Efficiency of WhatsApp as a Means of Disseminating Educational Information

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ABSTRACT
This study aims to investigate the level of usage of this social networking application (WhatsApp messenger) and identify the impact of WhatsApp messenger on the quality of education through improving the interaction of instructor-student communication, and student-student communication in which they can create, share and/or exchange information and ideas in an e-learning environment. The researchers conducted this pilot study focusing on exploring the following scopes: The effectiveness of WhatsApp on academic performance among students in UAE, Exploring the common activities that the students undertake when using WhatsApp messenger, The extent to which students use WhatsApp in academic environments, whether this technological platform has affected the social behavior and interactions of students inside the classroom and the overall impact of WhatsApp on educational levels and quality compared to the common educational standards. Applied data is collected through a questionnaire administered on a random sample of 100 UAE university students. Respondents were students enrolled in the Canadian University and Al Dar University during the academic year 2015-2016 and studying an array of specializations. Results show strong positive indicators that there are distinct differences between the face to face formal teaching method and the e-learning method applied via WhatsApp. Indicators show that the learning environment being influenced by multiple variables, therefore there is a growing need for more innovative teaching methods that make the experience more engaging.

Keywords: Informal learning, WhatsApp, Innovative teaching methodologies, Uses and gratifications, Social Constructivism, e-learning.

1. Introduction
Social media has become a growing phenomenon with multi-varied definitions in public and academic use. Utilizing social applications in the educational field helps expand the learning experience both inside and outside the classroom making it more interactive, immersive and engaging, and when students are more engaged they are more motivated to perform better.

The underlying purpose of WhatsApp as a tool is to facilitate communication, and at its most basic level, education is based on communication. WhatsApp can provide a channel through which instructors can achieve faster and more seamless communication with their students. It can also increase the level of communication between students and create another venue for informal learning.

Research in this field found that students in universities are oriented and positive about using mobile learning in educational fields, which argues for why researchers in this domain should investigate how mobile learning technology can be best utilized in education (Litchfield et al. 2007).

Other studies in the field of principal factor are influencing students’ motivations to engage in social interactions. Cheung et al (2008) confirmed the principal role of online social presence in determining students’ engagement through mobile technologies

Online discussion forums integrated in mobile devices provide opportunities for students to interact socially with their instructor to facilitate learning and solve learning difficulties, it can also be considered as an alternative platform distributing tasks, activities, ideas and announcements.
2. Theoretical Framework

2.1. Uses and Gratifications

Uses and Gratifications theory has spanned user motivation studies of media ranging from radio (Herzog, 1944) and television (cf., Katz, 1959; Lin, 1999), to cable TV and VCR remote controls (Stafford and Stafford 1996), and now the Internet (Eighmey and McCord, 1998; Ruggiero, 2000; Stafford, 2003; Stafford et al., 2004) and cellular phones (Leung and Wei, 2000). Gratifications are typically defined as some aspect of satisfaction reported by users, related to the active use of the medium in question (Herzog, 1944). That the Internet is in many ways a unique medium has not escaped the attention of Uses and gratifications researchers.

The educational resources delivered on web pages are often very informative and useful for online students in nearly every topic of study. The Internet is useful in helping students both construct and share their knowledge (Richard & Haya, 2009).

Social Constructivism Learning Theory

Social constructivist learning theory seeks to improve social interactions between students and to construct and share knowledge (Vygotsky, 1978). The access to learning resources anywhere, anytime, and in various formats has the potential to enhance deep student learning capabilities and to allow students to construct their own knowledge.

E-learning is considered to be a new concept covering a variety of applications, learning processes and learning methods (Barhoumi & Rossi, 2013). It includes a variety of technological applications, processes, audio and video. The e-learning process designed and developed by online instructors is the node of the e-learning system (Tavangarian, Leybold, Nölting, Röser, 2004). A well-structured learning environment must facilitate the user in connecting different tools to build, share and improve his/her level of knowledge with a variety of learning models (Rossi, 2006, 2010). Learning is the outcome of social interactions between students in collaborative learning activities. Activities can include sharing through mobile devices, such as discussion forums (Chan, 2005), which can be used for knowledge construction sharing (Gillingham & Topper, 1999).

E-learning can also be influenced by multiple variables, including the cognitive and psychological state of the learner, teacher professionalism and nature and complexity of the pedagogical approach. The mobile devices provide students with the opportunity to learn anywhere and at any time (Crescente & Lee, 2011). Mobile devices are used at universities and higher educational institutions to enhance online interactions through discussions and to share knowledge between students by synchronous or asynchronous mobile communication modes, such as instant messaging, Mobile Social networks and Web based learning (Echeverría, Nussbaum, Calderón, Bravo, & Infante, 2011).

WhatsApp Platform

Instant messaging is based on sending brief, typed messages over the Internet between two work stations or computers. Students use both texting and instant messaging in higher education (Johnson 2007; Kennedy et al. 2008). Furthermore, the majority of the institutions of higher learning are willing to use both text and instant messaging for educational purposes (Jeong 2007; Kennedy et al. 2008). Motiwalla (2007), in his research related to the use of instant messaging for educational purposes, suggests that popularity and support for mobile devices within the student population is great and that the majority of students at universities benefit from texting through mobile learning devices.

Other studies in the field of principal factor are influencing students’ motivations to engage in social interactions. Cheung et al (2008) confirmed the principal role of online social presence in determining students’ engagement through mobile technologies.
2.2. Research Methodology

Research Hypothesis and aims of the Study
The basic aim of this study is to investigate the possibilities of integrating instant messaging mobile apps in the classroom as an informal way of disseminating and sharing knowledge and information, and in an attempt to introduce this innovative, more engaging method to the educational process. Therefore, the survey was conducted in the Canadian University-Dubai and Al Dar University-Dubai in order to explore the attitudes and behavioral aspects of students

Hypotheses:
- H1: Students have a positive attitude towards integrating WhatsApp as a learning tool
- H2: Students easily construct and share knowledge through WhatsApp social networking
- H3: Male students are more likely to prefer integrating smart apps in the learning process than female students.

3. Results & Analysis

3.1 Population and Sample
The study was conducted on students studying in different schools and majors from two universities located in Dubai, Canadian University and Al Dar University. The sample consisted of 100 respondents aged between 18-24 during the academic year 2015-2016.

The dataset was sampled randomly from two different student populations represented by 51.28% female and 48.72% male from second, third, and fourth year with percent 10.26%, 41.03%, and 48.72%.

CGPA grouped as follows: between 1.5-2.4, between 2.5-3.4, and 3.5 and above with the respective distribution 6.41%, 53.85%, and 39.74%.

3.2 Discussion of results
The results were calculated from survey distributed to the described dataset with two main measurements:
- the effectiveness of using WhatsApp in education and the acceptance of the students using WhatsApp as an educational tool based on different parameters:
  1- IT/non IT students WhatsApp usage
  2- Attitude toward the App
  3- Academic use of WhatsApp
  4- Utilizing WhatsApp to receive college/class information,
  5- Male/Female frequency usage of WhatsApp.

Hypotheses:
H1: Students have a positive attitude towards integrating WhatsApp as a learning tool
The student’s response to the use of WhatsApp as an educational tool is 78% of the respondents were in favor of integrating this app as an additional learning tool as shown in figure 1.

![Figure 1 Integrating WhatsApp as a learning tool](image-url)
With significant 1.45E-8, which shows that students validate integrating WhatsApp as a learning tool.

**H2:** Students easily construct and share knowledge through WhatsApp social networking

**Table 1 Effective parameters with percent of usage of WhatsApp in education environment.**

<table>
<thead>
<tr>
<th>Max Number of use/Hour</th>
<th>Academic Use</th>
<th>Using WhatsApp to receive college/class information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.31%</td>
<td>47.44%</td>
<td>50.00%</td>
</tr>
</tbody>
</table>

Table 1 shows 42.31% of the students use the WhatsApp throughout the whole day; student’s response to the use of faculty members to communicate with them via WhatsApp was 47.44% with 50% as receiving class information. Which show the effectiveness of WhatsApp in figure 2 and significant 0.0057 which validates the second hypothesis.

**H3:** Male students are more likely to prefer integrating smart apps in the learning process than female students.

Based on the previous results, it was found that 73.7% male respondents prefer integrating WhatsApp in learning process in comparison with 83.5% female with significant 0.34 which shows minor ratio differences between male and female in the sample, thus, rejecting the third hypothesis.

4. **Conclusion**

This is an exploratory study directed to investigate the best possibilities of integrating mobile learning inside classrooms in order to help enhance the learning environment. Using the Uses and gratifications approach to profile user motivations and the Social Constructivism theory to enable student interaction and to help them construct and share knowledge. Based on these two theoretical approaches the study was conducted and revealed the pressing need in this region of the world for such innovative interventions in the learning process that eventually leads to a more engaging environment. Since the sample size was relatively small, therefore future studies need to be conducted in order to obtain statistically adequate samples from which sufficient quantities of data can be obtained.
References


Authors’ Backgrounds

**Dr. Ghada Abaido** is an Assistant Professor in the Canadian University –Dubai since 2013 also an Assistant Professor in Ein Shams University-Cairo since 2000 and has academic experience in several universities inside ARE and the UAE. She is specialized in Mass Communication-Radio and Television and Public relations, and has practiced in the Nile TV International News desk along with The Middle East Research Centre (MERC). She has several community outreach activities and her research interest includes new trends in Crisis management, Social impact of New Media, Organizational Communication and innovative communication methodologies.

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