Chinese Medical College Students' English Vocabulary Learning Difficulties, Attitudes and Preferences towards the Use of Mobile Application for Vocabulary Learning

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Abstract

English language teaching and learning have undergone a lot of changes in the past decades. Among these changes is the use of mobile application in learning, a new learning method where users use mobile platforms to learn.

The purpose of this study is to identify Chinese medical college students' vocabulary learning difficulties, as well as, to determine their attitudes and preferences on the use of mobile application in English learning vocabulary. The study used quantitative research design using descriptive statistics to analyze the data and report the result of the study. There were 282 Chinese medical college students who participated in this study in which a questionnaire survey was used to collect data.

The findings indicated that Chinese medical college students have faced difficulties in English vocabulary learning, such as, spelling, pronunciation, word meaning and word usage. In terms of attitude, the results found that students have had favorable attitudes toward the use of mobile application in terms of its benefit in reading, listening and writing. However, in terms of speaking students tended to have different opinions on whether mobile applications are beneficial for developing their speaking.

However, incorporating, textbooks and mobile technology in vocabulary teaching and learning, might be a good way to help students in building their English language ability to become competent learners.

Keywords: Learning difficulties, mobile application, students' attitude, students' preferences, vocabulary learning,

Introduction

Mobile learning connotes media delivered knowledge via a mobile device for the purpose of teaching and learning (Park, 2011) in which learning vocabulary using mobile application in English plays an important role in today's language acquisition and communication (Hong, 2010; Nation, 2006, 2011).

In the context of Chinese education, English is learned by Chinese students as foreign languages, thus students learning attitudes to the language (English), vary. With the development of technology, the traditional teaching approaches based on classroom language teaching alone have a tendency not to meet the demand of students' language learning anymore. Hence, academics and teachers are trying to create a learning environment that they think is suitable for the 21st century learners. With the popularity of mobile phone, many mobile applications are invented. One of these applications is the vocabulary mobile applications which are commonly used by Chinese students, such as; LAIX, YOUDAO and JINSHAN online dictionary. The popularity of these applications is influenced by their availability online and can be downloaded easily. They can also be easily accessed any time, any place, anywhere (Dang, 2013).

In China, many students are required to learn English for various purposes. Even though Chinese students have started to learn English at a young age, English learning is still a problem. The Chinese medical college students are among the Chinese students who tend to have low English proficiency. As English and Chinese are distinctive in terms of words and sounds, Chinese students' inability to remember English words contribute to this issue (Hwang, Hsu, Lai, & Hsueh, 2017). Most of Chinese students feel that remembering English vocabulary, spellings and putting words together are a challenge. However, they also think that putting extra work on understanding the meaning of words can be boring and time consuming (Saxton, 2017). This lack of enthusiasm, in general for vocabulary, English learning becomes a problem and contributed to students' low English proficiency.

In the context of the Chinese medical college students, they believe that learning English is not important for them as they consider learning English is not necessary for their future career; so, they do not need to learn the language to survive but just to pass the examination.

This study would like to propose the following rationales in conducting this study.

First, when studying the English language, without knowledge of the vocabulary being employed, a grammatical sentence has very little meaning to convey, as vocabulary is considered the vital organs and flesh which make up a skeleton of a language, hence vocabulary is considered as a key for mastering a language (Harmer, 2003; Wilkins, 1972). Learning the English language therefore starts with the vocabulary learning as it is one of the most fundamental steps for knowing the language.

Enhancing Chinese students' ability in international communication, the Chinese ministry of education requires them to learn English from the third grade. The college students are required to comprehend 3400 words. This includes the phrases related to vocabulary (Chujo, 2004). In addition, according to the Education ministry, college students should have the ability to recognize new words by extracting the meaning from the root source of the word. For example, 'unlabeled' is a new word for college students, and they may have learned the word 'labeled'. So, they would need to 'work out' the meaning of the new word by the word that they have learned (Brysbaert, Stevens, Hollich, Hirsh-Pasek, & Golinkoff, 2000; Hulstijn, 1992; Brysbaert, Stevens, Mandera, & Keuleers, 2016). Although medical college students believe English vocabulary learning is not necessary, it plays an important role for the medical field to be competitive with the rest of the world.

Background

Mobile application is a type of software designed that can be down loaded on mobile devices, such as a Smartphones, computer tablets (such as iPad), etc. Mobile applications are easy for mobile users to download through the application platform. In China, numbers of mobile application users are increasing every year and they use mobile applications for basic services, like information exchange or general productivity (Xinhua News, 2010). Because of its popularity, mobile application not only meet people's basic needs, but also offer various services based on people' different needs, such as, online purchases, and more recently as educational tools.

According to China Internet Network Information Center (CNNIC) which is a branch of the Ministry and Information, 802 million people or

57.7 percent of the population are now actively using the internet, and 98% of them are mobile users (McCarthy, 2018). With the wider usage of mobile phone in China, more and more mobile applications have been developed. The use of mobile phone and mobile application has become indispensible tool not only for communication but also for learning and teaching.

English language teaching and learning in particular had undergone a lot of changes in the past few decades. Among these changes is the use of Mobile Learning (M-Learning), a new learning method where users employ mobile platforms to learn. The main advantage of mobile learning is its mobility and accessibility that succeeds in covering many of the issues of distance learning. As the number of mobile phone users now surpasses the number of computer users, mobile learning has become the prime learning platform. The study conducted by Ericson in 2015 revealed that up to 80% of people find information using smart phone or handheld devices specifically in education setting (Anshari, Almunawar, Shahrill, Wicaksono & Huda, 2017).

According to Johnson et al. (2005), Kukulska-Hulme, & Traxler (2005) and O'Malley & Stanton (2002) mobile learning includes the instant and ongoing connection of handheld devices to online information and communication for personal growth, as well as, the increased agency within professions and communities of practice. Hence, learning vocabulary on mobile devices such as mobile phone instead of books could be helpful in the context of medical college Chinese students as mobile phones are very common. As an assisted language learning tool its usage on vocabulary learning will likely meet students' English vocabulary needs. Therefore, learning vocabulary with mobile application might be able to help motivate

medical college Chinese students' English learning. Generally, this mobile application allows students to take ownership of what they are learning, in this case medical science. English has an estimated 250,000 distinct words apart from the technical terms used in medical science. EFL learners, knowing 3000 of the most common words in English will potentially have 90 to 95% comprehension of English newspapers, books, movies, and conversations. This means the extent of vocabulary an EFL student knows enables her/him to expand their knowledge of the language.

One of the best reasons for choosing mobile learning is its convenience and availability. This eliminates the factor of time and place where teaching is being done. Since learners can access the information such as the vocabulary they need, mobile learning therefore can be regarded as useful. According to Groot (2000), there are mobile vocabulary applications that are designed solely for the English language vocabulary.

Groot's (2000) study on language vocabulary acquisition enumerates several stages involve in learning:

1. Observation is when a student encounters a new word, he can click on it, meaning is presented in the form of motion or motionless pictures and its pronunciation is emphasized

2. Storage of linkage is when relevant English equivalents are given so students relate that knowledge, he/she is learning to his background knowledge.

3. Consolidation based on his argument is when at the end of exercises students consolidate the new information

The results of Groot's research supported the theory of vocabulary acquisition on three stages with the aid of multimedia. Groot (2000) suggested that students who are learning a foreign language can use the concepts of words in their own language when learning the vocabulary. According to him, when technology is introduced to teaching and learning this has tremendous effect on students' life. As it is accessible to everyone, students are likely to have control on their learning environment (Mayer, 2002; Moeller et al., 1998).

Acquiring vocabulary can be done based on these two processes, this can be incidental or direct. Incidental acquisition of vocabulary occurs when a student is listening or reading independently. This is viewed as atypical way acquiring vocabulary, especially for proficient readers (Hong, 2010; Pérez & Alvira 2017). This process of learning is without specific focus of attention in which learners focus on understanding the meaning of a text or listening to contexts, instead of intentional learning. Direct or deliberate acquisition, however, is when the vocabulary acquisition of a student is done consciously. Students who possess reading skills and read different texts may find that their vocabulary improves without direct study. Encouraging learners to read or listen to English songs, or even playing games can lead to incidental vocabulary learning.

According to Guo (2013), Mobile learning increases the mobility of learners. With portable and personal mobile devices, learners could be engaged in more flexible, accessible and personalized learning practices without constraint on where they are. Mobile learning enhances the mobility of learning process without time constraint. According to Wagner (2005) the value of deploying mobile technologies in the service of learning and

teaching seems to be both self-evident and unavoidable as mobile connectedness continue to sweep across the world.

Due to the popularity of mobile learning this would like to understand students' difficulties in learning vocabulary, attitude and preferences on the use of vocabulary mobile application. This poses three objectives for the study.

1. To identify the Chinese medical college students' difficulties in English vocabulary learning.
2. To identify the Chinese medical college students' levels of attitudes towards the use of mobile application for English vocabulary learning.
3. To determine the Chinese medical college students' preferences towards the use of mobile application for English vocabulary learning.

Theoretical framework

As technology becomes part of students' lives, learning English vocabulary might be able to help them to change the nature of their learning. In addition, as knowledge and education change to become one of the economic forces, learners have maintained the transformation of the educational system to be more digitally skillful. Information technology transforms the nature of learning in both formal and informal settings and it changes the ways learning can be delivered or achieved (Griswold, et. al., 2002). Teaching and finding information rather than possessing it or knowing it becomes the defining characteristic of learning generally and of mobile learning in particular (Griswold, et. al., 2002; Hackemer, & Peterson, 2005). Not only can mobile technologies change the nature of teaching and learning but also alter the concept of 'learning' as timeless, space less and faceless (Stockwell,

2013). Mobile learning creates not only new forms of knowledge and new ways of accessing it, but also new forms of art and performance, and new ways of accessing them (Kukulska-Hulme & Traxler, 2005; O'Malley & Stanton, 2002), that is to say; our notions of knowledge and learning are evolving (Perry, 2003). So, when it comes to students' notions of knowledge and learning, they are likely to personalize their learning journey as they carry their phones, iPads etc. (Perry, 2003).

The emerging technologies have brought about major changes in the teaching and learning processes (Pavlik, 2015). Mobile phones, in particular, have led to a proliferation of studies that explore their use in education. Language teaching studies and practices have also been affected from this tide of change, as well (Stockwell, 2010, 2013). By providing flexible, practical, and personalized opportunities of use in and outside the classroom, mobile learning challenges the conventional ways of teaching remarkably (Kukulska-Hulme & Traxler, 2005). Especially with smartphones that come with both powerful hardware and software, which makes them as capable as a computer, learning on the go becomes more and more convenient. As Stockwell (2013) highlighted, the big and touch-sensitive screen of today's smartphones offer great advantages in contrast to pre-smartphone mobile devices used in several studies (Abbasi & Hashemi, 2013; Hayati et al., 2013; Kukulska-Hulme, 2009; Lu, 2008; Thornton & Houser, 2005).

Vocabulary teaching is at the heart of developing proficiency and achieving competence in the target language (Hong, 2010; Nation, 2011).

Methodology

The subjects of this study were the 282 medical college students from Yunnan province. They were all college medical first year students. The researcher used convenience sampling in selecting the sample. This is based on students' level, availability and the setting or proximity of the college. These 282 Chinese medical college students were required to fill in the questionnaire as part of the survey.

Research instruments

The research instrument used was a questionnaire survey to answer the research questions in order to achieve the three objectives.

The questionnaire has 17- item questions adopted and adapted from Liu (2017) questionnaire based on his study *research on the application of Mobile Micro-learning in English Vocabulary Learning of Vocabulary College Students.* This questionnaire is divided into two parts: part I is about students' vocabulary difficulties and attitudes towards the use of mobile application in learning vocabulary. The second part is about students' preferences on learning vocabulary using textbook or mobile application learning.

The collection of the research data was by means of the two research tools, *Wenjuanxing website* and *Wechat*.

Wenjuanxing website is a Chinese platform which deals with online questionnaire survey, participants would fill the questionnaire on line. *Wenjuanxing* questionnaire would be sent through *Wechat* so that

participants would fill the questionnaire easily. After students fill in the questionnaire, the data would be acquired from the website automatically.

Wechat is Chinese e-communication tool which is popular in China. Younger generation used *Wechat* to communicate with family and friends. It is a kind of social media channel but can be used in businesses as well. *Wechat* is available for all kinds of platforms, support voice, photo, video and text message. Using *Wechat* was also found convenient for both the researcher and participants (medical college students).

The questionnaire was adopted and adapted from Liu (2017). In order to make sure that the contents of the questionnaire are valid and reliable, IOC was used to measure its validity. The questionnaire was sent to three experts for validation. They are conversant in English and Chinese, as the Chinese translation was added to help students understand the questions well.

Once the validation process was done, the 17-item questionnaire was distributed to 282 students who accepted the invitation and signed the consent form via Wenjuanxing website. This process was done over a period of one week. After that, the questionnaire which was automatically counted by the application used was collected from the website. These were grouped and organized in order to answer the research objectives.

Findings and discussion

Research objective 1: Chinese medical college students' DIFFICULTIES in English vocabulary learning

Vocabulary is the key for language learning, without vocabulary learning language learners would fail in language learning. But college still has problems on vocabulary learning.

The findings of research question 1, indicate that there are four parts of vocabulary that Chinese medical college students found the most difficult; spelling, pronunciation, words meaning and the use of words. Among these four, pronunciation is the highest followed by word meaning.

Table 1: The most difficult parts of English vocabulary learning according to Chinese Medical College Students

Vocabulary part	N=282	Percentage
spelling	116	41.13%
pronunciation	155	54.96%
word meaning	148	52.48%
Word usage	139	49.29%

As shown in the Table 4.3, 54.96% of college students think it is difficult to pronounce words. 52.48% of college students think it is difficult to understand meaning of words. 49.29% of college students think it is difficult to use vocabulary in their daily life. And 41.13% of students think is difficult to remember the spelling of words.

As indicated, Chinese medical college students have problems with English vocabulary learning.

To help students with these learning difficulties in English vocabulary learning, it is necessary to understand their attitude of mobile applications for English learning as alternative tools, so teachers have options what to allow in the English classroom in learning process. Result of the students' attitude is presented in the following section.

Research objective 2: Chinese medical college students' ATTITUDE towards the use of mobile application on English vocabulary learning

A student attitude is perceived as an essential factor that has impact on students' learning (Garret, 2010; Latchanna & Dagnew, 2009). Mobile assisted language learning is a new area on English learning, it is necessary to understand college students' attitude towards usage of mobile learning applications (Wagner, 2005).

Table 2: Students' attitude towards the used of mobile application on English learning

4. In my opinion, using mobile application as learning assisted tool would have benefits for my speaking		
Likert scale	N=282	Percentage
1=Totally disagree	100	35.46%
2=Disagree	25	8.87%
3=Neither	39	13.83%
4=Agree	89	31.56%
5=Totally agree	29	10.28%

The chart suggests that most of the Chinese medical college students' attitude tend to be varied when it comes to using mobile application on language learning. The chart shows that, those who have negative attitude tend to be higher than positive attitude when it comes to speaking. As indicated in Item 4, 35.46% 'totally disagree' and 8.87% 'disagree' that using mobile learning application can improve their English-speaking skills. This means that 44.33% do not think that mobile application could help their English-speaking ability. While only 10.28% 'totally agree' and 31.56% 'agree' that mobile application could help their speaking, meaning only 41.84 % believe that mobile application can be useful to them.

5. In my opinion, using mobile application as learning assisted tool would have benefits for my Reading		
1=Totally disagree	20	7.09%
2=Disagree	20	7.09%
3=Neither	49	17.38%
4=Agree	120	42.55%
5=Totally agree	73	25.89%

With regards to reading however, it was found that Chinese Medical college students have positive attitude as it suggested from Item 5, 25.89% 'totally agree' and 42. 55% believe that '*using mobile application as learning assisted tool is beneficial for their reading*'. This means 68.44% of Chinese medical college's students believe that mobile learning application have a beneficial influence on their reading skills.

6. In my opinion, using mobile application as learning assisted tool would have benefits with regard to my listening		
Likert scale	N=282	Percentage
1=Totally disagree	16	5.67%
2=Disagree	13	4.61%
3=Neither	43	15.25%
4=Agree	117	41.49%
5=Totally agree	93	32.98%

As for listening, based on Item 6, 32.98% 'totally agree' and 41.49% 'agree' that 'using *mobile application as learning assisted tool is beneficial for their listening'*. As 74.47% indicated that using mobile applications can help with their listening skill, this implied that Chinese medical students have 'positive attitude' towards using mobile application for improving their listening skills.

7. In my opinion, using mobile application as learning assisted tool would have benefits for my writing		
1=Totally disagree	19	6.74%
2=Disagree	18	6.38%
3=Neither	55	19.5%
4=Agree	116	41.13%
5=Totally agree	74	26.24%

In terms of writing skills, 67.47% indicated that they have positive attitude in using mobile application that could benefit their writing. As found in Item 7, 26.24% 'totally agree' and 41.13% 'agree' that mobile application would help their English writing skill.

Among the four skills, therefore, speaking has the least favorable attitude when it comes to Chinese medical college students. This finding can be understandable as these students are Chinese and might only use an application that they have difficulty to use in classroom settings because 'speaking' might be seldom practiced at school using mobile application The results of this study however, differs from the study of Song and Fox (2005) and Tabatabaei and Goojani (2012) as their study had shown that students had displayed positive attitudes in all skills.

Based on the data gathered, the Chinese medical students also indicated the amount of time they spent learning words tended to vary.

Table 3: Amount of time Chinese medical college students spent learning words at a time

Time	N=282	Percentage
0-10 minutes	27	9.57%
11-20 minutes	85	30.14%
21-30 minutes	108	38.3%
Over 30 minutes	62	21.99%

As indicated in Table 4.5, the majority of the students have spent about 10-30 minutes learning new words.

Research objective 3: Chinese medical college students' PREFERENCES between the use of mobile application and textbook (dictionary) on English learning

The findings of the research question 3 show that students' preferences are more favorable towards the use of mobile application than textbook (dictionary).

9. For understanding word meaning, which method is easier for you?		
Preferences	N=282	Percentage
Mobile application	218	77.3%
Textbook	64	22.7%
10. If you can choose learning material, which learning material would you like to be used in the English classroom?		
Mobile application	211	74.82%
Textbook	71	25.18%
11. When you are learning vocabulary, which one would you like to use?		
Preferences	N=282	Percentage
Mobile application	208	73.76%
Textbook	74	26.24%

12. Which learning tools help you to understand the meaning of words better?		
Mobile application	213	75.53%
Textbook	69	24.47%
13. Which method used on vocabulary learning is more effective for you?		
Mobile application	205	72.7%
Textbook	77	27.3%

Based on the result, 77.3 % of the Chinese medical college students preferred to use mobile application as a *learning tool that helps them remember the English words better* while only 22.7% chose textbook (dictionary) as their preferences. In item 10, 74. 82% of Chinese medical college students preferred to use mobile application *learning materials' to be used in the English classroom* compared to 25.18% of the students who preferred textbooks. Again item 11, 73.76% of the Chinese medical college students preferred to use mobile application in *learning vocabulary* while only 26.24% of the students would like to learn using textbooks. In terms of preferences for *understanding words meaning*, 75.53% of them indicated that they preferred to use mobile application as it helps them to learn the meaning of the words easily compared with 24.47% who indicated that they would prefer to use textbooks. And lastly, 72.7% of the students pointed out that they preferred to used mobile application for vocabulary learning as this is '*more effective'* compared with 27.3% who stated that they preferred to use textbooks.

However, Chinese medical college student preferences on what to use for vocabulary learning seems differed on what they actually used. Based on item 14, 34.4% of the Chinese medical college students 'Agree' that they prefer textbooks on learning vocabulary and 19.86% 'Totally agree', while 26.6% of the students were 'undecided' what to be used. This result indicates that although Chinese medical students may use mobile application but in real practice textbooks seem liked a big influence on their learning process. As item 15 suggested, 35.11% 'Agree' and 18.44% 'Totally agree' that *textbook would give them more support with their vocabulary size*. Although 28.37% are part of those who were 'undecided' (Neutral) only 4.96% and 13.12% of the students 'Totally disagree' and 'disagree' respectively that textbook gives more support than mobile application.

14. I prefer to use a textbook than mobile application on vocabulary learning.		
Likert scale	N=282	Percentage
1=Totally disagree	15	5.32%
2=Disagree	39	13.83%
3=Neither	75	26.6%
4=Agree	97	34.4%
5=Totally agree	56	19.86%
15. I think textbook would give me more support with my vocabulary size than mobile application.		
1=Totally disagree	14	4.96%
2=Disagree	37	13.12%

3=Neither	80	28.37%
4=Agree	99	35.11%
5=Totally agree	52	18.44%
16. I prefer to use dictionary in hard copy to look up the words than mobile application.		
1=Totally disagree	17	6.03%
2=Disagree	78	27.66%
3=Neither	64	22.7%
4=Agree	81	28.72%
5=Totally agree	42	14.89%
17. In my opinion, textbook would more effective on vocabulary learning than mobile application		
Likert scale	N=282	Percentage
1=Totally disagree	17	6.03%
2=Disagree	46	16.31%
3=Neither	82	29.08%
4=Agree	93	32.98%
5=Totally agree	44	15.6%

However, when the Chinese medical students were asked whether they prefer to use *dictionary in hard copy to look up words*, there were almost a split decision between those who 'agree', 'neutral' and disagree. As indicated in Item 16, the percentage shows that 28.72 % agree, 22.7% undecided and 27.66% disagree. This means, there is only a small gap among students who

have fully decided what types of materials they really prefer when they look up words. As for students' preferences on the effectiveness of the textbooks shown in Item 17, more or less students think textbook is more effective as 32.98% and 15.6% of the students respectively 'agree' and 'totally agree' that *textbook would be more effective on vocabulary learning*.

Conclusion

According to the findings, Chinese medical college students have encountered different issues when it comes to learning vocabulary. According to Nation (2006, 2011) a vocabulary size of a speaker measures their language proficiency. This is the reason why there are different parts of English vocabulary that students found difficult in terms of learning as students comprehension measures the amount of vocabulary they know (Hong, 2010). This reflect on student's usage as based on the findings the majority of them used mobile applications, such as, Youdao, Jinshan, Wangyi, Baicizhan and Shanbei for vocabulary learning. The result of this study is supported by the study of Butgereit and Botha (2009) and Başoğlu and Akdemir (2010).

Vocabulary learning is viewed very important part in language learning as without it, language could not be comprehensible. Mobile application is one of the trends for the 21st century learning. As mobile phone is viewed as one of the indispensable necessities among Chinese students in general, in terms of learning, therefore, mobile application can be learners' companion. In the context of Chinese medical students, for example, they indicated that different mobile application is one of many beneficial tools for students' language skills such as reading, listening and writing except for speaking.

Thus, this highlights a number of pedagogical implications in teaching and learning.

The 21st century education is viewed as the era of digitalization thus in connection to this study there are few points that teachers and learners need to be aware of as mobile devices become part of students teaching and learning. Teachers should let students to use language applications as part of their teaching resources especially when students need assistance on their vocabulary learning. Also, as vocabulary development is likely to be successful when integrated with other skills, such as, speaking, reading, writing and listening, mobile application that students need to use should not be limited to one function alone, but the whole language function.

As for the learners, varieties of mobile applications focus on different learners' language needs, thus it is better to navigate other applications that focus on speaking as this skill found the weakest among the Chinese medical college students. Additionally, it seems like speaking is the least among the four skills that students thought mobile application is not beneficial. As pronunciation found difficult when vocabulary learning, mobile application therefore should be used often to help their pronunciation and acquire a good command of English. If students become mobile learning conscious in vocabulary learning, they can practice different English sounds and pronounce words to develop their English language fluency.

To conclude, the use of mobile application in learning English vocabulary as other mode to utilize mobile technology can be useful and convenient tools for learning. This might provide students other option how learning can be done and make use of mobile phone as a learning device but

should be used with caution to obtain its potential as an alternative resource for learning.

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