MALL APPS EFFECTS ON STUDENTS' ESL WRITING ACHIEVEMENT, ATTITUDES TOWARDS LEARNER AUTONOMY AND MOBILE LEARNING

ISMAIL ABDELWAHAB RAGAB FAYED

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by

ISMAIL ABDELWAHAB RAGAB FAYED

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In the Name of Allah, the Most Gracious, the Most Merciful

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KESAN APLIKASI MALL TERHADAP PENCAPAIAN PENULISAN ESL PELAJAR, SIKAP DAN AUTONOMI PEMBELAJARAN DALAM PEMBELAJARAN MOBAIL

ABSTRAK

Tujuan kajian ini adalah untuk mengetahui impak aplikasi pembelajaran bahasa bantuan mudah alih (mobile assisted language learning - MALL) terhadap pencapaian pelajar dalam penulisan dan sikap mereka terhadap autonomi pembelajaran (LA) serta pembelajaran mobail semasa menjalani Program Asasi di Qatar University. Sebuah aplikasi penulisan berasaskan web telah dibangunkan oleh penyelidik bagi menghantar pelbagai modul dan aktiviti pembelajaran berbeza ke telefon pintar pelajar pada setiap minggu. Modul-modul tersebut telah dibangunkan berdasarkan Teori Konstruktivis dan Teori Penentuan Diri (SDT). Satu reka bentuk kuasi-eksperimen menggunakan analisis faktorial 2x2 digunakan dalam kajian ini. Sampel kajian terdiri daripada 94 orang pelajar dalam empat kumpulan eksperimen dan kumpulan kawalan. Keempat-empat kumpulan tersebut dipilih dan dibahagikan secara rawak. Dalam kajian ini, m-learning adalah pemboleh ubah tak bersandar, manakala kejayaan penulisan serta sikap terhadap autonomi pembelajaran dan m-learning adalah pemboleh ubah bersandar. Perbezaan jantina dalam prestasi yang dipaparkan adalah pemboleh ubah moderator. Dua pencapaian utama diukur iaitu pencapaian penulisan ujian pra dan ujian pos dan juga soal selidik bagi pembolehubah sikap secara atas talian. Kedua instrumen tersebut disemak oleh panel pakar dan dirintis sebelum kajian sebenar dilakukan. Data kuantitatif yang dikumpul kemudiannya dianalisa menggunakan statistik deskriptif dan inferensi. Selepas semakan normaliti antara kumpulan, data dianalisa secara statistik menggunakan ANCOVA satu arah bagi ujian pencapaian dan ANOVA satu

arah bagi soal selidik. Dapatan kajian menunjukkan bahawa pelajar-pelajar yang menggunakan aplikasi dan modul MALL mendapat purata markah yang lebih tinggi dalam keseluruhan ujian prestasi dan komponen penulisan yang berkaitan (kandungan, susunan bahasa, perbendaharaan kata serta tatabahasa). Selain itu, sikap terhadap autonomi pembelajaran dan m-learning dalam kumpulan eksperimen juga lebih tinggi. Terdapat perbezaan yang signifikan dalam skor min berdasarkan jantina terhadap kumpulan eksperimen lelaki. Hasil kajian menunjukkan aplikasi MALL dapat meningkatkan prestasi penulisan pelajar serta meningkatkan sikap terhadap autonomi pembelajaran dan juga m-learning.

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ABSTRACT

This study investigates the effect of mobile assisted language learning (MALL) apps on students' ESL writing achievement and their attitudes towards learner autonomy (LA) and mobile learning in the Foundation Program at Qatar University. A web-based writing app was developed by the researcher with different weekly learning modules and activities to be delivered through students' own smartphones. The app modules were developed based on both the constructivist and the self-determination (SDT) learning theories. Moreover, the ASSURE instructional design model was used in the app design using a "bring your own device" (BYOD) approach. The study employed the quantitative approach and used a quasi-experimental design among groups. The sample comprised 94 students in the four experimental and control groups where MALL was the independent variable. The instruments of the study include a pre-test and post-test for writing achievement test as well as an online scale questionnaire for students' attitudes. The instruments were reviewed by a panel of experts and then piloted prior to the treatment. Descriptive and inferential statistics were used to analyze the quantitative data collected. After checking the normality and homogeneity regression between groups, the data was statistically analyzed using 1-way ANCOVA for the achievement test and 1-way ANOVA for the questionnaires. The findings show the MALL apps could improve learning and learners' attitudes towards learning. The findings were generally consistent with the principles introduced of the constructivist theory as well as the SDT theory. This proves that

students can enhance their language, construct modified and situation knowledge and gain more learner autonomy and learnings skills when they utilize modern MALL technologies in practical positive ways.

CHAPTER ONE

INTRODUCTION

This chapter presents the background and the introduction to this study. It highlights several major aspects of this study including: the problem statement, research objectives, research variables, research questions, hypotheses, significance of the study, theoretical framework, limitations of the study and operational definitions.

1.1   Background of the Study

Qatar is a small gulf country but it has natural oil resources and gas reserves, which qualifies it to be a leading wealthy country in the Arab region. Several challenges still face the educational system and students in the Qatari context. This study addresses the weaknesses and low levels in both ESL general writing achievement and attitudes towards learner autonomy and towards m-learning among Foundation Program (FP) students at Qatar University (QU). Characterized by its strive towards development, Qatar has sought new initiatives in its educational standards, in order to become an education hub in the region.

As described by Qatar University (QU) President, some of the identified challenges include: preparing youth in readiness for the job market, meeting the new educational standards, seeking international accreditation, achieving standardization, and crossing the gender divide (Al-Misnad, 2007). A report in all 1848 students, 572 teachers, and 318 administrators in 39 schools identified four main challenges to education in Qatar, particularly in secondary education, including students' chronic low interest in learning, students' higher education plans, parents' involvement and teachers' attitude (SESRI Report, 2014). The report concluded that over 50% of students surveyed in schools feel bored and not interested in learning. In addition, the report found that 35% of the secondary level students and 25% of the preparatory level students rely on private tutoring after school. Furthermore, the report observed a low involvement of parents in their children's educational programs or schooling system. Finally, the report shows another challenge represented by a high rate of withdrawal

of Qatari graduates from the teaching profession. This also includes the presence in these schools of a high rate of teachers without prior teaching qualifications or degrees.

Brewer and Goldman (2009) defined the main problem in Qatar's educational system as the fact that many of its local graduates do not successfully secure professional positions that might help them serve their country. Hence, this hinders the actual development of the country's educational system as a core factor in this process. One of the negative aspects observed is to restrict the curriculum to rote learning, without clear practical goals. Their visits to the Ministry of Education, schools and other educational institutions led them to identify the causes of this poor "system performance".

On top of these causes were: the lack of any "educational vision or goals for the nation" among their counterparts, including parents, educational officials and educators. Another cause was the "centralized top-down" educational system as a whole. Another reason is that creativity among teachers was not encouraged (Brewer & Goldman, 2009). Innovative teachers had to "spend their own money and time" to make a change, which was generally discouraged by their superiors. Other learning barriers identified by Hatherley-Greene (2014) include "*cultural gaps, parental disinterest in their children's learning, lack or low academic preparation in secondary education, low intrinsic motivation and the over-reliance on surface learning techniques*". This directly summarizes some of the key challenges affecting education and learners' overall interest in learning in this country. The main challenge is still represented in the lack of autonomy or low learner autonomy observed among many Qatari students. Mahdi (1997) argued that even Arab Gulf universities lack autonomous curricula in most of their programs, which seems to be a persistent prevailing issue in most of the Arab countries.

However, the critical situation within the educational system in Qatari schools had led education to experience a variety of concerns, which encouraged the Qatari government to delegate a non-profit US-based research institution *(RAND)* to conduct an objective study about educational standards in the country. The study and government's plan led to two main initiatives: developing new government schools known as "independent schools," and introducing standardized national student tests,

benchmarked by curriculum standards in 2002 (Brewer et al., 2006). This educational reform effort was known as the "Education for a New Era" initiative. Some of the decrees related to this early initiative include: the establishment of the Qatari supreme education council (SEC) as the main educational government authority in the country, the establishment of the independent schools, the introduction of the school vouchers system, the establishment of the community college and the Qatar Foundation in 2003, and the implementation of a major reform at QU in 2003 (Khodr, 2011).

The government's initiative has given strong support to the introduction of the "independent schools" vision, in terms of perspectives and curricula. While keeping this brave initiative in mind, a major concern regarding students' progress in learning has emerged. Many teachers and students have felt overloaded with duties, responsibilities, administrative tasks, and the alignment of teaching and lesson plans to the provided national standards, along with their normal teaching duties. To some extent, this has negatively affected students, who were also confused with the extra tasks they were asked to perform by many of their teachers and schools. At a later stage, Guarino and Tanner (2012) conducted a study to evaluate the educational reform initiatives implemented in Qatar after the introduction of both the independent schooling and the Supreme Education Council (SEC). They indicate the need for more *adequacy, accountability and autonomy* in the new system. These elements should guarantee more quality and transparency among learners in Qatar. They also recommended establishing "standards of excellence" and providing incentives for distinguished and creative contributions made by educators or students.

1.1.1 English Language and Writing Challenges

It is worth mentioning that Qatar represents a small population of around 744,000, as of 2004 (Brewer & Goldman, 2009). In this small community, expats from America, Canada, the UK and Europe now represent over 50% of the population. Therefore, English now dominates as a second language for shopping, education and commerce. However, for many Qatari people, this has not been practically reflected in their English proficiency. Due to the drawbacks in the educational system itself, where learning has not been given enough attention by individual learners and sometimes by parents, many Qatari students still struggle with English as a language for

communication. Because the culture remains rather traditional, in terms of teaching or classroom dynamics, this issue remains unsolved for most learners (Shaw, 1997).

They even struggle more with written English and they look at academic reading and writing elements as a burden rather than a challenge (Miller & Pessoa, 2017). This sort of challenges in L2, particularly in reading and writing may cause some sort of "frustration" for both learners and educators (Miller & Pessoa, 2017). They report several related and intermingled issues that affect learners in HE "*Many of the faculty talked about initial concerns about students' academic preparedness, especially their work ethic, study skills, priorities, and level of maturity and independence, but also their previous experience with writing*". They report that some of these issues relate to the way these learners were taught to memorize certain "template" writings without any thinking or critical contributions in their high schools.

In general, most students in the gulf struggle with the language aspects in schools and HE (Sabbah, 2016). Despite being widely used for communication with expats and shopping malls, they still do not exceed that level of verbal communication rather than the written communication. Therefore, most students struggle to achieve the minimum IELTS or language requirements for university studies. Reading and writing achievement represent their major challenge in such a case (Hatherley-Greene, 2014). In a similar instance in the UAE, only 10% of Emirati high school students have been reported as capable of passing the benchmark Common Educational Proficiency Assessment (CEPA>180) in that country. The majority of these learners end up taking 1-2 years of English foundation program as a university/ career pre-requisite program, (Hatherley-Greene, 2014). The situation is very similar in all four neighboring countries Saudi Arabia, Bahrain, Oman and Kuwait. Hatherley-Greene argues that traditional learning still dominates in this region. In general, education and English language teaching in the Arab Gulf region are characterized by the following aspects, as reported by (Mahdi, 2007). First, they are oriented towards the humanities and education studies. Second, they have witnessed a large increase in the enrollment rates among Arab students in the last few years. Finally, female students form a majority of the enrollments. ELT has been affected by these aspects; which has eventually led to the overall low performance of many students in English and writing skills.

In that respect, Sadek (2007) addresses Arab learners' interest in learning English from a different perspective, which is the "cultural" aspect. She describes learners' motivation as only "instrumental" for business or other professional reasons. The argument is that many students perceive learning English as learning a "second culture," which is relatively correct. Hence, it may create a learning barrier for some students who prefer to keep their own culture and language central, with English as only a secondary foreign language.

Some of the reported reasons for students' low performance in English writing include having trouble with vocabulary and grammar on the first place (Miller & Pessoa, 2017). Other reasons were described as the refusal or learning English and "bitterness" students feel in language preparation programs in that context (Ahmadi, 2017). Similar factors might also relate to the nature of classroom interaction, lowered self-esteem and other related sociolinguistic in L2 communication as suggested by (Alharthi, 2016). Other researchers argue that even many of the remedial English courses offered to these learners might not achieve their purpose if not given sufficient planning and support (Nasser, 2012).

1.1.2 MALL Potentials and Challenges

Another observation relates to learners lack of clear positive policies or programs for MALL in general. This has to do with the lack of initiatives or clear resources offered by the ministry of education and higher education or the international schools in this rich country. Most students still have not experienced clear m-learning models with sufficient developed interactive resources to gain further interest and training on using MALL rather than simply using smartphones for communication or entertainment.

There are several MALL initiatives where students in schools and universities could be equipped with mobile phones/ tablets as well as digital books/ apps, rather than the traditional printed books. Using this new approach, the main question now is how to make the best use of this powerful new technology? This brings us to another question: how can we present curriculum, knowledge and pedagogy in a rather "interactive" format that fits students' learning abilities and differences? In this case,

teachers face new challenges and needs. Many of these teachers struggle with the rapidly advancing technologies, from one end, and the lagging publishers and content providers or curriculum developers, from the other. In that sense, it is obvious that modern curricula as well as methods of teaching will no longer remain the same in the very near future. Educators, researchers and publishers now face a new challenge of identifying the "nature, structure and policies" of these new technologies. They are also trying to adapt new rewarding approaches and digital materials that would fit this new challenge.

Smartphones and tablet devices provide students an exceptional opportunity to access information, communicate and manipulate data and media. Using native features and third-party apps, it is possible for students to get exposed to the target language (L2) and to practice its fluency skills nearly 24 hours a day, through the exchange of media and sharing of ideas and information (Barrón-Estrada, Zatarain-Cabada, Zatarain-Cabada, Barbosa-León, & Reyes-García, 2010). Through interactivity and dynamic content, it is now possible to track students' progress and performance, while learning the target language on/ off campus.

Today, it is believed that MALL could lead to a significant improvement in students' perceptions and attitudes towards learning and language practice using mobile devices. The maximized personalization and constructivism are both represented in the four C's model of mobile interaction (Quinn, 2011b). This model shows four main students' activities through smartphones, including "*content, compute, communicate and most-recently capture,*" as in Figure 1.1. In that case, students are able to access any "content" anytime, anywhere. They are able to fulfill sophisticated computational tasks, capture activities and situations occurring around them, either live or as recorded media, and finally, communicate or share their experiences or ideas with others around the world simultaneously. In language learning, these four aspects are extremely helpful factors towards building students' language acquisition skills, practice and development of ideas and attitudes towards learning.

Quinn (2011a) elaborates that mobile devices are becoming a "first" priority or as a real-world phenomenon which eventually seeks to utilize mobile features in learning and therefor improve learning quality. With hundreds of apps, resources and social networking technologies available in today's smartphones, it became uniquely and exceptionally possible to apply this new model in all aspects of life and learning, including learning via mobile phones. Similarly, students may acquire, as well as share, learning experiences using this model.
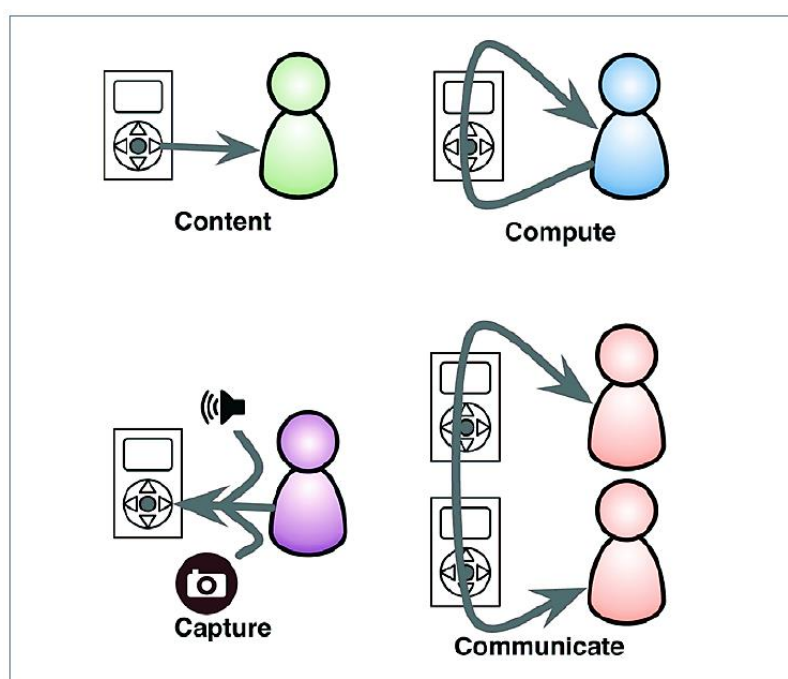
Figure 1.1 The four Cs of mobile learning (Quinn, 2011)

In terms of the nature of students' interaction with language skills, more emphasis needs to be given to productive skills. Because of the nature of this cosmopolitan community, where more than 70% of the population is not Arab speakers, Qatari youths now practice English language skills more than ever in history (Qatar's ICT Landscape Report, 2014). Their exposure to the language is no longer restricted to the English movies and talk shows they may watch on TV or songs they may listen to on the radio as "receptive" skills. They seem to change the traditional "physical relations" between students, teachers and the learning environment as well (Laurillard, 2007). Rather, they are now in direct contact with the "productive" skills of the target language. Shinagawa (2012) suggested integrating MALL mobile apps to increase students' "productivity, interactivity and functionality" in learning. In that sense,

mobile apps engage youths in learning through social media, sharing opinions, giving them more opportunities at access and at being involved in real-life learning experiences. For example, many teenagers and young adults are recording videos and sharing them on YouTube or similar websites; but a lot more are accessing websites, chatting, commenting, and posting to their social networks, all in "English" (Glavinic, Kukec, & Ljubic, 2009; Hu & Huang, 2010). By doing so, they are "producing" language patterns and practicing "productive" language aspects, such as speaking and writing in micro-personalized and on-going levels and situations. They are also able to interact with others using both L1 and L2 in authentic situated experiences.

Similarly, by the end of February 2013, The Supreme Educational Council in Qatar (SEC) has announced the launch of Phase 1 of its new m-learning project, the "e-bag" project. All students in ten selected independent schools were provided with tablet PCs; whereas fifty other schools joined the project in second phase, the year after. The third and fourth phases of this reported project involved another 60 additional schools, in 2014. This indicates that a serious plan to introduce MALL through smartphones and tablet PCs is about to take place in Qatar. This initiative aims to establish a personalized digital environment for teaching and learning. The e-bag is based on certain apps over a learning management system (LMS). For that, the SEC has launched a new platform with different levels of access to students, teachers, management and parents. Allowing students' access to the LMS through customized tablet devices seems the right step in this initiative.

The previous issues seem to have led to decreasing the level of motivation among many students, particularly at the preparatory and secondary educational levels. This has eventually led to a lack of motivation or low motivation and interest in learning when these students graduate and join the university (Shaw, 1997). At the same time, this low interest in learning leads to poor independent learning skills and low levels of autonomy, which are essential elements for learning success. Since many of these students approach private tutors or other sources of support to fulfill their assignments and learning activities, they may hardly get involved in independent learning opportunities. This creates a gap between the learner and the educational system and may lead students to lose interest in learning. Understanding the different learning

challenges that learners face and how they are originally developed is essential in facilitating learning and developing motivation (Chao, 2009).

1.1.3 Qatar's ICT & Smartphones Adoption Rate

As a highly technology-equipped country, Qatar is remarkable for its high information and communication technology (ICT) adoption rate, with an ICT household penetration rate of 84% as of 2010. Qatar and the Middle East are considered among the countries having the highest use of mobile devices around the world (Dahlstrom & Warraich, 2012). Almost 100% of higher education institutions have access to PCs and 95% of their students are connected to the Internet within their universities (Qatar's ICT Landscape Report, 2014). The penetration rate of mobile devices and wireless connection seems to cover the whole country and offers great potentials for using these advanced portable devices in learning and education (Power, 2012).

Modern smartphones and tablet devices compete with physical books and are becoming dominant in many individual's life (The World Bank, 2012). These smart devices seem to carry new unexplored potentials and dimensions in many fields, including education. Nowadays, mobile subscriptions had reached 96.3% of the world population by 2014. These devices seem to represent new, unexplored potentials in many fields, including education. The World Bank report on the number of mobile phones today covers more than three-quarters of the world's population. Surprisingly, this figure reached 145.3% in Qatar in the same year, excluding public mobile data services or similar services over wireless/ modem connections. The change in mobile phones into smartphones these days facilitates access, where mobile communication is strongly heading towards more innovative use of these smart devices in learning and other educational fields. These statistics come in a time of a massive increase in the usage of mobile technology and of potential in the fields of technology, communication, health, education, economic and knowledge sharing. This development has led to the spread of smartphones as modern mobile devices equipped with internet connection through GSM or wireless networks. These devices have the ability to perform sophisticated tasks and browse the internet or similar social media apps, as well as being able to integrate/ install new apps or widgets to those devices,

regardless of their branding. One of the related new promising domains in the field of education is the evolution of mobile assisted language learning (MALL).

Mobile and tablet devices, in particular, have created a sort of new technology revolution, where the existence of desktops and laptops could be threatened as well. Through the online mobile app stores, there is a massive spread of thousands of third-party mobile applications (apps). This has created a huge opportunity for further collaboration, communication and knowledge sharing for both communities and individuals. In Qatar and most Arab Gulf countries, adults in general, and members of the younger generations, in particular, have access to two mobile phones or smartphones or more.

This observation shows students' close attachment to their mobiles in this country; which might represent a new challenge for many teachers. These educators may not have clear policies, pedagogical approaches or educational resources to face this newly reported phenomenon. Simply detaching students from their mobile phones by banning these devices in the classroom seems not possible any more. At the same time, some of these countries have started to encourage the use of mobile phones in learning and education. In the United Arab Emirates, all universities are becoming paperless campuses as of September 2012. All students and faculty were equipped with iPads as of 2012 (Swan, 2012).

1.2   Statement of Problem

Based on the discussion of the initial observations, several key challenges seem not to be addressed in the literature and current educational practices. Accordingly, the problems to be investigated in this study stem from the researcher's experience in teaching writing and ESL courses in the Foundation Program (FP) at QU as well as from reading in the related literature. Three main challenges are addressed in this section including: students' low performance in ESL writing achievement, students' poor attitude towards learner autonomy required for future academic success.

First, many FP students in Qatar struggle in ESL writing; some of which include the ability to form logical ideas, present their arguments, form correct structure, use correct spelling in writing and develop written essays. These FP students may face major challenges in generating logically connected ideas and paragraphs using the appropriate structure, spelling and arguments. This may due to the traditional and rather dependent learning experiences students inherited in their previous learning experiences, as described by (Kamil, Myhill, & Postlethwaite, 2011). This prior learning experience normally does not provide students with sufficient confidence in their abilities, because of its theoretical nature. Generally, "Writing is learning. Writing competence builds confidence, which readily turns into creativity and fun..." Despite its importance, foundation programs or similar bridge programs may not give students sufficient time and opportunities to properly and freely practice English writing skills (Mourssi, 2013).

A recent study of QU graduates indicated the existence of some weakness in ESL achievement, due to the lack of sufficient practice (Al-Buainain, Hassan, & Madani, 2012). Eventually, students would struggle with the other more academic skills (e.g. ESL writing or presentation skills) if not exposed to sufficient writing practices in order to learn how to develop logical ideas, present them with arguments, form correct written structure and spelling as a means of developing clear learning of writing (Mourssi, 2013). Similarly, in 2012, over 1683 students were enrolled in the FP, with 1187 female students and only 496 male students. Fifty six percent of these students were Qatari and the rest were from many other nationalities (Haroon, 2012). In Fall 2012, over 800 students were enrolled in different foundation program courses, including reading, writing, and integrated skills, based on their initial scores in the university standardized placement test, "ACCUPLACER". Almost 108 students did not pass the reading course and 84 did not pass the FP writing courses.

This represents a major challenge for students who want to start their college courses with the expected language and other academic learning standards according to the (Foundation Program Annual Report, 2012). This problem has greatly affected students' ability to pursue the academic level required to enroll in college courses. Eventually, many students were dismissed or withdrawn from college because of not being able to complete the FP ESL writing requirement courses at QU. Another serious

consequence for this case is represented by the average study cost per student, which was projected in the report as almost QAR 40,000 per student, based on the required logistics and other operational costs. This additional burden shows a major loss of resources due to FP students' struggle in ESL courses at the foundation level Table 1.1. This matches the statistical findings of the annual QU performance indicator report published by the office for instruction and professional development (OIPD Report, 2015). It reflects the large gap in language performance and achievement in this foundation level. The report shows the average cost of study in the FP per student as well as the completion rates in these non-credit foundation courses versus the UG courses Table 1.1.

Table 1.1 *QU Enrollment Indicators (2014-2015)*

KPI	Fall 2013	Spring 2014
Foundation Enrollment	1,608	1,165
Foundation	43%	55%
Percentage of Males Registered Students (Overall)	29%	28%
Percentage of FP Students from the Total of UG and Foundation Students	11%	8%
Average Cost Per Student (QAR), Foundation per course	40,051	40,051

Overall, the report shows that course completion rate in undergraduate programs has remained steady at 85% in four consecutive semesters between Fall 2013 and Spring 2015 Table 1.2. However, the figures show a dramatic decrease in the FP completion rate among students, from 62% in Fall 2013 to 56% in Spring 2015. This also indicates a major challenge for many of the enrolled FP students, who struggle to complete those pre-requisite courses in order to move forward in their majors.

Table 1.2 *QU Student Achievement Indicators (2014-2015)*

KPI	Fall 2013	Spring 2014	Fall 2014	Spring 2015
Course Completion Rate, Undergraduate	80%	81%	81%	83%
Course Completion Rate, Foundation (English)	62%	54%	56%	56%

Second, this low performance causes low self-confidence and low level of learner autonomy. In many cases, these students lack the proper interest or self-regulation to be active and autonomous learners (Kaufer, 2012). Kaufer relates this problem to families, social and other educational reasons. These are mainly comprised of the lack of prior orientation and personalization of study skills for students at younger ages or lower school levels. Another reason for this low interest is the lack of ownership feeling among students. Christodoulou, Duncan, and Nelmes (2013) argue that most of the control of new teaching initiatives is in the hands of teachers. This is one reason for students' lower self-regulation towards learning. Consequently, these students do not feel motivated to learn. By offering more freedom of choice and flexibility for students to reflect on their learning styles, as well as understanding the common performance rubric, they offered students an opportunity to become more confident and eventually become independent students. A similar argument relates this problem to the culture and the lack of incentives in the educational system in Qatar (Alfadala, 2015).

To confirm this point, two short interviews were conducted with two English Faculty members in the FP at QU. The purpose of these interviews was to highlight the main concerns in the FP writing courses. The two instructors demonstrated concerns about students' low achievement rate in the FP English courses and about their writing achievement. Many of these students are dependent, in the sense that they might not be serious about fulfilling course tasks or assignments, because of their inability to handle learning tasks independently. This is reflected in the high dropout or withdrawal rates from courses at the beginning of each semester. Some of the reasons for students' low performance, as these faculty members expressed it, were the lack of opportunities to practice, poor study skills, inability to be independent learners, and low performance in ESL reading and writing achievement. Some describe these students as being "incompetent", "disadvantaged" or "deficient" when it comes to their writing and communication abilities, as a result of being taught a different culture or L2 discourse (Alsheikh, 2011). This has also been confirmed by the very high failure rate in many language courses in Qatar and the gulf region (Kamil et al., 2011).

Several implications affect this low level of learner autonomy and self-regulation. Students with low self-regulation show an inability to apply self-directed skills in the learning environment and decisions, including brainstorming, summarizing, critically analyzing or producing ideas related to a learned topic, which are major skills required for academic success. They might not be able to exercise responsibility for their own learning and their choice of learning decisions or preferences. This also leads to passive attitudes among group members who show little inclination toward active learning. Furthermore, this prevents them from studying new concepts on their own. In many cases, they tend to rely on an external (private) tutor for help and to complete many of their assignments.

Third, most of the Qatari HE institutions are not ready to adopt MALL. This has been reflected in the inappropriate instructional design in most e-learning programs and initiatives, the very high cost caused by individualized efforts in educational institutions, rather than unified, consistent efforts; and finally, the lack of specialized, trained and collaborative taskforces in institutions and departments, to fulfill the educational and instructional needs of each college or school (AlTork, 2012). Students' use of their mobile phones as a learner-centered learning device is still very limited (Herrington, 2009). This assertion has been supported through interviews with a number of professors and colleagues at Qatar University and other HE institutions in Qatar, who indicated an interest in using MALL but a concern about not being fully ready to utilize it in class yet. Based on the previous discussion, it might be argued that many institutions still have not developed a comprehensive vision or plan for implementing MALL programs and resources in their courses. This could affect the classroom dynamics, students' attitudes towards learning, students' engagement with the concepts and topics presented in a closed-classroom setting, additional budgets/ resources spent in renting random or ready-made programs, and the lack of proper instructional design and MALL support to instructors in managing these new technologies in an effective way.

1.3 Research Purpose and Objectives

This study investigates the possibility of designing and developing MALL apps to enhance writing achievement and attitudes towards m-learning and towards learner autonomy. Hence, the study suggests MALL apps and modules as a phenomenal new technology that might lead to an improvement in students' enhanced learning, especially in writing. It also suggests that MALL apps might improve students' attitude towards learner autonomy, through overall interest in learning and language acquisition aspects, and towards m-learning in the foundation level. Eventually, the previous background and observations reported have led to the following research objectives, research questions and research hypotheses. Therefore, the procedural and statistical objectives of this research are:

1. To design and develop a web-based mobile assisted language learning (MALL) app for ESL writing achievement.

2. To study the effect of MALL apps on students' overall achievement scores in ESL writing.

    2.1 To study the effect of MALL apps on students' content in ESL writing.

    2.2 To study the effect of MALL apps on students' language organization in ESL writing.

    2.3 To study the effect of MALL apps on students' vocabulary in ESL writing.

    2.4 To study the effect of MALL apps on students' grammar in ESL writing.

3. To study the effect of MALL apps on students' attitudes towards learner autonomy.

4. To study the effect of MALL apps on students' attitudes towards m-learning.

1.4 Research Questions

The following research questions are formulated in order to meet the identified research objectives:

1. Is there any significant difference in students' overall achievement in ESL writing scores between the treatment and the control groups?

    1.1 Is there any significant difference in students' content in ESL writing between the treatment and the control groups?

    1.2 Is there any significant difference in students' language organization in ESL writing between the treatment and the control groups?

1.3 Is there any significant difference in students' vocabulary in ESL writing between the treatment and the control groups?

1.4 Is there any significant difference in students' grammar in ESL writing between the treatment and the control groups?

2. Is there any significant difference in students' attitudes towards learner autonomy between the treatment and the control groups?

3. Is there any significant difference in students' attitudes towards m-learning between the treatment and the control groups?

1.5 Research Hypotheses

Based on the literature review, discussions and research objectives, the following research hypotheses were formulated:

(H_{01}) There is no significant difference in students' overall writing achievement scores between the treatment and the control groups.

($H_{01.1}$) There is no significant difference in students' content in ESL writing between the treatment and the control groups.

($H_{01.2}$) There is no significant difference in students' language organization in in ESL writing between the treatment and the control groups.

($H_{01.3}$) There is no significant difference in students' vocabulary in ESL writing between the treatment and the control groups.

($H_{01.4}$) There is no significant difference in students' grammar in ESL writing between the treatment and the control groups.

(H_{02}) There is no significant difference in students' attitudes towards learner autonomy in the groups studying with MALL apps and those without.

(H_{03}) There is no significant difference in students' attitudes towards m-learning in the groups studying with MALL apps and those without.

Accordingly, two main types of variables have been identified in this study. A summary of the research variables is introduced in Table 1.3.

Table 1.3 *Research Variables*

IV	DV	Statistical Test

MALL Apps	• ESL Writing Overall Achievement Scores
	  – ESL Writing Achievement Scores of Content
	  – ESL Writing Achievement Scores of Organization
	  – ESL Writing Achievement Scores of Vocabulary
	  – ESL Writing Achievement Scores of Grammar
		1-way *ANCOVA*

	• Attitude towards Learner Autonomy • Attitude towards M-Learning	1-way *ANOVA* 1-way *ANOVA*

1.6   Significance of the Study

This study aims to assess the implications of introducing and applying MALL apps in English writing programs in the FP at QU. It presents a model for MALL web-based app design and development to researchers and practitioners in the field. Therefore, it attempts to give a clearer picture of how MALL apps and modules could be designed and developed to facilitate new forms of personalized interaction and learning. Therefore, it might be a model of MALL in ESL context which shows the type of activities and resources that could be implemented in the similar programs.

In addition, the study is significant in its attempt to give a better picture of students' perceived attitude towards learner autonomy and towards m-learning at the foundational level. This is achieved by attempting to measure learners' attitudes and perception about self-regulation, interest and autonomy in the learning situations. This could represent an important addition to the body of knowledge in that context since many students are described as dependent learners in that particular culture.

Overall, the study highlights one of the most recent and innovative practices related to MALL which is being implemented in different parts of the world. In addition, the study attempts to show the possible significance of constructivism and personalized learning practices and habits acquired through mobile learning use and any sort of enhancement of independent learning attitude and autonomy that may accrue.

1.7   Limitations of the Study

Due to the nature of technology and the context, where the study was implemented, several challenges and limitations have been identified. The first identified limitation in this study include having only one state university in Qatar. This means the researcher is not able to apply the experiment in other similar institutions or using experimental and control groups in different locations/ institutions. Second, and due to managerial authorities and permissions, the researcher was not able to apply the experiment in larger number of groups beyond his own. Third, the variety of smartphone operating systems and different types of smartphones prevented the implementation of the study using one medium or device. The fourth limitation is not identifying any available writing courses or textbooks for writing with MALL enhanced apps. Finally, time limitation and the intensive nature of this course pacing hindered the development of further modules or allocating more weekly practice time for this experiment.

1.8   Operational Definitions

MALL Apps: Mobile Assisted Language Learning (MALL) is a new but common term that integrates both CALL and m-learning in language learning. In this study, it refers to both the designed web-based app, as well as other native or installed apps and features required for language learning and writing practice in this program (e.g., writing modules app, dictionary app, notes app, *quizlet* app, Blackboard app, etc.)

Mobile Learning (m-learning): Refers to the ability to acquire or share educational content on "personal pocket devices" such as PDAs, smartphones and mobile phones, (Mobl21, 2013). In some cases, students may seem ahead of their teachers when they come to class with tablets or smartphones, willing to use them in their learning. However, they may get frustrated by teachers who do not even know how to use those smart devices. In this study, m-learning refers to using mobile applications and other web-based interactive apps introduced over a mobile/ tablet device in a BYOD approach, to introduce and practice the target language learning modules.

BYOD: Stands for "Bring Your Own Device". In the field of m-learning and educational technology, it is becoming correlated with students' ability to bring their own preferred, and rather "personalized", mobile/ tablet device to class. In this case, there is no restriction over the brand, operating system or device features. However, this requires careful planning and consideration of content offered and the type of activities introduced to each individual in a way that does not prevent all students from enjoying equal opportunities in using their own devices. In this study, it refers to the personal smartphone brought by students to class, in order to use in learning the assigned writing modules and other related activities, through the university's wireless connection or other 4G networks.

Writing Achievement: Refers to the acquisition of main writing elements required for foundation and pre-university levels prior to joining academic majors. Unlike composition, academic or technical writing courses, ESL writing focuses on the key writing elements required to develop logical ideas, appropriate English forms, present related arguments, form correct structure, use correct spelling in writing and develop written essays. This normally includes elements like: punctuation, syntax, common error, spelling and vocabulary, and ideas development (Shaughnessy, 1979). It might also relate to "remedial" actions, particularly for university foundation programs in order to prepare students for using language registers and other literacy aspects (Otte & Mlynarczyk, 2010). ESL writing achievement may include the procedures of forming logical concepts, connecting ideas to organize argument, following consistent structure, spelling and developing essays (Brown & Hood, 1989). In this study, writing achievement refers to the core components of ESL writing including sentence types, forming logical ideas and paragraphs, presenting writing parts, emphasizing sentence types and enhancing them with appropriate transitions and vocabulary, maintaining correct structure, punctuation and developing consistent short essays.

The Content Aspect in ESL Writing: It is also referred to as task fulfillment. It normally covers how the prompt is addressed with the intended reader in mind. It normally consists of an introduction that contains a clearly stated topic/ problem, an effective thesis statement, indicating 3 arguments or solutions. It normally has sufficient, well-developed, accurate and appropriate evidence to support the claim.

The Language Organization Aspect in ESL Writing: It normally addresses both the coherence and cohesion aspects of students' writings. In this case, written text should have at least five separate, logically connected and effectively organized paragraphs. In addition, the sentence level coherence should clearly be evident. Moreover, the organizational tools should be appropriate to genre and level where they are used effectively with minor mistakes in the text. Transition signals and pronominal reference are also used correctly most of the time.

The Vocabulary Aspect in ESL Writing: Is about the word choice and usage of the common high frequency words, related to this level, accurately in the written essay. Some lower frequency words might also be used. However, errors in spelling and word formation should be avoided in a way that does not impede communication. They can use the correct word patterns to apply strategies for building parts of speech (word families). Finally, they can identify and determine the meaning of words from context using strategies (e.g., general idea of passage, word parts, etc.).

The Grammar Aspect in ESL Writing: In that category, sentence structure and mechanics are considered. Therefore, complex sentences should be used accurately most of the time. At the same time, level appropriate grammar and punctuation should be utilized in way that does not impede communication. Students understand and use language, including present and past tenses, perfect aspects, passive voice, and conditionals. They are also able to write appropriately using punctuation rules.

Learner Autonomy: It refers to students' ability to work independently, without the help of a teacher or others in order to become more self-regulated and motivated (Thanasoulas, 2000). The study definition of learner autonomy could mean learners' ability to learn independently, where learners are completely "in charge of their own learning decisions" (Holec, 1981); or where they become eager to develop more learning, using self-study techniques and resources. In this study, learner autonomy refers to learners' ability to determine their own language learning objectives, self-attention through practice, self-monitoring of progress and contextualizing their language practices. This could be achieved by applying personalized learning in language skills (e.g., note-taking, learning new vocabulary, searching for knowledge and repeating access to different cognitive resources to cause language transfer and

acquisition). This also includes being able to make personal decisions about their learning.

Attitudes towards Learner Autonomy: It is the set of beliefs, values and feelings or behaviors related to a certain aspect as a predictor of individuals' behavior. In this study it refers to the affective, cognitive, behavioral/ action and social categories (elements). Each of these four categories has a list of related descriptors that could indicate change in students' behaviors or interest in learner autonomy.

Attitudes towards M-Learning: It is the set of beliefs, values and feelings or behaviors related to a certain aspect as a predictor of individuals' behavior. In this study it refers to the cognitive, behavioral/ usage and social categories (elements). Each of these four categories has a list of related descriptors that could indicate change in students' behaviors or interest in m-learning.

Smartphones/ Tablet Devices: A mobile phone with an operating system, advanced computing capabilities and Internet connection through 3-4G and Wi-Fi. Other main functionalities include media players, low-end compact digital cameras, pocket video cameras, and GPS navigation units to form one multi-use device. Most mobile devices now support installing applications (apps), which strengthens their potential as future computers. In this study, smartphones mean personal smart mobile phones carried by students with the same specifications mentioned earlier, regardless of the brand or model used.

CHAPTER TWO
LITERATURE REVIEW

This chapter presents a critical overview of literature with emphasis on the major research constructs. The chapter discusses the recent findings and initiatives addressing ESL writing, writing element, learner autonomy attitude, MALL, m-learning attitude with an analysis of some of the related teaching theories and approaches. In addition, the chapter also attempts to highlight the gaps in the literature, and how they relate to the identified hypotheses, theoretical and conceptual frameworks of this study.

2.1 Theoretical Framework

The theories underlying this study are the Self-determination theory (SDT) and the Constructivist theory. An overview of each theory framework is introduced in this section.

2.1.1 Constructivism Learning Theory

Constructivism is a learning theory rather than a pedagogy. It relates to how humans acquire knowledge by being involved in certain experiences. This widely known theory was first introduced by (Piaget, 1976). It is known as the process by which concepts and ideas are acquired or personalized by students, rather than learned. Based on two key processes, identified as "accommodation and assimilation," students develop knowledge based on their own experiences, which is a direct form of personalization of experiences. This also includes reflecting on their perceptions or learned concepts to review and modify them as deemed necessary. The process happens by connecting new concepts to previous experiences or previous concepts. Then, students develop new experiences and ideas that might assimilate, accommodate or modify previous ones.

In that respect, the process of constructing knowledge is developed by being able to relate old knowledge to new concepts where mistakes might occur in an active learning situation. When this happens, the individual starts to realize the misconceptions or to understand the concepts in a better way. Consequently, they

develop or enhance old concepts and construct new knowledge. As a social activity, it is believed that constructivism includes SLA and is done as a contextual process when students attempt to use the concepts or skills they know to acquire or develop new knowledge. In all cases, motivation is a key element, since it offers students the proper interest and justification for learning and then applying what they learn in real-life situations.

Constructivism helps learners develop more problem-solving and critical thinking skills. It encourages creating meaning from students' personal experience. Since knowledge is constructed in a social form in that framework, it stems from active learning, sharing of knowledge and collaboration; which are key dynamic aspects towards self-esteem and motivation (Eggen & Kauchak, 2012). Additionally, this process is sustained by promoting autonomy and motivating students by making students take active roles in the learning process. This could lead to a new form of social constructivism that is based on students' involvement in personal experiences through smartphones where active, reflective and collaborative aspects dominate the process and where learners interact with other peers and share their learned concepts. This is normally achieved when students are able to interact and engage with the learning concepts in realistic manners. In that respect, these concepts and experiences stem from students' own real-world (Zurita & Nussbaum, 2004). In this way, they are more exposed to problem-solving and situated learning. For example, students have more access to language vocabulary and e-dictionaries (Mohamad, Rashid, & Mohamad). Other researchers found similar positive outcomes towards other language skills including grammar, pronunciation, dialogues, video lessons, writing structure, references, and authentic L2 content as a whole (Guo, 2013). Hence, students get the opportunity to be "active constructors of knowledge". This would gradually lead them to build new concepts, personal decisions, choice of topics and application and knowledge (Keskin & Metcalf, 2011). They would also develop self-confidence and a positive learning attitude towards learning and towards MALL itself (Guo, 2013).

This eventually will help students construct meaning, concepts and knowledge based on their own personalized experiences. Based on Piaget, individuals develop abstract ideas and moral reasoning in what is known as the "formal operational" stage at the age of 12. In this way, MALL apps are able to offer students of different ages

all types of situations in the form of visuals, auditory content, interactive content, videos, simulations and animations. This rich personalized resource might also help them change attitudes regarding learning and learner autonomy in particular when they get more aware and more experienced about its different strategies through their own daily activities and situations.

In the case of MALL, most of these processes occur when students use their smartphones in collaborative or interactive learning situations (Zurita & Nussbaum, 2004). When constructivism is applied in teaching, using MALL technologies, it could make learning more effective, independent and interactive (Al-Hamdani, 2014; Alsaggaf, 2013; Craig & Van Lom, 2009). This would also encourage engagement and collaboration among students in practical and handy activities. A summary of this theory is outlined by the researcher in Figure 2.1.
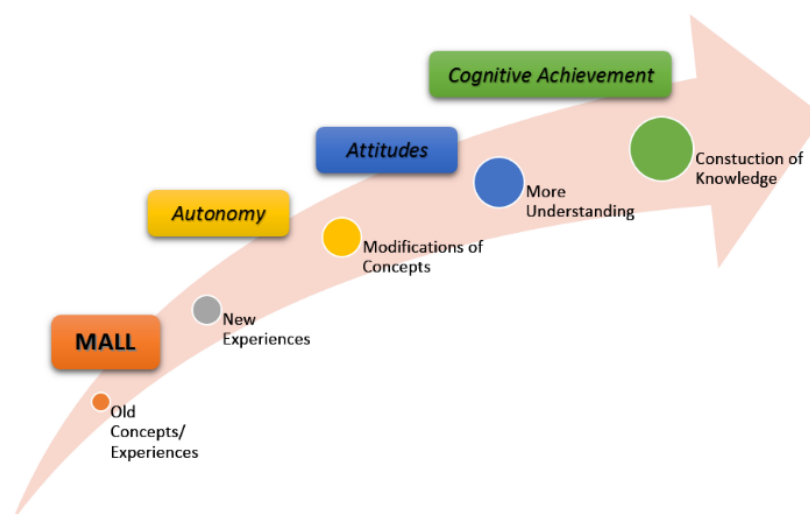

Figure 2.1 A conceptual framework of constructivist theory

For application, constructivism is normally built around a set of principles that could easily help learners or educators. These principles include that it is an active process to create meaning which normally starts with a challenge. This situation or challenge requires problem-solving or case-based topic in an interactive online environment. This normally involves negotiation and collaboration within an authentic setting (Guo, 2013). In that way, students are merely in charge of their learning situations, decisions and preferences. Hence, it expands the role of the independent learner and reduces teacher-centeredness while maintains in-depth knowledge and engagement.