



**ACADEMIC USE OF WHATSAPP, LEARNING GAINS  
AND PERCEIVED ACADEMIC PERFORMANCE  
AMONG IIUM UNDERGRADUATE STUDENTS: A  
DESCRIPTIVE STUDY**

**BY**

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**A dissertation submitted in fulfillment of the requirement for  
the degree of Master in Education  
(Instructional Technology)**

**Kulliyyah of Education  
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## ABSTRACT

This study explored the use of WhatsApp, a well-known smartphone application, among IIUM undergraduate students, and examined the relationships between its use and two dependent measures, i.e., students' perceived academic performance and learning gains. A convenience sample of 116 IIUM undergraduates completed an 18-item self-developed questionnaire measuring WhatsApp use, perceived academic performance, and learning gains on a 5-point response category ranging from *Strongly Agree* to *Strongly Disagree*. The results revealed that a majority of the respondents used WhatsApp for about two hours daily, mostly for chatting (85%) and communicating with classmates (81%). Some prevalent academic uses of WhatsApp were discussing assignments (89%), discussing course content (70%), and exchanging learning ideas (66%). While the given academic uses of WhatsApp were widespread among the undergraduates, only moderate numbers perceived learning gains and improved academic achievement resulting from their use of the application. The figures suggest the usefulness of WhatsApp for connecting learners and lecturers, but less so for meaningful academic learning. Consistent with the descriptive results, a moderate positive relationship was found between undergraduates' academic use of WhatsApp and learning gains ( $r = .428$ ), as well as with their perceived academic performance ( $r = .412$ ). The results highlight the role that WhatsApp might play to improve the interaction and communication between students and faculty, in addition to facilitating the learning of simple, not too complex educational content.

## ملخص البحث

بحثت هذه الدراسة في استخدام الواتس أب، وهي معروفة جيداً تطبيق الهاتف الذكي، بين طلبة الجامعة الإسلامية العالمية بماليزيا في المرحلة الجامعية الأولى، وبحثت العلاقات بين استخدامه واثنين من التدابير المعتمدة؛ أي النظر في الأداء الأكاديمي ومكاسب التعلم للطلبة. أكملت العينة الملائمة التي تتكون من (116) من الطلبة بالجامعة الإسلامية، (18) بنداً استبانات مفصلة ومطورة، لقياس استخدام الواتس أب، والأداء الأكاديمي المتصور، ومكاسب التعلم في (5) نقاط من نقاط الإجابة، والتي تتراوح بين أوافق بشدة، ولا أوافق بشدة. أظهرت النتائج أن غالبية المستطلعين قد استخدموا الواتس أب لمدة ساعتين يومياً، ومعظمها في الدردشة بنسبة (85%)، وفي التواصل مع زملاء الدراسة بنسبة (81%)، وفي بعض الاستخدامات الأكاديمية السائدة من الواتس أب يناقشون فيها بعض المهام بنسبة (89%)، ومناقشة محتوى الدورة بنسبة (70%)، وتبادل الأفكار والتعلم بنسبة (66%)؛ بينما كانت الاستخدامات الأكاديمية المعينة من الواتس أب على نطاق واسع بين الطلبة الجامعيين؛ إذ ينظر إلى الأعداد المتوسطة فقط في مكاسب وتحسين التحصيل الدراسي الناتجة عن استخدامها لتطبيقات التعلم. وتشير الأرقام إلى فائدة الواتس أب في ربط المعلمين والمحاضرين؛ ولكن الأقل من ذلك كان للتعلم الأكاديمي وهو ذو مغزى واضح. وتمشياً مع النتائج الوصفية، تم العثور على علاقة إيجابية معتدلة بين الاستخدام الأكاديمي للطلبة الجامعيين من الواتس أب، ومكاسب التعلم (ص = 0.428)، وكذلك مع الأداء الأكاديمي المتصور (ص = 0.412). وتبرز النتائج الدور الذي يمكن أن يقوم به الواتس أب لتحسين التفاعل والتواصل بين الطلبة وأعضاء هيئة التدريس، فضلاً عن تسهيل التعلم من المحتوى التعليمي البسيط، وليس المعقد للغاية.

## APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Education (Instructional Technology).

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Supervisor

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## DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 INTRODUCTION**

In the present day of advanced technological development, social media is regarded as one of the most influential means of communication among people in many sectors, including education. There are a number of social networking sites and social network applications, such as WhatsApp, Facebook, Twitter, Imo, and Skype that facilitate communication between people regardless of distance. These sites and applications make it simpler for people to share information in various file formats, such as images, audio, and video. Apart from sending instant messages and enabling real time conversations, WhatsApp also assists in generating online user content such as blogs, a capability that makes it a potential platform for learning.

WhatsApp is primarily a mobile application for social media, and operates on almost every modern type of device. It is compatible with almost every operating system used on digital devices. The application was introduced in 2010 with an initial function of facilitating communication and helping students to actively take part in education outside of the classroom. According to Bouhnik and Deshen (2014), WhatsApp could assist introvert students in learning, particularly in a group, because it minimizes or eliminates the anxiety associated with asking questions before other co-learners. Following its introduction, WhatsApp was quickly adopted by a great many people around the globe, but primarily as a platform that facilitates communication in social networks. Since its introduction, the application has rapidly changed the way people communicate with each other. For instance, due to its

availability and ease of use, it has now become one of the most useful and influential social media tools being used by students in higher learning institutions (Issa & Alsaleem, 2014). Apart from its social function which is to provide a direct medium of communication for people, WhatsApp has a tremendous potential in facilitating learning and interaction in higher education (Issa & Alsaleem, 2014).

The advantages of using WhatsApp among students of higher learning institutions include relationship enhancement, improving learning motivation, offering personalized course materials, and developing collaborative abilities among students (Ibrahim, Hafiz, & Idris, 2015). This means that even social media applications have the potential to enhance students' learning performance, if they are appropriately used. As an application, WhatsApp has many advantages; it is simple to use, affordable as it is free, and most importantly, private (in comparison to other social networks like Facebook or Twitter). Because it is widely used by teachers and students alike in their private lives outside of education, it has become the primary social media application of choice (Bouhnik & Deshen, 2014). Students and teachers also find that the use of WhatsApp facilitates quick transfer of links to study materials, in contrast with other technologies which often do not work properly. Unlike WhatsApp, other forms of communication are usually not used by students after school hours. Sending study materials through WhatsApp, such as a video for the class or a solution for an exercise, ensures that everyone receives the message even if they are sent after school hours.

However, with the positive influence and tremendous potential of WhatsApp, there are also negative consequences that affect student learning and performance. In relation to the latter, students tend to use less formal language when they communicate with their teachers and classmates via WhatsApp on academic matters. This casualty has a subsequent negative effect on the academic writing skills of the students (Bouhnik &

Deshen, 2014). But regardless of its negative influences, the obvious benefits of WhatsApp are driving more students and teachers to adopt it in education. Other factors that influence its adoption are its compatibility with the current generation of digital natives and technology savvy students, and its ease of use. The former indicates that WhatsApp suits the learning needs and learning preferences of 21<sup>st</sup> century students who experience the pervasiveness of technology in every aspect of life including education. Therefore, WhatsApp is regarded by many educationists as a means for digital learning.

In teaching and learning, WhatsApp does not require great technical skills to use, a factor that explains its widespread adoption among students in higher learning institutions. Studies (e.g. Schroeder, Minocha & Schneider, 2010) show that educational uses of social media support social constructivist forms of learning. They potentially improve students' construction of understanding and promote their level of interaction with each other. Research establishes that social media applications, like WhatsApp, are important platforms for knowledge-sharing among learners and teachers. And, as mentioned above, WhatsApp is free to be downloaded and used, thereby eliminating any financial barrier to its access and adoption.

## **1.2 STATEMENT OF THE PROBLEM**

As mentioned earlier, WhatsApp is one of the most useful social media tools among students of higher learning institutions due to its relative advantages, convenience, and ease of use. Students use WhatsApp for multiple purposes, such as getting connected and sharing information, be it general or academic. However, whether using WhatsApp actually improves academic performance, or results in any learning gains or otherwise, depends on the usage and the user. Researchers have been discovering

that new technologies and their effects on student behavior and performance are becoming paramount and rampant (Issa & Alsaleem, 2014). While there is supporting evidence to suggest that these technologies have a large influence on the social development of adolescents, the more pertinent issue for educators is what effects these technologies have on the academic development of young people (Fogg, 2010). A major concern regarding students' use of WhatsApp is the time that they spend on it. Since students are with their smartphone practically 24 hours a day, and receive messages throughout the day, it could cause a distraction in their learning activities. Goodman's (2014) study may be cited as an example to illustrate the nature and extent of this distraction. He reported that the average Israeli teenager receives some 1,500 WhatsApp messages a day. In other words, if the smartphone sends a notification, usually by making a sound, 1,500 times a day, and if the teenager stops doing whatever he or she is doing to look at a message that was just received, it means that he or she would be distracted 1,500 times a day. If a message takes roughly 30 seconds to read and reply to, responding to 1,500 messages would mean 750 minutes a day, or 12.5 hours, and this is a tremendous amount of time stolen from a teenager's life daily. Hence, the distracting effects of the application are a real problem threatening to undermine students' academic performance (Bouhnik & Deshen, 2014). Frequently attending to WhatsApp messages draws students' attention away from important academic matters, and may negatively impact their learning.

Apart from being a time stealer, engaging in WhatsApp is also reported to have a negative effect on students' writing ability. Students can become accustomed to the casual writing method in WhatsApp, using abbreviated words that teachers may not understand, and may unconsciously transfer the casual communication style to academic writing. This is likely to affect their grades (Goodman, 2014). Additionally,

casual writing styles used in social communication, such as that in WhatsApp, are not appropriate in an academic setting. Hence, inappropriate uses of WhatsApp may result in undesirable student outcomes.

Studies have documented various effects of WhatsApp on students' academic performance and other outcomes, the results of which have been conflicting. For instance, in Amry (2014), WhatsApp positively impacted students' achievement and attitudes in an educational technology course where the treatment group (who learned the content with WhatsApp) obtained significantly higher scores on the test and attitude scale than the control group (who learned the content without WhatsApp). Similarly, Yeboah (2014) found its desirable impact on the academic performance of tertiary students in Ghana; however, the application consumed too much of students' study time. Some adverse outcomes were also discovered in their research where WhatsApp use had led to poor spelling and ungrammatical sentence construction, lack of concentration during lectures, failure to complete assignments on time, and difficulty to adhere to study schedule. While the application promises a lot of potential in facilitating learning and communication, its adverse effects on students' learning outcomes and academic performance seem to challenge the benefits it garners.

Despite the contributions of previous studies to our current understanding of the academic benefits of WhatsApp, few of these studies looked into the relationship between the use of WhatsApp among students of higher learning institutions and their perceived academic performance and the learning gains they derive from using the application. Therefore, the present research intended to explore the relationship between WhatsApp use and the two dependent measures (students' perceived academic performance and learning gains) so that necessary corrective measures can be taken by



education stakeholders to help students make meaningful use of WhatsApp for academic learning.

### **1.3 OBJECTIVES OF THE STUDY**

The main objectives of this study were to document the extent of WhatsApp use among IIUM undergraduate students and to profile the various uses of WhatsApp for learning. Additionally, the study sought to understand the relationship between students' academic use of the application with learning gains and perceived academic performance. The fulfillment of these objectives would inform university instructors and education stakeholders about the potential and the feasibility of using WhatsApp for teaching and learning.

### **1.4 RESEARCH QUESTIONS**

In alignment with the research objectives, the following seven questions were posed:

1. How much time do IIUM undergraduate students report spending on WhatsApp daily?
2. What are the primary activities that IIUM undergraduate students perform on WhatsApp?
3. What are the academic uses of WhatsApp reported by IIUM undergraduate students?
4. What learning gains do IIUM undergraduate students report from their academic use of WhatsApp?
5. What is the IIUM undergraduate students' perception of their academic performance resulting from their academic use of WhatsApp?

6. Is there a statistically significant relationship between IIUM undergraduate students' academic use of WhatsApp and their learning gains?
7. Is there a statistically significant relationship between IIUM undergraduate students' academic use of WhatsApp and their perceived academic performance?

### **1.5 SIGNIFICANCE OF THE STUDY**

As explained previously, WhatsApp is like a students' companion since it is in their smartphones that are always with them. Their ability to take advantage of it could be of great benefit for them. Due to this, one importance of the present study is that it will alert and inform the policy makers in IIUM to recognize the importance of WhatsApp to students in boosting their academic performance. Through this, the university could provide an enabling environment for students to use the application judiciously. One of the ways to achieve this is to provide uninterrupted Internet facility for students in the campus so that they will always have access to it whenever they need it. Lecturers can also be encouraged to create WhatsApp groups for their classes as this can provide an opportunity for students to learn anywhere and at any time.

If lecturers understand the importance of WhatsApp to student academic development, it could be used for the purpose of boosting and improving students' academic performance and this, in turn, could signal a shift in the attitudes of lecturers who might be indifferent towards the academic usage of WhatsApp. The application can be used for swift correspondence between lecturers and students, especially for questioning and answering. Students can quickly post inquiries relevant to their classes and learning to their lecturers via WhatsApp without incurring any cost that would have been necessary for other forms of communication, such as phone calls or

text messages (SMSs). Ultimately, this could also foster closer student-lecturer interaction. It will enable students to gain a lot from their lecturers since they do not need to be physically present before the lecturers nor do they need to be in front of a computer to communicate with them. Even when they are traveling or at a conference, correspondence could quickly be done whenever they need the assistance of their lecturers through WhatsApp, thereby making learning facilitation very easy for both parties.

Furthermore, if students understand the effect of WhatsApp on their personal time, they could use it judiciously. They could learn how to plan their time so that it will prevent them from excessive usage of the application, which could have adverse effects on their academics. This is because if WhatsApp use is not managed properly, it may cause a constant distraction for the student. But if they know the effect of WhatsApp usage on their time, they could set a limit and exercise control over their usage.

## 1.6 CONCEPTUAL FRAMEWORK

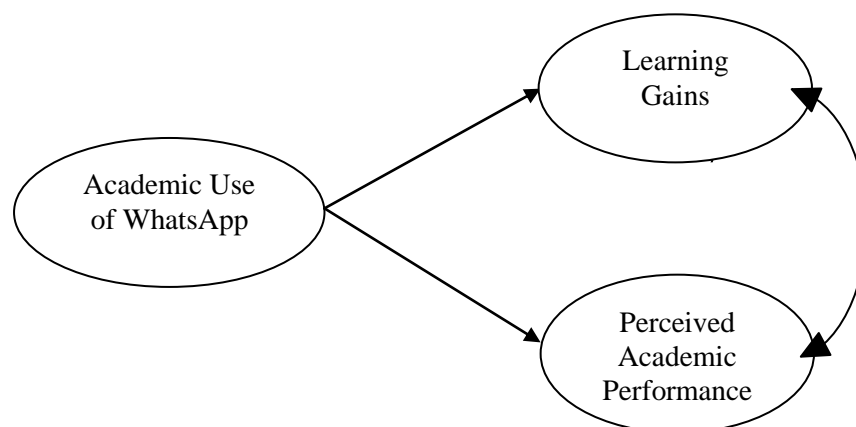


Figure 1.1 Conceptual Framework of the Study

The figure depicts the relationship between the study's independent measure (students' academic use of WhatsApp) and its two dependent measures (perceived academic performance and learning gains). The first arrow indicates a likely relationship or influence of students' academically oriented use of WhatsApp (such as sharing their understanding on a learning content, discussing assignments and interacting with lecturers) on learning gains, which include getting instant feedback from lecturers and improved understanding of course content. The second arrow indicates the influence of WhatsApp use on students' perception of their academic performance reflected in their reports of increased knowledge and doing better on examinations. The third arrow shows an expected positive relationship between the two dependent measures where students' reports of learning gains are expected to correlate positively with the indicators of perceived academic performance. These postulations were made based on the study's empirical review of the academic benefits of using WhatsApp. The study's conceptual framework is explained again in greater depth in Chapter Two of the thesis.

### **1.7 DELIMITATIONS OF THE STUDY**

The study's exploration of WhatsApp use was confined to the International Islamic University Malaysia's undergraduate students studying at the main campus in Gombak. It did not include in its scope IIUM undergraduates in the Kuantan campus, nor did it cover the use of WhatsApp among IIUM postgraduate students, or undergraduates from other Malaysian universities. Therefore, the results of this research should not be used to make assumptions about the relationships between the independent and dependent measures beyond the target groups examined in the study.

## **1.8 OPERATIONAL DEFINITIONS OF TERMS**

In this research, the following working definitions of terms were used to guide the assessment of the independent and dependent measures:

**Social Networking:** is defined as web-based services that allow individuals to: construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others within the system (Boyd & Ellison, 2007).

**Smartphone:** Is a cell phone and handheld computer that created the greatest tech revolution since the Internet. A Smartphone can do everything a personal computer can do, and because of its mobility, much more. Although screen size is a limitation, the increasingly higher resolutions make viewing pleasurable, and voice recognition can eliminate a fair amount of typing.

**WhatsApp:** a Smartphone application that allows users to send text messages to each other for free through an Internet data connection. WhatsApp supports many different message types, from simple text to pictures to audio files and videos (Hindu, 2011).

**Academic Use of WhatsApp:** is defined as the use of WhatsApp by lecturers and students for the purpose of teaching and learning (Ibrahim et al., 2015), such as students sharing ideas about learning content and communicating with lecturers. Academic use of WhatsApp in this study was measured by seven Likert items that encompassed activities like exchanging learning ideas and discussing assignments.

**Learning Gains:** is defined as the benefits that students derive from using WhatsApp for academic learning. In this study, five Likert items were used to measure IIUM undergraduates' learning gains. The items focused on getting instant feedback from lecturers, better understanding of learning content, skills improvement, and ability to share ideas with others.

**Perceived Academic Performance:** is defined as undergraduate students' self-reported improvement in academic aspects, such as improved grades and research skills, resulting from their use of WhatsApp for learning (adapted from Ibrahim et al., 2015). In this study, six Likert items were used to measure students' perception of improved academic performance, which included getting better grades in examinations, being able to answer questions related to their study, and increases in knowledge.

**IIUM Undergraduate Students:** IIUM students aged between 18 and 23 who were pursuing a four-year degree program in different kulliyahs with different specializations at the IIUM main campus in Gombak.

## **1.9 CHAPTER SUMMARY**

This chapter briefly explained the usage of WhatsApp among students of higher learning institutions in this age of rapid development of information technology. The advantages and limitations of WhatsApp, as well as the reasons justifying the adoption of WhatsApp in education, were discussed in this chapter. However, there is little concern in the literature regarding the relationship between students' use of WhatsApp and their perceived academic performance and learning gains. Thus, this chapter

justified the need to find out the relationship among these three measures, which was highlighted in the study's statement of the problem. Furthermore, the chapter stated the research objectives and questions formulated to guide the study's exploration of the constructs. The last two sections of the chapter explained the study's scope and boundaries which were defined a priori, and presented its working definitions of terms.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

Social media sites and services started forming several years ago. Consequently, the literature review for this study is to provide coverage on social media applications, particularly, WhatsApp, and its usage for social interaction. Social media are a sort of electrical messaging which allows free interaction, exchanging of ideas, conversation, private messages, and sharing of content with other users (Cox & Rethman, 2011). There is an existence of various kinds of social media sites and they differ in terms of their functionality. Some of them are open to the public, such as Friendster and Hi5, while others are not. Facebook, for example, began as a network exclusively for Harvard University students. There are also other social media sites such as LinkedIn which is a professional network, MySpace which is a media sharing site, YouTube for videos, and Flickr for graphics.

Search engines, such as Technocratic, are dedicated to blog searching as well as social news. There are also “bookmarking” sites, such as Reddit, Digg, and Delicious, where users are allowed to cast their vote on the value of content. Twitter was founded in 2006 as a micro-blogging platform that focuses on real-time updates. Madway (2010) stated that more than 145 million users sent an average of 90 million ‘tweets’ per day, each consisting of 140 characters or less.