	10	3.8
18. I am alienated from my friends by using a smartphone	31(16%)	103	66	2.81
19. I suffer from OCD (Obsessive-compulsive disorder) if I'm not allowed to use smartphones.	36(18%)	77	87	2.69
20. My academic performance has come worse due to my smartphone addiction.	63(32%)	81	56	3.08

#### **V. CONCLUSION**

This study has provided insights into the impact of smartphones on college students' life and English learning. The majority of the participants are found to engage in the daily activities via their smartphones other than learning English. There is no strong evidence showing smartphones can help students to improve their receptive skills (Listening and Reading) and productive skills (Speaking and Writing). Only about half of the students make use of application software on smartphones to learn English through videos website and audios broadcasting. Using smartphones excessively can cause eyestrain and neck pain. Nevertheless, smartphones do provide a lot of useful application software for daily use, and many students have used the English dictionaries in their phones to look up vocabulary words.

Despite there are no evident findings of using smartphones to improve the four skills of English from the college students, this study has some implications for English teachers and other educators to realize the influence of smartphones on college

students' daily life and language learning in Taiwan. First of all, there are now no adequate applications for learning English; therefore, new application software needs to be designed and created for the purposes of English learning. Secondly, smartphone companies need to increase the screen size and innovate energy saving technology or more endurable battery to reduce any unfavorable reasons for using smartphones to learn English such as neck pain, eyestrain, and nearsightedness. Finally, teachers' attitude should be the most crucial factor towards students' using smartphones to learn English in that teachers need to be encouraged to incorporate smartphones into the teaching of a foreign language to design activities and include exercises in which learners are required to use smartphones to learn English inside and outside the classroom.

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# 行動裝置輔助語言學習:智慧型手機對大學生生活的衝擊 與影響

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# 摘 要

本研究的主旨在探索智慧型手機對於大學生日常生活的衝擊與英文學習的影響。兩百位來自於一所國立科技大學學生受邀填寫一份問卷,此問卷主要包括三個部分:(一) 學生們日常生活使用手機的各種情況;(二) 同學們是否善於運用手機來學習英文;(三) 使用手機帶來的好處與壞處。研究結果顯示:大部分的學生在日常生活中使用智慧型手機的情況並非直接與英文學習有關,而是用來打電話、玩遊戲、上網、拍照等等。有不少同學承認在使用智慧型手機後,會出現視覺疲勞(81%;M=4.13)與脖子疼痛(62%;M=3.8)等症狀。不過,也有近八成(79%)的學生指出智慧型手機的確提供了多種實用的應用程式(M=4.03)。另外,有許多同學(81%)會在日常生活中經常使用智慧型手機來查不會的英文單字(M=4.28)。本研究的結果不但可以提供學者更深入的檢視大學生日常生活手機使用的實際情況,也可以給予想要運用智慧型手機在語言學習課程的教育工作者作爲參考。

關鍵字: 行動裝置輔助語言學習、智慧型手機、大學生、英語學習

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