

# Impact of WhatsApp as a Micro Learning tool on Instruction

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## Abstract

WhatsApp is a free of cost messenger application that is used by the electronic gadgets to send messages, pictures, audiovisual or auditory material through internet. Micro Learning is the division of information in small chunks and its' usage for the purpose of learning through small steps. This research had used the WhatsApp tool for the purpose of learning an IT course through dividing the course contents in small chunks as Micro Learning contents. Study had been conducted on two groups, 'A' and 'B', where group 'A' had used the WhatsApp tool as a Micro Learning support, accompanied by formal face-to-face education with in a hybrid learning environment. Group 'B' went under face to face instruction only. Both the groups went under the examination of studied course module. Analysis had been done on the outcomes of their exams (Group 'A' vs 'B'). Opinions of the participants from group 'A' were taken through the survey questionnaire and the evaluation was done towards the impact of WhatsApp as a Micro Learning tool on instruction for the main key areas at 'Before' and 'After' the use of this social media tool. The outcomes of this study are very stimulating for the practitioners, field experts, academicians and researchers connected with the integration of technology with education.

**Key words:** *Hybrid Learning, Instruction, Micro Learning, Social Media, Students Attitudes, WhatsApp.*

## 1. INTRODUCTION

Today ICT and education are closely related with each other. Education is a method that facilitates the learner in the development of skills and creation of ideas, and commonly, the process of teaching is based on traditional way of face-to-face instruction where the interactions are done between teacher and students through chalk and talk methods based on protracted class hours, supported with studying the written books or notes existing in hard copies. Information and Communication Technologies (ICT) are components that support modern techniques, and

are playing vital role in the educational industry. Better methods of teaching could be presented through dividing the lengthy material in small chunks of information, and using applications of information and communication technologies, like social media; through combining the electronic based activities with face to face instruction as a hybrid learning mode.

Overall the usual method of instruction is based on face-to-face teaching, grounded on long timings ranging from 1 to 2 hours, per subject, and general time consumption of the this activity between teachers and students takes more than 7 to 8 hours a day that upshots tiresomeness of both parties, and as a result teachers encounter challenges to create detailed ideas, and attempt to revise the basic concepts of topics at advanced stages or after finishing the course material that moves the learning outcomes, out of control with adverse effects (Ahmad, 2018).

Face-to-face instruction is a routine method where the teacher uses chalk and talk technique to teach a course supported by written books, handouts, instructions or materials, mainly focused on the preparation of exams and production of better results. Gradually the technology based instruction is taking over from the traditional methods of instruction, and hybrid learning is one of the famous technique of instruction through merging the technology with traditional teaching methods (Ahmad, 2018). Dividing the information of topics in small parts through micro learning technique helps the students to get detailed ideas and better understanding (Ahmad, 2016; Ahmad 2017; Ahmad, 2018). The use of electronic communication tools in combination with face-to-face teaching leaves positive effects on the method of instruction (Ahmad, Al-Khanjari, 2011). Integration of electronic tools with face-to-face instruction, used as micro learning technique produces positive outcomes on the learning (Ahmad, 2016; Ahmad 2017; Ahmad, 2018). When different learning practices are integrated with traditional face to face teaching is called Hybrid learning (**Giarla**, 2016). An educational environment based on hybrid learning mode helps the learners to increase their level of skills (Nazarenko, 2015). Practitioners and field experts are integrating the information and communication technologies with face to face method of teaching, to improve the teaching outcomes (Auster, 2016). Hybrid learning is a method that enhances the skills of a learner and positively effects the instructional outcomes (Joanna, 2013).

(Ahmad, Al-Khanjair, 2011, Ahmad 2016; Ahmad 2017; Ahmad, 2018) claimed following essential key areas to evaluate the performance of any electronic communication tool:

- Feeling 'Comfortable' while using the electronic tool (e-tool)

- Feeling 'Friendly' while using the e-tool
- Considering the e-tool as an 'Essential' part of learning process
- Considering the e-tool as helpful in 'Understanding' and 'Learning' the course material, and helpful in 'gaining high marks in the exams'
- Learners linking towards the method of instruction.

## **2. WHAT IS WHATSAPP AND MICRO LEARNING?**

(Webwise, 2018) state that WhatsApp is a social media application for electronic gadgets, including tablets, mobile and smartphones etc., that can be downloaded without any payment, can send messages, pictures, auditory and audiovisual content through internet, and therefore the cost of WhatsApp is much slighter than the text messaging services.

(Said, 2015) claims that the use WhatsApp boost the active involvement of participants in the teaching and learning setup. Its usage creates strong association between students and instructors, and leaves positive results on learning outcomes.

Micro Learning is an innovative method that supports in the division of learning contents in tiny pieces, and plays an important role for skills enhancement and knowledge creation (Minimol, & Habil, 2012). Micro learning is an outcome of the communication practices, based on tiny sized contents (Mosel, 2005). Micro Learning is a practice of dividing the learning contents in small pieces and utilization of these contents in small sized durations (Hug, 2005).

Micro Learning is a technique that gives positive results towards learning, helps to create in-depth ideas, and supports in understanding and learning the studied contents (Ahmad, Al-Khanjari, 2016). Micro Learning effects positively in gaining the high scores in exams (Ahmad, 2017; Ahmad, 2018).

## **3. PURPOSE OF STUDY**

The purpose of this research was to test the impacts of WhatsApp, used as a Micro Learning tool by dividing the contents of course in tiny parts and used as a supplementary help along with face-to-face instruction, as a mode of hybrid learning (on group "A"), and to assess the impacts of WhatsApp as a Micro Learning tool on the outcomes of students' examinations for group "A" and "B" (group "A" [Experimental group] vs group "B" [Control group]), students attitudes, support of this tool for understanding and learning the study material, and likings of students (for group "A" through feedback of survey questionnaire).

#### **4. METHODOLOGY**

This research has evaluated the impacts of WhatsApp as a Micro Learning tool on the exam results of the IT course module (“Fundamentals of Computer”) studied by two groups “A” and “B”, based on the contents, under the titles: “Computer Basics”, “Hardware Components”, and “Software Components” etc. Group “A” was supported with WhatsApp communications along with face-to-face teaching as a hybrid mode of learning for one week, whereas, Group “B” was taught through face-to-face instruction only. As, WhatsApp allows the exchange of Text Messages, Audio recordings, and Pictures, therefore, firstly, the contents of the course module were divided in short definitions of less than 280 characters each, sent as text messages and the students were requested to read one definition at one time, with a gap of at least 10 minutes before reading the next one. Secondly, contents were recorded as Audio Podcasts, less than 5 minutes as micro learning content, and students were asked to listen a single recording at one time, and the listening of next audio podcast with a gap of at least 10 minutes. Thirdly, the pictures were used to explain the contents and requested to go through these pictures for a maximum of 5 minutes with a gap of at least 10 minutes for the next viewing of pictures.

Initially, recorded Audio Podcasts were sent to the students, then short definitions and finally the pictures. Total number of students was 30, divided in two groups “A” and “B” with 15 number of students in each group. Students of group “A” had used their smart phones to follow all the research activities within the hybrid learning mode, whereas, group “B” had attended their lectures through face-to-face learning mode, only.

This study has evaluated the impact of WhatsApp as a Micro Learning tool for groups “A” and “B” through comparing the group means (average) of their exam marks of the studied module. Moreover, the students of group “A” those had practiced in communications through WhatsApp were requested to furnish their feedback through a survey questionnaire for two stages: “Before” and “After” the use of WhatsApp, based on 5-points Likert Scale, having the values from ‘1’ to ‘5’ with the options: ‘1’ as “Strongly Disagree”, ‘2’ as “Disagree”, ‘3’ as “Uncertain”, ‘4’ as “Agree”, and ‘5’ as “Strongly Agree” towards the key areas “Friendly”, “Comfortable”, “Essential”, “Understanding”, “Learning”, and “Favorite Mode of Instruction”. Comparisons of “Before” and “After” stages have been done through comparing the group mean (average) of group “A” for the mentioned key areas.

#### **5. RESULTS**

### 5.1. EVALUATION OF EXAMINATION(GROUP “A” VS “B”)

The outcomes of examination for the studied course module for group “A” and “B” in the form of Group Means (averages) is available in Table1, and graphically presented in Figure 1. Data shows that group “A” that was experimented with WhatsApp as a Micro Learning tool with in a hybrid mode of learning had gained elevated results, having a Group Mean of (9.65)out of 15 marks, whereas, group “B” that went under traditionalface-to-face instruction only,received a group mean of (8.67) out of 15 marks. Hence the differenceof mean between these groups was (0.98), which is equal to6.53%. These outcomes prove that the WhatsApp as a Micro Learning tool with in a hybrid mode of learning has supported group “A” to achieve better outcomes of the examination.

<b>Table 1: Evaluation of Examination - Group Means (Group “A”Vs “B”)</b>	
<i>Examination Outcomes (Total Marks of course Module: 15)</i>	
<b><u>Group “A”:</u></b> Supported with WhatsApp as a Micro Learning tool with in hybrid mode of learning <b>Group Mean – Group “A”</b>	<b><u>Group “B”:</u></b> Traditional face-to-face teachingonly <b>Group Mean - (Group “B”)</b>
<b>9.65</b>	<b>8.67</b>
Difference in Means of Group “A” and “B” = Group Means of Group “A” – Group Means of Group “B” Difference in Means = 0.98 Transformation of difference in Means toPercentage => (out of 15) = 6.53%	

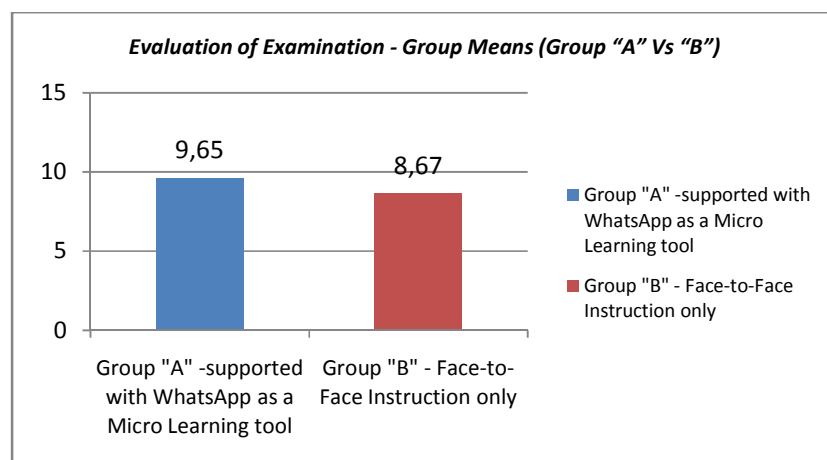


Figure. 1. Group Means of Exam Results – Group ‘A’ Vs Group ‘B’

## 5.2. STUDENTS ATTITUDES TOWARDS WHATSAPP (GROUP "A")

Table 2 and Figure 2 show the overall group means of group "A" towards the use of WhatsApp as a Micro Learning tool for "Before" and "After" stages, through the data received from survey questionnaire. The outcomes of attitudes evidently describe that initially the students had rated the use of WhatsApp as a Micro Learning tool towards key areas "Friendly", "Comfortable" and "Essential" with lower group means, however, at the later stage, after using the WhatsApp tool, these key areas had been valued, showing the positive size of change by (2.26), (2.00), and (2.00) respectively. Hence, it has been verified that students had recognized WhatsApp as a friendly, comfortable and essential tool through learning the Micro contents.

<i>Table 2: Students Attitudes towards WhatsApp (Group "A")</i>			
Key Areas	Group Mean		Size of Change
	Before	After	After-Before
Friendly	2.27	4.53	2.26
Comfortable	2.47	4.47	2.00
Essential	2.40	4.40	2.00

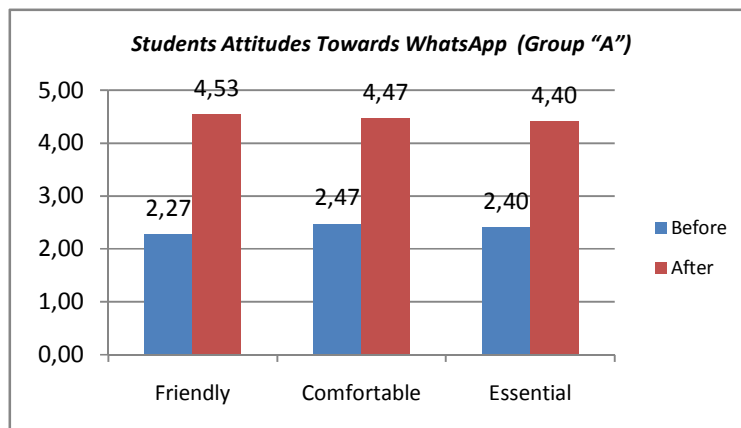


Figure. 2. Students Attitudes towards WhatsApp – (Group "A")

### 5.3. IMPACTS OF WHATSAPP AS A MICRO LEARNING TOOL ON KEY AREAS “UNDERSTANDING”, “LEARNING”, AND “PREPARATION OF EXAMS”- (GROUP “A”)

Results of Table 3 and Figure 3. indicate that the use of WhatsApp as a Micro Learning tool had positively impacted they key areas “Understanding”, “Learning”, and “Preparation of Exams”, rated by the students of group “A” with a huge size of change by (1.94), (2.20), and (2.27), respectively.

Key Areas	Group Mean		Size of Change
	Before	After	After-Before
Help in “Understanding” the contents	2.53	4.47	1.94
Help in “Learning” the	2.33	4.53	2.20
Help in “Preparation of	2.33	4.60	2.27

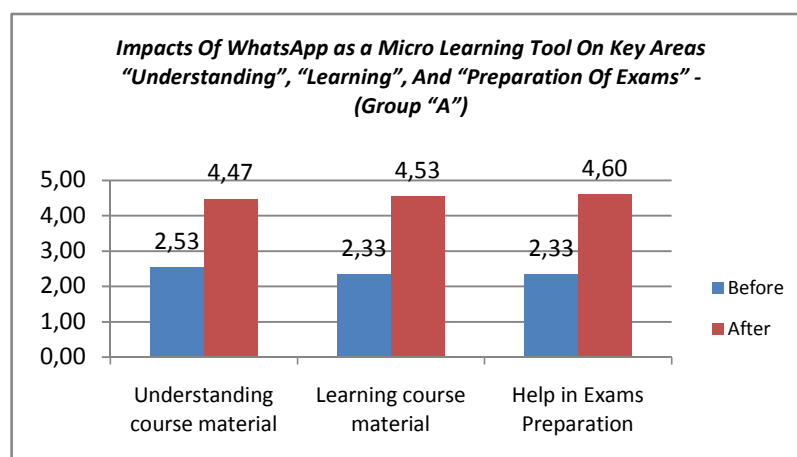


Figure. 3. Impacts of WhatsApp as a Micro Learning Tool on Key Areas “Understanding”, “Learning”, and “Preparation of Exams”- (Group ‘A’)

### 5.4. LINKING OF STUDENTS (FAVORITE MODE OF INSTRUCTION) – GROUP “A”

Table 4, and Figure 4 show the outcomes of key area: favorite mode of instruction “Studying with instructor and supported with WhatsApp as a Micro Learning tool”. Initially, students of group “A” had rated this key area of survey questionnaire with a low value of group mean, before using the WhatsApp as a Micro Learning tool, however, after using the Micro Learning tool, the trend was increased positively with a size of change by (1.93).

	Group Mean	Size of

			Change
Key Areas	Before	After	After - Before
Studying with instructor and supported with WhatsApp as a Micro Learning Tool	2.40	4.33	1.93

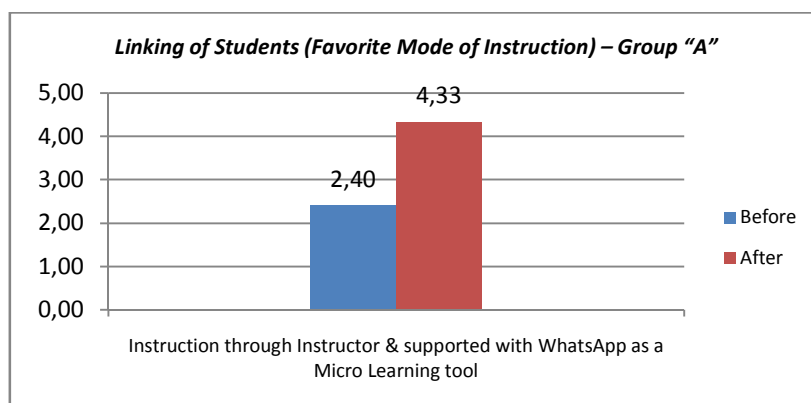


Figure 4. Liking of Students (Favorite Mode of Instruction) – (Group ‘A’)

The overall outcomes of this study show that WhatsApp as a Micro Learning tool with in a hybrid learning mode has positively impacted the exam results of group “A” (group used hybrid mode of learning) with an elevated percentage 6.53% as compared to group “B” (group used face-to-face instruction only). The student attitudes of group “A” for key areas “Friendly”, “Comfortable”, and “Essential”, are very positive with a size of change by 2.26, 2.00 and 2.00, respectively, and their feedback towards the key areas: help of WhatsApp as a Micro Learning tool in “Understanding” and “Learning” the course contents, and its help in “Preparation of Examinations” was also progressive with a size of change by (1.94, 2.20, 2.27), and students had favored the mode of instruction through “Studying with instructor and supported with WhatsApp as a Micro Learning tool” with size of change by (1.93) after the use of WhatsApp communications.

## 6. SUMMARY AND CONCLUSION

The outcomes of this research declares that the use of WhatsApp as a Micro Learning tool leaves positive impacts on the outcomes of the examinations, supports in achieving the better learning outcomes, and supports the practice of instruction. Dividing the course contents in tiny parts and used through WhatsApp within a hybrid mode of learning through small steps, help the



learners to gain high marks in the exams, better understand and learn the course material, support in better preparation of the examinations, and uplifts the traditional face-to-face process of lengthy and tiresome learning through supporting the learners to get in-depth ideas about the course material.

Therefore, it has been proved that Micro Learning is a practice of teaching and learning where the information is divided in small contents, and used in small segments that supports the practice of learning towards the development of in-depth ideas and clear understanding of course material.

Thus, the blending of WhatsApp as a Micro Learning Tool along with face-to-face instruction as a hybrid learning mode is a constructive addition that enhances the overall outcomes and develops elevated impacts. Dear practitioners, field experts, academicians and researchers, here is the tool you are looking for; don't wait any longer and add this social media application (WhatsApp) as Micro Learning tool along with your face-to-face instruction as a hybrid learning mode, and solve your problems of stretched teaching hours, to generate better in-depth ideas and elevate the percentage of students understanding and learning to meet the expected results.

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