

USING MOBILE DEVICES TO LEARN ENGLISH:  
SUGGESTIONS FOR NON-ENGLISH MAJORS IN CHINA

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Abstract

USING MOBILE DEVICES TO LEARN ENGLISH:  
SUGGESTIONS FOR NON-ENGLISH MAJORS IN CHINA

Ming Li

Under the Supervision of Dr. James Romesburg

With the development of technology, application of wireless network, as well as the popularity of mobile devices, mobile devices are more available for college students than ten years ago in association with English learning resources. How do students use mobile devices to learn English? This study focus on learning situations, attitude, and challenges for non-English major students learning English by mobile devices in China so as to give students some feasible suggestions to help them learn English efficiently and effectively. Journal articles about mobile learning in the past ten years will be searched, selected, viewed, classified and analyzed.

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## **Chapter I Introduction**

With the rapid development of technology and communication, application of wireless network, as well as the popularity of mobile devices, there are revolutions in people's lifestyle, working ways, communicating habits, and learning habits. In recent years, mobile devices have changed the way of teaching and learning.

Lai and Mao (2014) stated that China started studying mobile learning in 2000. Since then, mobile learning has been one of the most popular phrases in the learning development domain. The practice is the realization of a dream of studying anywhere and at any time with the help of mobile devices, and information technology.

This study focused on suggestions of mobile English learning of non-English major students in China. Journal articles about mobile learning in recent ten years were searched, selected, viewed, classified and analyzed. Those articles helped me find useful suggestions to help non-English major students learn English efficiently and effectively.

### **Statement of the Problem**

Although mobile devices are available for college students in China, especially smartphones, most students do not know how to apply mobile devices effectively and efficiently in their English learning. To settle this issue, this study examined the following questions:

1. What is the present English learning situation in mobile devices among non-English majors?
2. How do non-English majors learn English using mobile devices?
3. What is the attitude regarding mobile learning?
4. What are challenges for non-English majors when using mobile devices for English learning?

5. What suggestions are there for English learning in mobile devices for non-English majors?

### **Definition of Terms**

There is no uniform definition of Mobile learning. Mao (2014) said it "...means learning through mobile devices (such as smart mobile phones, tablet PCs and E-ink Book devices)..." (p. 614). Azli, Shah and Mohamad (2018) stated that mobile learning "...is defined as the learning tools that constantly available anywhere and at any time" (p. 85). Shih (2017) argued "...mobile learning occurs when learner is not at a fixed, predetermined location, or when the learner takes advantages of the learning opportunities offered by mobile technologies" (as cited in Kukulska-Hulme & Traxler, 2005, p. 1).

### **Purpose of the Study**

With the rapid development of information technology and wireless network, it is a revolution for students to learn by mobile devices. Also, it is a trend for teachers and students to learn by mobile devices in and out class. Because of economic development, mobile devices, such as table computer, PC, iPad, smart mobile phone, kindle, E-book, MP3, MP4 and so on, are very common these days.

College students are often the pioneers in new technologies because they are curious and easily accept new technologies. English learning is a compulsory course for every college student since they have to pass CET 4, which is one of the required criteria for their graduation. Most non-English majors are not very good at English and may need extra help learning English. This study aimed to know what the mobile English learning situation was among non-English major students, what challenges mobile devices presented for their English learning, and what suggestions English teachers might offer them as they used mobile devices in the classroom.

### **Significance of the Study**

There are many studies about factors affecting mobile learning. They involved in software improvement for mobile learning, and how to use Wechat APP for English learning. However, there was no research on challenges and suggestions for non-English major students by mobile devices in the view of students. In this study, I explored suggestions to help non-English major students use mobile devices to learn English more efficiently and effectively.

### **Delimitation of the Study**

Due to my limited knowledge in English ability and information technology, as well as information research, a small scale of studies were collected. English abilities differ by each province in China, so English abilities of non-English majors in each province are various. For example, students from Beijing, Shanghai, and Shenzhen, certainly have a higher English ability than students from Changsha on average. Therefore, it is suggested more precise and deeper researches should be conducted in the future.

### **Methodology**

The relevant literature on the English learning situation, attitude, ways, challenges and suggestions regarding mobile devices among non-English major college students were reviewed. The following topics explored: students' attitude to mobile learning; mobile learning situation among Chinese college students; whether mobile learning is positive or negative; and some of the specific disadvantages of mobile learning. The search terms were limited to 'Mobile learning' and 'English learning as a foreign language'." By comparing and analyzing research studies, this study would give some suggestions for non-English major students on mobile learning.

## **Chapter II Review of Literature**

This section illustrates a brief review of mobile learning studies. This study states the following aspects to present its concerns: collecting holding percentage of mobile devices, analyzing students' attitude, stating mobile learning situation, summarizing mobile learning's positive outcomes, and illustrating challenges of mobile learning. After those parts, this study gives feasible suggestions on mobile learning for non-English major students.

### **What is Mobile Learning?**

With information technology development, people focus more and more on what makes their lives more convenient. This effect also reaches into education. Students are not just limited on traditional way sitting in the classroom and listening to teachers, they can study according to their requirements and pace with the help of learning tools. Mobile learning (some researchers written as M-learning) was defined by many researchers. Mao (2014) defined Mobile learning as a new way for students to receive education commonly at any time (as cited in Hyman, 2014). Shih (2017) thought "mobile learning occurs when learner is not at a fixed, predetermined location, or when the learner takes advantages of the learning opportunities offered by Mobile technologies" (as cited in Kukulskahulme &Traxler, 2005, p. 16). Azli, Shah and Mohamad (2018) defined Mobile learning "the learning tools that constantly available anywhere and at any time" (p. 85).

Now, various learning tools are available to assist students' mobile learning. Researchers referred to them as Mobile devices and its system was called Mobile-Assisted-Language-Learning (MALL).

Students use many different mobile devices, such as table PCs, laptops, smartphones, E-ink Books, MP3s, MP4s, Kindles etc. Mobile devices ensured students' learning according to their interests, and choice at flexible time and place, which meant it was a student-centered learning (Azli, Shah & Mohamad, 2018, as cited in Kukulska-Hulme & Shield, 2007), supplying independent, collaborative, real-time and creative learning in class (Zaki & Yunus, 2015).

Mobile devices had the features of individualized, portability, accessibility to learning content, studying freely, and communicating convenient (Zaki & Yunus, 2015; Liu & Tsai, 2013; Sung, Chang & Yang, 2015). People believed that mobile learning would be the trend in and out of class among teachers and student.

From above, many researchers had given definition of mobile learning and classified what were mobile devices and its outstanding features. In recent years, mobile learning has been more and more popular. More and more students have begun to do mobile learning for their study.

### **What is the Present English Mobile Learning Situation among Non-English Majors?**

Because of technological development, it is common for college students to own laptops, smartphones and other handhelds. In order to know the Mobile learning situations among non-English major students, I reviewed researchers' studies.

Chen conducted an investigation in 2013 with 250 students from different majors (number of English major students were 61) in 86 universities. Ninety-five point two percent students used English dictionary apps to help them for autonomous learning, 35.6% students used professional English apps to learn English, 27.2% students learned English by English information. They thought Mobile learning had the features of flexible time, improved

proficiency, abundant materials, saved money and maintained target learning. This study showed majority students used mobile learning software to help them to study.

In Mao's (2014) study, 300 participants were from different majors and grades of Southwest University in Chongqing. Its statistics showed that all students owned smartphones, 24.7% students had table PCs and only 5.32% used E-ink Book. In the study, more than 11.41% students did mobile learning every day, 84% students did mobile learning every week, 1.52% students seldom did mobile learning; 66.5% students were not satisfied with the learning resources supplied by university. This study showed most students could increase frequency of their mobile learning.

He (2016) did a questionnaire among eight universities in Shanxi Province. The result showed that 98.4% students owned smartphones, 35.6% students owned laptops, 13.1% students had iPad, and only 1.78% students had no mobile devices. The channels for autonomous learning through smartphones: 87.3% students downloaded video and audio, 73.6% students browse text websites, only 23.4% students learned by English learning apps. This study showed that students have various ways and resources to do mobile learning.

Zhang and Xie (2017) conducted a questionnaire with 152 participants for Hankou College in Accounting major. The result showed that 100% interviewees owned a smart phone, but their knowledge of Mobile learning should improve; 99.9% students held the positive attitude to Mobile learning. Students mainly learned vocabulary and practiced listening by mobile devices, and preferred multiple forms of materials through apps and websites in mobile devices. This study revealed that all students were able to do mobile learning and they thought it was a good way for their study.

Lin and Leng (2017) conducted a study and 200 students were from different majors in University of Shanghai for Science and Technology. The finding showed that 99.5% students owned smart phones, more than 50% owned laptops, around one third had MP3, MP4, MP5. However, 44% students did not know how to find learning materials. For their attitude, 78.5% participants thought Mobile learning very convenient, 61.5% participants thought Mobile learning satisfied the individual requirements, and more than 50% agreed Mobile learning had the advantages of autonomous learning. The result showed that most students held a positive attitude to mobile learning, but they should be trained to access learning resources.

Liu, Hui and Xue (2018) surveyed 285 undergraduate students from three universities in Hu Bei province. The data collection showed that 95.8% correspondents had smart mobile phones and 85.9% correspondents had personal computers. The main devices for English learning were books and examination paper, while 50% correspondents chose smartphones, and 12.4% chose personal computers. The findings revealed that mobile learning had been accessible to a majority of students. The item of main devices showed that books and papers still played the main role in English learning for students. Also the finding revealed mobile devices had the trend to be accepted and used widely by students combined with traditional learning ways and with new information technology. When students were asked “whether they heard M- learning”, it showed that 8.1% students knew it well, 49.5% just heard and never used it and 42.4% never heard it. This meant almost half university students did not heard the term of Mobile learning, even though some students used mobile devices to learn without conscious of mobile learning. As to the item of “frequency of Mobile learning”, only 6% often used Mobile learning and 44% used it sometimes. The finding revealed Mobile learning was used among a small proportion of university students.

Wang and Huang (2018) conducted an investigation with 260 students. University students were non-English majors from Fujian Business College. It showed that all students held smart phone and 64% owned laptops and 47.8% had iPad. In the aspect of learning resources, students accessed various learning materials from apps, websites, social platforms. 95.2% students preferred apps because of its purpose-identity, attractive design. For their attitude of Mobile learning, 31.2% students knew Mobile learning concept and 85.3% ever used mobile devices for learning. For their learning behavior, 71.9% students had download learning apps, 33.5% accessed to English learning websites and 29.8% did learning through social media platforms. Liu, Yu, Wei, and Ning (2018) stated that “Tencent QQ, WeChat, and Sina Microblog” (p. 1) were very popular social media platforms in China. This showed Mobile learning needed more guide and promotion to compensate the shortage of traditional learning. Sixty-eight point four percent students did Mobile learning by fragment time, such as waiting car, class breaks, queuing, 31.6% arranged fixed time, such as before going to bed. This result showed that Mobile learning was real-time and flexible.

From the above six studies, the popularizing rate of mobile devices among non-English majors reached more than 95.2% (100% in Chongqing, Hankou, Fujian, 99.5% in Shanghai). They did learning mainly relying on traditional ways, and they mainly learned vocabulary and listening through mobile learning. Even though many students had the behavior of mobile learning, they did not notice it was mobile learning. In addition, students’ conscious, habits and behaviors of Mobile learning were various in different areas. Their abilities and ways of receiving information were obviously not the same. However, they all showed students admitted advantages of mobile learning. There is much space to strengthen and promote Mobile learning.

### **How Do Non-English Majors Learn English Using Mobile Devices?**

While students can access information when they need, there is still a need for the traditional classroom. In Liu et al.'s (2018) study, the findings showed that at the present stage, more than 50% students learnt English mainly depending on conventional ways, some did mobile learning by learning apps in fragmented time.

It is a trend that teachers teach students in classrooms with mobile devices and allow students to check vocabulary using dictionary apps downloaded on their smartphones, as well as distribute learning materials, assign and check homework through Tencent QQ, Wechat after class. Lai and Mao (2014) found out Mobile learning was influenced by four factors: facility for network, self-effectiveness, encouragement and guidance for students adopting the Mobile learning by teachers and school, and costs of mobile devices and network. However, it is a challenge for English teachers to use Mobile learning because they have the pressure to finish their workload in the limited class time. Besides, teachers have their own teaching styles and some would be reluctant to change them. Those reasons paralleled Lai and Mao's (2014) statement that teachers and universities were not willing to use mobile learning in and out of class. Mao (2014) noticed college students could solve their problems instantly with the help of mobile devices, but they did mobile learning in an informal situation.

In this situation, there are many obstacles to execute mobile learning. In class, teachers have difficulties to encourage and guide students to do mobile learning. After class, students lack clear learning objectives and are easy distracted in an informal environment. Besides, their learning effectiveness can not be supervised. Therefore, it is not optimistic for non-English major students to do English mobile learning in and out of class.

### **Is Mobile Learning a Positive Learning Experience?**

With the high owning rate of mobile devices, it is possible for every student to do Mobile learning. Especially with smartphones, students are able to learn when they want to. It makes supplements for students to learn and communicate with teachers and peers out of the conventional class. Now, this part would discuss if mobile learning is a positive learning for students.

From the investigation of learning system, Azli, et.al (2018) stated that most respondents had a positive perception on the usage, usefulness, easiness of MALL in doing their task, enhancing teaching and learning process. Georgieva, Smrikarov and Georgiev (2010) did a questionnaire to evaluate FLAGMAN system, results of 'Didactic efficiency' showed mobile learning promoted learning outcomes of conventional class and the course of the system was grateful and interesting.

As for mobile learning results in English, many researchers showed their undeniable positive results in autonomous learning (Ramamurthy & Rao, 2015), writing (Noriega, 2016), academic writing (Zaki & Yunus, 2015), memorizing English vocabulary (Chen, 2014), enlarging phrases (Dashti & Aldashti, 2015), spelling (Shih, Lee & Cheng, 2015), English composition (Liu & Tsai, 2013), listening comprehension (Azar & Nasiri, 2014). Azli, et.al (2018) said "By interacting and collaborating via the mobile device, the learners are actively involved in interesting and useful learning activities" (P.85).

Shih (2017) conducted a study comparing English learning results for specific purpose between Lab group and Mobile learning group. His findings showed the later group was more interested, pleasurable, focused, and efficient when they learned than the lab group. Researchers devoted great effort and made a uniform conclusion that mobile learning was an unquestionable good for students.

## **What is the Attitude Regarding Mobile Learning?**

Electronic devices have a close relationship with our daily life. They affect our lifestyle, learning habits, and even the way we think. It is hard to imagine how to spend the day if people did not have smartphones. Mobile devices also have become inevitable learning tools for students. These devices enable us to do long-distance learning without a fixed time or place, and also allow interaction and communication with teachers and peers freely. The popularity of mobile phones increases high speed. Smartphone usage has many advantages, for example, a student can download different apps with special functions, watch videos, listen to audios, read text, and search information instantly. Many researchers held different opinions to mobile learning.

Reinders and Cho (2012) stated that some researchers thought mobile learning did not work well in improving students' language learning. However, some researches had the opposite opinions.

From the learning effects with the help of mobile devices, Sung, et.al (2015) stated that handhelds easily achieved highly positive learning results compared to laptops and table computers. Xu (2016) demonstrated a positive outcome in the aspects of learning passion, satisfying, self-discipline, and learning effectiveness.

Students use smartphones to download various apps, such as Douyin, Huoshan, to learn very interesting and innovative short videos for learning English. Mao's (2014) investigation showed students were happy to do authentic activities in mobile learning because they gained a lot from it. It is obvious to see students learnt better and researchers held the affirmative attitude to mobile learning.

## **Challenges for Non-English Majors to Learn English Using Mobile Devices**

Mobile learning is autonomous learning for "learner driven and student-centered" (Xu, 2016, p. 117). With the reality of the teaching syllabus, non-English majors only have four

English classes every week, which means they had not enough English learning time in class. Under this situation, if they want to improve their English, they have to spend more time doing autonomous learning.

We have known that Mobile learning was a positive strategy which has been gradually adopted by teachers, and mobile devices afforded convenience for students, but students still faced many challenges. The features of mobile devices would not contribute to positive language learning if we could not use them properly. Students could become shortsighted for staring the small screen of mobile devices for a long time. Besides, almost all students have smartphones, some are easily indulged in mobile games so that they spend little time for study. Lin and Leng (2017) stated that students usually did Mobile learning in an informal learning situation, where it was hard for students to focus their attention. This indicated mobile learning outcomes were impacted by many variables.

**Teachers.** In order to teach better, teachers have catered to the needs of students. Teachers have to spend time to find and learn the new mobile technologies, apps or platforms and update their knowledge accordingly. This is a challenge for teachers who have their own teaching styles to combine the new technologies. Another difficulty is splitting the class time and guarantee students learning (Sung, Chang & Yang , 2015, as cited in Sung & Lesgold, 2007, Weston & Bain, 2010). Teachers' attitude and acceptance to mobile learning in class plays an essential role.

**Lack of motivation and consciousness of mobile learning.** Language learning needs students to devote a large amount of time to memorize vocabulary, which is boring and their achievements are not easy to see. Students feel frustrated easily. Sung, et. al (2015) stated that learning results were affected by students' intrinsic and extrinsic elements, such as their

participation, priority choice, and incentive. Non-English major students have less interest in English learning and have more pressure to pass English exams. Many students did not know how to get suitable learning resource, and many students should improve their consciousness of mobile learning (Mao, 2014; Liu, Hui & Xue, 2018; Zhang & Xie, 2017). Without supervision and weak self-discipline, students are easy distracted by other entertainment activities or advertisement inserted in the apps, platforms, and websites etc. Because of lacking effective learning strategies and guidance, it is hard for students to choose suitable resources and approach to optimize learning effects.

**Resources selection.** There are many types of learning resources, and they have their own emphasis and characters. Software explorers would design learning-oriented software, virtual environment, game-assisted program, which did not achieve better learning results (Sung, Chang & Yang, 2015). Researchers might not only focus on learning system, but also payed more attention to explore certain enjoyment content or innovative activities to extensive the learning results (Sung, Chang & Yang, 2015). Zaki and Yunus (2015) mentioned that “not all learning activities are suitable to be used with mobile devices” (p. 12). Non-English majors are incapable in choosing the learning resources, it is difficult for them to select the reliable and effective learning resources for themselves.

**Less attraction of the content to arouse students' interest and attention.** Most English learning websites or apps lack character of interesting or funny design. Mobile learning resources supplied by university failed to pique most students' interest (Mao, 2014). Students are easy distracted and cannot guarantee achieving learning outcomes. The quality of video, audio, and text used by students are quite different. Lin and Leng (2017) stated that 42% students said the learning content and learning ways determined their learning attention. Sung, et.al (2015)

stated mobile devices might have passive learning outcomes when students learn for multi-choice and many temptations distract students attention (as cited in Gauerdau, Miranda, & Gareau, 2014; Handal, MacNish, & Petocz, 2013).

Since students use mobile learning in informal situations, explorers design short content for their fragmented time learning. This causes another problem: their learn content is not continuous. This is bad for students to concentrate their attention and memorize precisely, which lead to low efficiency and ability to reach predicted learning outcomes.

**Technical issues.** Students are anxious in the coverage and the stability of Wi-Fi on campus when students use mobile devices. Therefore, they have to use flow, which costs a lot of money. Sung, et.al (2015) stated small screen and low processing ability of mobile devices were obstacles of classroom learning for students. For instructors and universities, they need professional techniques to support them and solve their technical issues. Another challenge was how to integrate, implant, and balance the length of time and rage of the learning resource to learning softwares, systems or apps, etc. (Shih, 2017)

### **Suggestions for Non-English Majors to Learn English Using Mobile Devices**

#### **Strengthen students' consciousness, frequency, and efficiency of Mobile learning.**

From investigation results of Liu, et al. (2018), Zhang and Xie (2017), Lin and Leng (2017), Wang and Huang (2018), Chen (2013), universities and teachers should strengthen students' consciousness and frequency of mobile learning. Under this situation, universities should notice it at first and strive to improve this situation. Universities should train teachers to know how to use and maintain mobile technologies appropriately, and equip them with technical support and financial support to guarantee external learning condition (Liu, Navarrete & Wivagg, 2014). Then, teachers would feel it is easier to use it. Except social and students influence, the main

effort is reliant on teachers to guide and instruct them.

**Stimulate mobile learning motivation and improve autonomous learning ability.** For most non-English majors, English learning is difficult. Stimulating and pushing them to learn is the main problem. We could consider this from intrinsic and extrinsic aspects. Accessing information freely, easily were extrinsic motivation played an important role (Chang, Liang, Yan, & Tseng, 2013, as cited in Lee et al. 2007). Intrinsic motivation, interest, goals, tasks, and curiosity drove students keep learning (Chang, Liang, Yan, & Tseng, 2013). Students do Mobile learning usually in fragmented time. Therefore, software explorers should consider making the learning system enjoyment and precise, short and funny to attract their concentration. The popular forms are short audio, video or pictures with carefully prepared content.

There are other ways we can try to improve students autonomous learning: make achievable learning plan with a clear schedule; change learning habit from a dependent, passive attitude to positive, self-motivation; make full use of apps to communicate closely with teachers.

Xu (2016) illustrated three ways to push students' dependent learning: using mixed method to attract students learning, pique students' interests, and embed information technology into classroom. Since mobile learning has the function of learning anywhere and anytime, in order to enhancing learning result, teachers could use the strategy of flipped learning. Before class, teachers assign content that require students do autonomous learning and their assignments. Students can arrange their learning individually. After class, teachers assign homework through learning or communicating apps and check them instantly.

**Improve students' abilities of self-management, autonomy, self-discipline.** Mao stated "...undergraduate students are post-90's generation and are digital native" (2014, p. 617). They are growing up with information technology and many students indulge in mobile or

computer games. With growth in the living standard, majority of them are not through hard times, they are not formed strong ability of self-management and self-discipline. It is better to improve self-management, self-discipline and autonomous learning by making plan, helping partners, forming good habits and so on.

**Train teachers well to guide students to build effective Mobile learning strategies and guarantee students' learning outcomes.** With the AI technology development, mobile devices are equipped with more intelligent function, like scanning to recognize English words or do translation. For mobile technology, teachers have to devote much time and effort to integrate new functions of mobile devices (for example, smartphones) and traditional classroom.

Undergraduate students are the pioneers to receive new things and minds. Liu, Navarrete and Wivagg's (2014) findings showed "teachers will need significant added support for learning how to use and manage the devices" (p.124). They have the ability to do autonomous learning, but they also need teachers' guidance or supervision to solve their confusions. Teachers still played the key role in education (Dashti & Aldashti, 2015).

In order to reach the teaching objectives, universities should select and provide high quality of mobile learning resources (Mao, 2014), and motivate teachers by training them in advance to solve technical problems. When teachers are familiar with the learning resources and software operation, they would be more confident in teaching.

After training, teachers should associate mobile technique with teaching to introduce mobile content that was vivid, friendly and interactive to students to stimulate and monitor students learning outcomes (Mao, 2014). This is a new pedagogy to encourage students to use mobile learning in class to finish teaching content and collaborative learning.

**Expand coverage rate of Wi-Fi in campus, facilitate updated devices for Mobile learning.** If students can access Wi-Fi freely, it can encourage students to use mobile learning. From Lai and Mao's (2014) investigation, almost 40% universities did not open Wi-Fi to students. Accessing the internet is a need for mobile learning. Wi-Fi accessing is the hardware precondition of mobile learning. It is a burden and obstacle for students to spent money to buy flow for mobile learning. The best solution is expanding coverage of Wi-Fi in campus, at the same time facilitate updated devices for mobile learning.

**Explore and build English Mobile learning platform or APP to provide more learning resources.** On software exploration, Cavus and Ibrahim (2017) gave us three suggestions: "create interactive English language learning tools...incorporate a novel speech recognition technology in EFL learning...Design considerations of mobile phone learning systems" (p.629). When exploring and building the learning system, we should consider the following aspects: ease of use and fun (Ibrahim, Yusoff & Kamarudin, 2016), easier and more interesting learning process (Azli, Shah & Mohamad, 2018), and connection, shortness, price, attraction and diversity of micro-video or micro-audio materials (Huo & Shen, 2015). There are different learning preferred styles: auditory, visual, kinetics etc., and explorers can design activities of game-assisted, task-oriented, theme-based, and story-oriented to match different students. Mao (2014) had said students were not satisfied with the learning resources provided by universities. This problem could be figured out by universities since they gather intelligence and talents. Universities can use their own advantages to update and rebuild their own mobile learning database to meet students' requirement.

## **Summary**

From above, we can see, Mobile learning has been developed rapidly in recent years and its many features are beneficial for students. With the rapid development of information technology and communication, most undergraduate students own mobile devices and can easily access learning resources. From those researchers' findings, there are some challenges for Mobile learning, but most students held the positive attitude to it. Interaction with society, universities, teachers, and system explorers, students can enhance their learning results by Mobile learning.

### **Chapter III Conclusions and Recommendations**

This chapter makes conclusions about how to use mobile devices to learn English effectively. It also provides recommendations for dealing with challenges.

#### **Conclusions**

Although non-English major students are lacking of their conscious and are not accustomed to Mobile learning, the overall positive perception toward Mobile learning among non-English major students is high, based on those researchers' investigation. More than 95% students have at least one mobile device, especially a smartphone, so they can access abundant learning resources. Mobile learning has advantages of being student-centered, easy, individualized, portable, accessible to learning content, studying freely, convenient, real-time, capable, teachable, and affordable, and long-distance learning without a fixed time or place. Therefore, it has become an inevitable trend for education in and out class. Students still face many challenges of easy distraction, lacking learning continuity, lacking of motivation and consciousness, as well as obstacles from teachers and schools, resources selection, and technical issues. Schools and teachers should guide and help students, and system explorers should explore more suitable apps, platforms to encourage students to engage in autonomous learning.

#### **Recommendations**

All data used were cited from other researcher's studies. Participants of these studies mainly focused on Chongqing, Shanxi, Hubei, Fujian, Shanghai, therefore the result were not so

exactly, but there was certain degree of correlation and could reflect the overall university situation of Mobile learning. In order to reach the goal of mobile learning effectively and efficiently, teachers, system explorers, and students can do some effort. In China, the Education Ministry and Education Bureau has devoted a great effort to exploring teaching and learning apps, like MosoTeach, to help teachers to share, assign, and check students learning. Teachers should devote time and energy to learn how to use mobile learning apps, encourage students to use, supervise them to finish task, assignments, as well as give feedback. This process of usual assessment contributes to the final outcomes of the course. By doing this, it is good for teachers to manage and supervise students' learning process. Besides, teachers can help students to make an achievable study plan with a clear schedule, do flipped learning by assigning different forms of homework to guide students to learn, and make full use of apps to communicate closely with teachers and students.

It is very common for students to do mobile learning in fragmented time, so system explorers should explore systems that feature enjoyment, precision, easy access, short and funny to attract their concentration. According to different preferred learning styles, system explorers can design activities to be game-assisted, task-oriented, theme-based, and story-oriented to match different students. As for learning content, it would be better to present in forms of short audio, video or pictures. Those can motivate students' autonomous learning.

China spans large area from east to west and the reality is that the east region has developed better than west in economics, education, technology, etc. From six studies investigated in China, smartphone owning rate did not have a great difference in southeast, central-south and southwest regions. Students in the southeast overall had the highest owning rate in laptops, the highest consciousness and usage rate of mobile learning when compared to

the southwest and central-south regions. Therefore, they had different challenges in implementing these recommendations. The southeast region is the most advanced economic developing area, which is easy to attract more excellent talents and facilitate better education resources, such as teachers equipped with higher and better education background. Therefore, students have better chances and foundation to learn. Teachers and students in this region can get the newest technology and information quickly, and be easier to do mobile teaching and learning. With differentiation of economic development and geographic location, teachers in southwest and central-south update their mobile teaching pedagogies slower than southeast, which influence students acceptance and use of mobile learning

These provide a new direction for teachers to innovate pedagogy of how to combine traditional ways and new media and mobile devices to reach better learning outcomes, especially for students from different majors and grades in southeast, southwest and central-south of China.

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