Students' Attitudes and Perceptions towards using m-learning for French Language Learning: A case study on Princess Nora University.

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Abstract: This research aims at understanding students' attitudes and perceptions towards using mobile phones as a learning tool for additional reading practices within a course. The study is conducted to address how mobile phones are used in grammar and vocabulary learning, inside/outside French language classrooms, for undergraduate students at Princess Nora University. This can be achieved by answering the questions: what is the appropriate method that achieves best students' interaction and understanding; and is there a difference between students' performance before and after using mobile phones. Hence, a mixed methodology (quantitative-qualitative) was used. The data was collected via a questionnaire for students' attitudes to use m-learning and their perceptions about it. The study examined the use of mobile phones as a(n): repository of assignments/exercises; tool for reading via multimedia features; and email-based learning/instant messaging voice-over-Internet protocol applications. The analysis focused on examining the attitudes and perceptions of students towards m-learning by conducting pre-test and post-test experiment. The quantitative data analysis showed that students' attitudes are high, while students' perceptions are moderate. Results indicated that the utilization of m-learning improves students' learning performance inside and outside the classroom. The main advantage of m-learning is it can be used anywhere-anytime; and it can be adopted to enhance students' interaction and learning experiences.

Keywords: mobile learning, students attitudes, student perceptions, French language learning.

Introduction

Nowadays, mobile devices are intensively used for querying, retrieving information and gaining knowledge. Recently, a common use of mobile devices and their features (e.g. accessing the internet or sharing knowledge) is for educational purposes. Mobile technologies are enabling the development and assessment of educational environments for appropriate learning activities inside and outside the classroom. This is due to the fact that the World Wide Web is accessible everywhere not only via laptop or personal computers (PCs), but also via mobile phones (e.g. smart phones). This fact was pointed by Tim Berners-Lee (2007).

1.1 Mobile Learning

Regarding educational purposes, mobile technologies eliminate the idea of "learning happens only in the classroom" by providing access to learning materials regardless of the place and time. However, mobile technologies could be a big help in the classroom to ease and simplify the learning process. Seeking mobility, the evolution of mobile technologies underlies the emergence of a new educational approach, the mobile learning (aka m-learning).

M-learning can be defined in different ways; such as the definition of Torrisi-Steele (2009) w.r.t. educational technologies and learners' mobility: "m-learning as the use of mobile devices in the curriculum, to facilitate active learning and create meaning through the creation of learning spaces, extending beyond the limitations of time and space of the traditional classroom. These learning places (m-learning spaces) are characteristically dynamic, collaborative and focused on the individual needs of learners in the current context."

Another technical definition is: the delivery of online electronic content by means of emerging technologies (Soomro et al., 2005; Zawacki-Richter et al., 2006, 2007; Al-Zoubi & Attiat, 2007). M-learning became an innovative means to deliver content and to embed technology into university education. In which, it allows educators to interact with students and to provide input into the design of mobile technology which itself is affordable. Note that, m-learning is not intended to replace traditional classroom instruction and lectures or to convert all PC-based learning content into a mobile format, but rather to consider how mobile devices can be used to enhance the learning experience and to strengthen and harmonize its overall strategy. Consequently, universities worldwide are utilizing such mechanisms to improve their curriculum design in a way as to integrate more flexible, accessible and personalized learning activities. The productivity and effectiveness of learners may therefore be enhanced as they will be kept engaged in ongoing learning activities at all times.

As recommended by Traxler (2007), teaching strategies for m-learning should involve a number of factors, such as: mobility, context, informal, lifelong learning and tool ownership. However, Bellamy (1996) previously argued that in a pedagogical context adapted to the abovementioned paradigm three dimensions should also be present: learner, social dimension and artifact. For instance, the Activity Theory is an appropriate theoretical framework for understanding technological innovation as part of the overall process of cultural evolution in which the artifacts mediate human activity (Bellamy, 1996).

As mentioned by Nassoura (2012), some advantages of using m-learning in the field of education are as follows:

• Learners can instantly interact with each other and with practitioners anytime anywhere.

- It is easier to accommodate several mobile devices in a classroom than several desktop computers.

- Personal Digital Assistants, smart phones, tablets holding notes and e-books are lighter and easier to handle than laptops or bags full of files, papers and textbooks.
- Handwriting with the stylus pen is more intuitive than using keyboard and mouse.
- Mobile devices provide new features and functionalities such as sharing assignments, streaming-video and images; e-mail; cut, copy and paste text; pass the device around a group; beam the work to each other using the infrared function/Bluetooth; send/receive SMS/MMS messages; video-conferencing; and browsing the internet.

Although a wide spread usage of mobile devices (e.g. mobile phones) is practiced, the utilization of their technologies in education is still new (Kleeßen, 2004) and in its infancy (Ting, 2005). However, this technology provides new possibilities, opportunities and challenges for the educational environment (Lai & Liou, 2007). Furthermore, some recent studies examined the use of mobile phones in learning linguistics (such as French and Portuguese); refer to (Moura and Carvalho; 2010), (Demouy and Kukulska-Hulme; 2010). This implies a new era for mobile phone integration in linguistics classes in which the diversified mobile features are utilized to build linguistic knowledge.

1.2 Related Works

Moura and Carvalho (2010) studied mobile phone appropriation and pedagogical mediation by students in educational contexts for French and Portuguese language learning. They aimed at understanding students' perceptions about using mobile phones as a learning tool via the identification of socio-cultural aspects that influence the process of mobile phones as a learning tool, and determining how mobile mediated activities introduced new learning possibilities. They found that students' competences (writing and reading) in French had benefited from mobile phone use, and students' engagement in learning French language courses was enhanced. They noted that an increase in students' motivation and satisfaction in both individual and collaborative learning.

Demouy and Kukulska-Hulme (2010) investigated students' experiences when using portable devices (e.g. iPods and MP3 players) for listening and speaking practice within a course. They conclude that learners will need to be helped towards recognizing the specific value of this type of practice as a stepping stone towards authentic communication. They recommended further areas of investigation and potential applications.

Another study was conducted by Nassoura (2012) to examine students' acceptance of m-learning for higher education in Saudi Arabia. The author adopted a framework which is based on the Unified Theory of Acceptance and Use of Technology (*aka* UTAUT) model to determine the factors that influence the students' intention to use m-learning.

The statistical results showed that a high level of students' acceptance for using m-learning.

The work of Kinash *et al*. (2012) addressed the question of whether Blackboard Mobile Learn made a perceived difference to their learning. The authors showed that in the class, students used their mobile devices for *Blackboard Mobile Learn* to the same extent as they used them for searching the web for study, accessing university web pages, email and making Facebook posts, but less than they used them for browsing the web for pleasure and Facebook reading. The authors indicated that the majority of students were neutral when asked if they prefer Mobile Learn over PC access to Blackboard. They added, students were likewise neutral when asked whether they perceived iPads to improve their learning. The final outcome of their study was the indication of higher frequency agreement that using iPads motivated them to learn. Also, a qualitative feedback from focus groups was mixed, but largely positive. Hence, they concluded that it is a matter of course that students would access their subject site via mobile devices. For more discussions w.r.t. m-learning for learning languages, refer to Chen & Hsu (2008) Al-Fahad (2009), and Hu (2011).

Following recommendations reported in the literature, this research intends to conduct a similar study to the abovementioned studies, in which the study focuses on the undergraduate program of French language learning at Princess Nora University. The aim of this research is to analyze students' attitudes and perceptions towards using m-learning (via mobile phones in different activities). That is to better understand how a new tool can engage students in French learning, and how it may enhance their learning performance.

2 Research Methodology

The practical objective of this study is to understand students' perceptions and attitudes towards using mobile phones for additional listening, speaking, writing, reading, grammar, and vocabulary practices. The survey study is conducted at the department of French language at Princess Nora University. This study intends to identify the implication of m-learning on the improvement of French language learning.

The research is based on a mixed methodology (qualitative and quantitative) for which a questionnaire is used to collect data. The outcome of the questionnaire is to measure students' attitudes to use m-learning and their perceptions about learning French language using m-learning.

2.1 Research Settings

For two semesters in the academic year 2012-2013, the learning is made by carrying out activities (inside and outside the classroom) that involved exploring and investigating

French language vocabularies and linguistic coherence. The students utilized various features and qualities of their mobile phones to do such exploration and investigation.

In addition, the students exploited the mobility, dynamics, availability and accessibility properties of the mobile phones and used various tools and technologies embedded in them, such as: taking pictures, recording video and audio, voice and text communication, and sharing soft copies of assignments.

2.2 Research Questions

In order to measure the attitudes to use m-learning and perceptions about it for learning French language, the survey is designed to answer three questions:

- *What is the appropriate method that achieves best students' interaction?*
- *What is the appropriate method that achieves best understanding in the course of French language?* and
- *Is there a difference between students' performance (in learning French) before and after using their mobile phones as a learning tool?*

2.3 Data Collection

A questionnaire is developed with 5 questions to measure students' attitudes and perceptions. A five point Likert Scale with *strongly agree*; *agree*; *neutral*; *disagree*; and *strongly disagree*, is used. This approach is commonly employed in distance/electronic education research (refer to Biner, 1993; Roberts *et al.*, 2005).

Questions covered French language learning experiences from formal training in the beginner level; non-formal training such as language classes outside the traditional university context, informal learning with media and new technologies.

The Study is conducted in the Princess Nora University, Riyadh, Saudi Arabia. A random sample of female undergraduate students ($N = 36$), filled in a questionnaire (the questionnaire is in Arabic language). The selection of participants is made based on the interest of the students in using m-learning. Participants are students enrolled in the course of reading and comprehension (1).

Selected students are applied for two tests; one before applying m-learning, and the other after studying via m-learning. That is, to see how much effective the learning was, or how much students' scores is improved.

Furthermore, after the quantitative study is made, qualitative data are collected using interview questions. Ten interviews are conducted with randomly selected students from the experimental group ($N = 36$).

2.4 Data Analysis

The collected data is processed and statistically analyzed using the statistical software for social science (SPSS Ver.17). All respondents have mobile phones, and all of them have iPhone and Blackberry brands. Most of the students also own other mobile devices such as iPad and laptop. Most students show a great dependence on their mobile phones, and stated they never used before their mobile phones as a learning tool but they are willing to do so.

The questionnaire is distributed to participants during French classes and collected at the end of the 2nd semester in June, 2013. Respondents of the survey are female undergraduate (beginner level) students from the faculty of languages and translation. The total number of respondents was 36 students.

3 Results and Discussion

A total of 36 female students participated in the study. Students' majority (43%) agreed that mobile technologies have changed the way people think or perform their tasks. Although (64%) of students use a laptop or PC daily, some students do not consider themselves as technology users (38%); while some others stated that they have not enough knowledge on how to efficiently use technology (18%). Students who preferred mobile phones over other mobile devices as a learning tool are (39%), followed closely by who preferred laptops (37%).

3.1 Quantitative Data Analysis

Students have evaluated learning French via m-learning in the following aspects:

i. students who preferred receiving French language lessons on mobile phones rather than PCs or traditional in-class learning are 76%, while 24% preferred traditional in-class learning;

ii. 90% of students responded positively for being satisfied when using m-learning to learn French language; 12% responded positively for being satisfied when considering m-learning as a valuable teaching method;

iii. 91% are willing to continue learning via mobile phones (by utilizing email services or cross-platform instant messaging voice-over-Internet Protocol application - VOIP, i.e. WhatsApp); and

iv. 74% indicated that by using m-learning inside the class it increases their interaction with their teacher and classmates.

However, from the author's point of view, controlling such learning process within a short amount of time (during the class) is difficult. It is also intractable to manage periods of time for students to read lessons at least once per day outside the class due to their own preferences and perceptions.

By comparing traditional learning versus m-learning, in some cases it is found that students learned more words/vocabularies using m-learning than the traditional learning.

For example, when identical lessons were given to students in the traditional lecture and via email (or VOIP), it is found that an average of 2 words learned via the traditional lecture whilst 5 words via email/VOIP. More specifically, differences between students' scores of pre-test and post-test (before and after using m-learning) show that after studying via VOIP applications is significantly more effective than the traditional lecture (where the significance level is indicated by the *p*-value; $p < 0.05$).

The pre-test is conducted in class using paper-based lessons. While, the post-test is conducted using lessons delivered via a VOIP application, email, or SMS.

Figure 1 shows the comparison results of the learning performance for both the pre-test and post-test. The post-test results indicated that 25 (out of 36) participants' scores have obvious difference from their pre-test scores. Most students in the post-test are better than the pre-test except two students. Those two learners are considered as noisy data sample, thus they are eliminated from our statistical analysis.
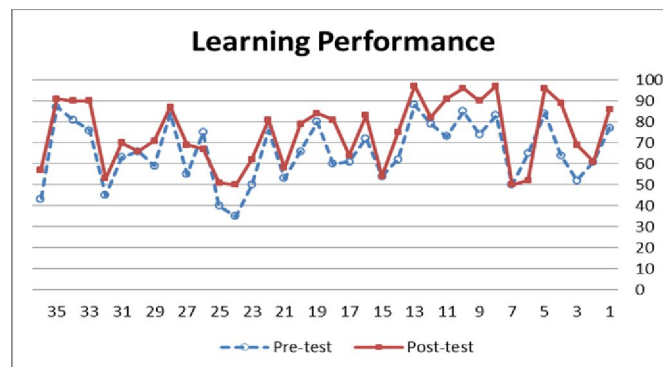

Figure 1. Learners' performance indicated by comparing scores of the pre-test and post-test (for 36 students).

In order to compare the difference of learning French language before and after utilizing m-learning, the results of the pre-test and post-test are analyzed. Table 1 lists the paired sample statistics for the pre-test and post-test ($N = 34$). As the results of descriptive statistics listed in the table, the mean scores of 34 learners for the pre-test and post-test are 65.8 and 75.6, respectively. The standard deviation of 34 learners for both the pre-test and post-test are 14.77 and 15.39, respectively. Table 2 gives the trial results of the paired sample *t*-test of pre-test and post-test scores. This study found that the difference of the mean scores between pre-test and post-test scores is -9.77; trial results reach the significant level under the degree of freedom of 33 ($t = -9.07$, $p = .000$). In other words, after using the m-learning, the improvement of learners' learning performances achieves a significant level and the mean testing score increases 9.77 points.

Table 1
Paired sample statistics for pre-test and post-test scores (N = 34)

	N	Mean	Std.	Std. error mean
Pre-test	34	65.8	14.77	2.532
Post-test	34	75.6	15.39	2.639

Table 2.
Paired sample t-test for pre-test and post-test scores

	Paired Differences							
	Mean	*Std.*	*Std. error mean*	*95% Confidence Interval of the Difference*		*t*	*df*	*Sig. (2-tailed)*
				Lower	*Upper*			
Pre-test vs Post-test	-9.77	6.28	1.08	-11.96	-7.58	-9.07	33	.000

Most students indicated that they preferred m-learning over the traditional learning. Regarding students' perceptions, the largest proportion of students who responded to the question "*Did using smart phones during class make it easier to understand the material?*" is agreed (28%); 22% neutral (neither disagreed nor agreed) indicating that utilizing m-learning did not make a considerable difference to their experience; 19% strongly agreed; 16% disagreed; and 15% strongly disagreed. 36 students responded to this question.

Another two questions asked students to indicate relative agreement with the statements; w.r.t. students' perceptions "*Were smart mobile phones an effective method to learn the course material?*" and w.r.t. students attitudes "*Did m-learning motivated me to learn?*" 36 students responded to each of these questions. The largest proportion of respondents (52%) indicated neither disagree nor agree (moderate) that smart mobile phones improved their learning. The highest frequency of respondents (58%) indicated their agreement with smart mobile phones motivated them to learn; 26% neutral, 11% disagree, 4% strongly agree and 1% strongly disagrees.

In addition, 22% of respondents agreed that m-learning helped them to learn, 9% disagreed, and 69% are neutral. A vast majority of students (84%) liked the idea of being able to learn anytime and anywhere. A high percentage of students (60%) feel like m-learning makes learning more interesting. Finally, 73% of respondents said they are willing to do more mobile learning in the future.

3.2 Qualitative Data Analysis

In this study, two themes are identified: student attitudes to use m-learning and perceptions about m-learning in general.

After interviews are conducted (involving ten students), a descriptive qualitative analysis is carried out in order to identify the use of mobile phones for French language learning (e.g. vocabulary). Using the questions of the interviews as a framework, three categories were generated. These categories are the time devoted for using mobile phone for learning, the place preferences for the use of mobile phones for learning, and perceived effectiveness of using mobile phones for French language learning. In this study, these framework and categories are adopted from the study of Başoğlu & Akdemir (2010) since they considered a very similar scenario.

Most students stated that m-learning was efficient as a learning tool but not necessarily effective. Students suggested that m-learning would be more effective if the student electronic care system (provided on the university's website) is compatible with mobile phones. Similar to the indications illustrated by Başoğlu & Akdemir (2010), some others indicated that their use of the features and functionalities in the mobile phone as learning tools has increased in comparison to the beginning. Whilst, two students indicated vice-versa as the end of the semester was reached. Again, five students preferred to use mobile phones for learning French rather than just relying on textbooks. This means that effectiveness of m-learning is indicated by students as they perceived.

3.3 Discussion

Despite how much knowledge a student has about technology or willingness to use technology, results showed that inside or outside the class, students used their mobile devices (mainly) for surfing the web for entertainment and social network reading even much more. Practically, students who have smart mobile phones equipped with (for example) Blackboard Mobile Learn (refer to Kinash *et al*., (2012) were asked to indicate the level of their agreement with the statements, "*Were smart mobile phones an effective method to learn the course material?*" and "*Did m-learning motivated me to learn?*". The highest frequency response to learning improvement was neutral. On the other hand, the highest frequency response to learning motivation was agree. Furthermore, a positive qualitative feedback from focus groups was obtained w.r.t. the attitudes to use m-learning and perceptions about the technology.

Despite the results obtained from this survey study, perceptions of students about m-learning needs more accurate investigations. That is to translate the importance of m-learning technologies and its direct implication on French language learning/teaching quality.

Similar to findings reported in the literature, in this research, results indicated that the m-learning (specifically features of mobile devices) did not show a big implication on the improvement of learning, or on the satisfaction of students to completely rely on this technology. The participating students stated that they use mobile devices more often for non-educative purposes than they did to learn. Students were somewhat positive when asked about learning improvement via m-learning and their attitude to use it. Students were mostly neutral about their perception about the technology.

However, the survey concluded that m-learning can be adopted to improve students' interaction among themselves and their teacher, and to enhance their learning experiences inside and outside the classroom.

4 Conclusion

This research paper investigated students' attitudes and perceptions of 36 undergraduate students towards the effectiveness of m-learning in their French language learning.

The author has analyzed the qualitative data in the study to understand how students perceive the use of mobile devices for learning French language. The analysis of students' attitude and perception towards m-learning indicated that it is fairly accepted among students. Most students supported the fact that m-learning increases the flexibility of accessing a variety of resources for learning independently at anytime and anywhere. In this study, results and analysis showed that students are motivated (by the features of a smart phone) to do an effective interaction with each other and their teacher. In addition, after using the m-learning, the improvement of learning performances achieves a significant level and the mean testing score increases 9.77 points. Hence, it can be concluded that m-learning is somewhat perceived as an effective learning tool in improving the learning process.

There are a number of students who did not demand m-learning, and were in fact mostly neutral about the experience. On the other hand, some students did not perceive a notable improvement to their learning due to the scores obtained from the pre-test and post-test. However, this survey showed that m-learning can be adopted to improve the interaction among students, and to enhance learning experiences inside and outside the classroom.

The limitation of this research is it was conducted with one group of students at one university. Student's pre- and post-test scores and other assessment results are kept for future work to write a comprehensive research paper. Regarding learning performance, further investigation of the relationship between perceived learning improvement (perception) and motivation (attitude) is required.

Remarkably, variations between responses to the attitude to use and the perception of the technology are: high (for the attitude), and moderate (for the perception). Hence, the author recommends that m-learning can be adopted to enhance students' interaction and learning experiences inside and outside the classroom. Furthermore, despite students' preferences and perceptions, the main advantage of m-learning is that it can be used anytime, anywhere.

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