

# ENHANCING STUDENTS LEARNING USING WHATSAPP APPLICATION IN CLASSROOM ACTIVITIES OF A TECHNICAL COURSE AT UNIVERSITI TEKNIKAL MALAYSIA MELAKA (UTEM)

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## INTRODUCTION

- WhatsApp in classroom activities to enhance students learning in a technical courses (Manufacturing Sustainability, Materials selection and Engineering Ethics) at Universiti Teknikal Malaysia Melaka (UTeM) .
- This is in contrast to the common utilization of WhatsApp in learning which is usually involved with communication outside the classroom.
- The utilization of W
- hatsApp in class activities as a learning platform is designed by the lecturer/facilitator to take advantage on its ease and flexibility in participation and personalized learning gadget (students' own smartphone)

**TABLE 1: ADVANTAGES AND CHALLENGES USING WHATSAPP**  
(GON AND ALKA (2017) AND CETINKAYA (2017))

Aspects	Advantages	Challenges
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>▪ Simple to Use</li> <li>▪ Free of charge</li> <li>▪ Easily available and downloadable</li> <li>▪ Privacy</li> <li>▪ Fast communication</li> </ul>	<ul style="list-style-type: none"> <li>▪ No smartphone</li> <li>▪ Message flooding</li> <li>▪ Time consuming</li> <li>▪ Group Maintenance</li> <li>▪ Eye strain</li> <li>▪ Mobile internet quota</li> <li>▪ Battery life</li> <li>▪ Memory capacity</li> </ul>
<b>EDUCATIONAL</b>	<ul style="list-style-type: none"> <li>▪ Conducive environment</li> <li>▪ Sense of belonging to the group</li> <li>▪ Sharing learning content</li> <li>▪ Interaction with instructor</li> <li>▪ Contribution to student-student communication</li> <li>▪ Peer support</li> <li>▪ Naturality and comfort in self-expression</li> </ul>	<ul style="list-style-type: none"> <li>▪ High expectation of instructor availability</li> <li>▪ Huge amount of learning materials makes it confusing</li> <li>▪ Use of inappropriate language</li> <li>▪ Difficulty in editing the post</li> <li>▪ Leaving the group</li> </ul>
<b>INSTRUCTIONAL</b>	<ul style="list-style-type: none"> <li>▪ Easy accessibility to learning material</li> <li>▪ Instructor available</li> <li>▪ Learning anytime anywhere</li> <li>▪ Provide secure environment</li> <li>▪ Organizing academic activities</li> <li>▪ Learning unwittingly</li> </ul>	<ul style="list-style-type: none"> <li>▪ No efforts by some student</li> <li>▪ Some students share material to impress instructor without actually learning about it</li> <li>▪ Shift in perception/lost concentration</li> <li>▪ Deletion of the messages</li> </ul>

3

## EDUCATORS' AIMS

- WhatsApp can positively influence discussions, collaborative work as well as contribution to student-student communication.
- Connectivism is the theory that acknowledges that learning is no longer an individual activity, but rather a process that allows for students to flourish in the digital era.
- Use the new information and communication technologies (ICTs) to teach students the knowledge and skills they need in the 21st century.
- Message Applications can reinforce class material and positively influence discussions, collaborative work, and authoring.
- Educators are experimenting with these technologies hoping to stimulate critical thinking skills, collaboration, and knowledge construction.

4

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## PROBLEM STATEMENT

- Major drawbacks of using WhatsApp out of classroom:
  - i. Lack of ‘facilitator/expert review’ on the content matter of the discussion, opinions and articles posted.
  - ii. Distractions among students in classroom lectures and home assignments.
  - iii. Consumes much time of student and disturbs family time.

5

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- Common situation with common teaching method (powerpoint presentation and lecturing)
    - i. Lack of students feedback and response
    - ii. Distractions among students in classroom e.g. using mobile phone
    - iii. Absent of purposely design activities for students’ discussion, raise opinions and documented argument.
    - iv. Low interest among students to participate in class activities

6

## OBJECTIVE

- To analyze the effectiveness of **WhatsApp applications in classroom** to enhance learning by active participation during **face to face learning session**.

7

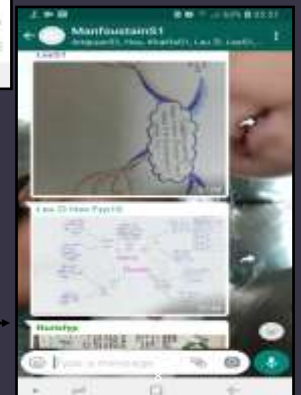
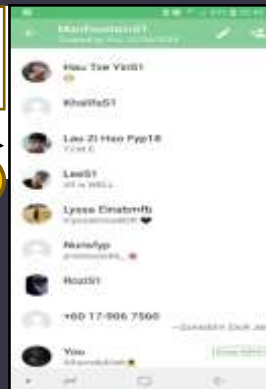
### Method 1: WhatsApp Application in Classroom

WhatsApp group is created and administered by the lecturer of the subject

Each leader of the students' group is made as the WhatsApp group members

The lecturer distributes the topic for students' discussion with an identified outcome

Discussion output is shared by each leader to the WhatsApp group administered by the lecturer and to the section's WhatsApp group managed by the student's representative



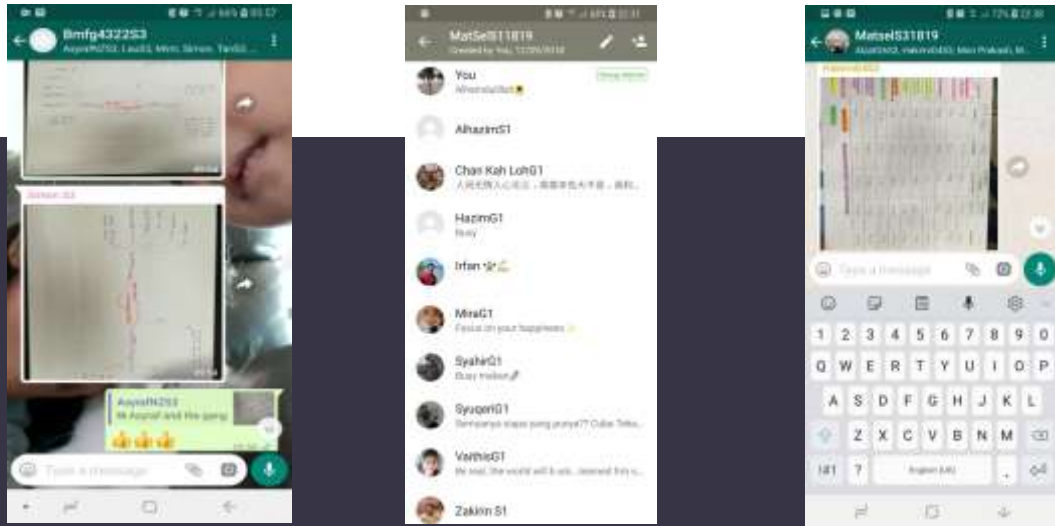


Figure 1: WhatsApp screen during classroom activity showing mind-maps produced

9

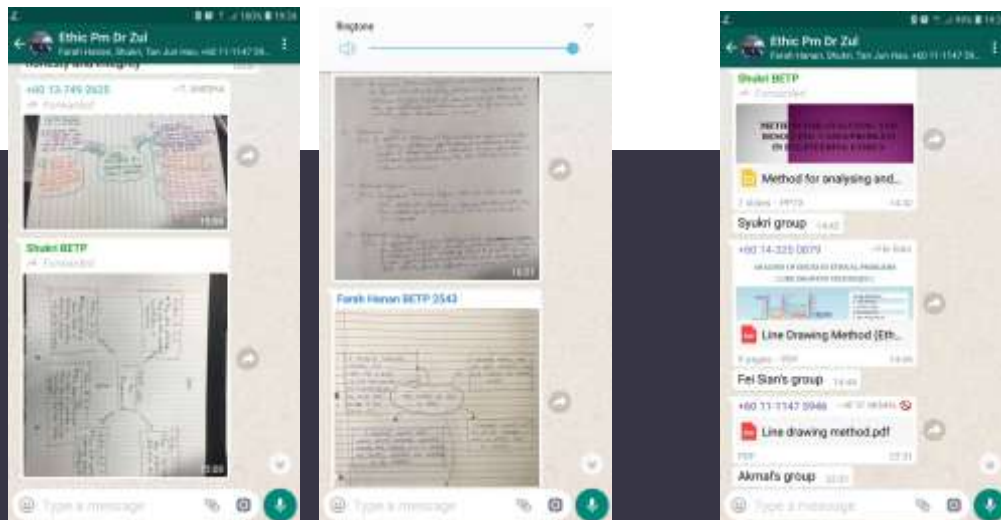


Figure 2: WhatsApp screen during classroom activities in Engineering Ethics Course

10



Figure 3: Classroom situation during activities conducted

11

## Method 2: Data collection

Distribute questionnaire to 60 participants in a technical course (Manufacturing Sustainability) of UTeM

Questionnaire consists of 16 questions and involves 4 dimensions of learning and teaching:

- .teaching methods
- .evaluation of learning methods
- .guidance and supervision
- .equipment and technical

Participants' response are using Likert scale (1: strongly disagree—5: strongly agree)

[QUESTIONNAIRES](#)  
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Sem 2 Session 2017/2018  
Manufacturing sustainability-FKP

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Sem 1 session 2018/2019  
Materials Selection-FKP  
Engineering Ethics -FTKMP

12

## RESULTS AND DISCUSSION

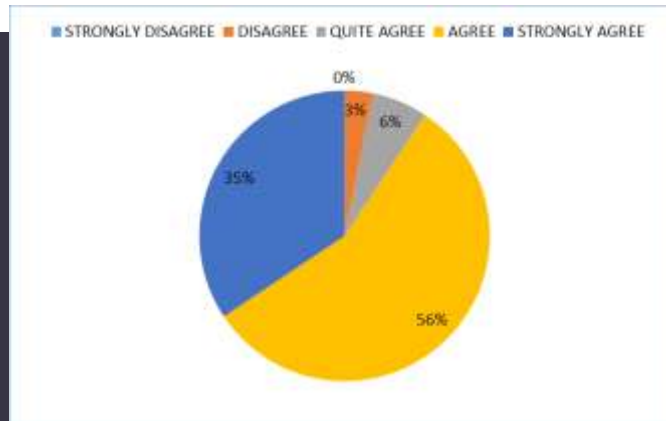
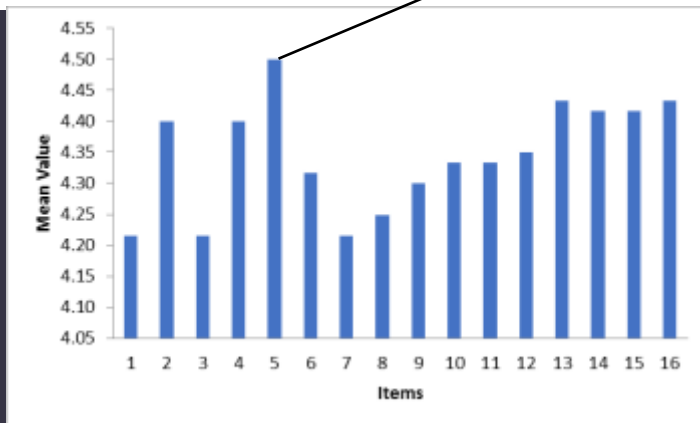


Figure 1: Students' response on the use of WhatsApp application in class activities to enhance students learning

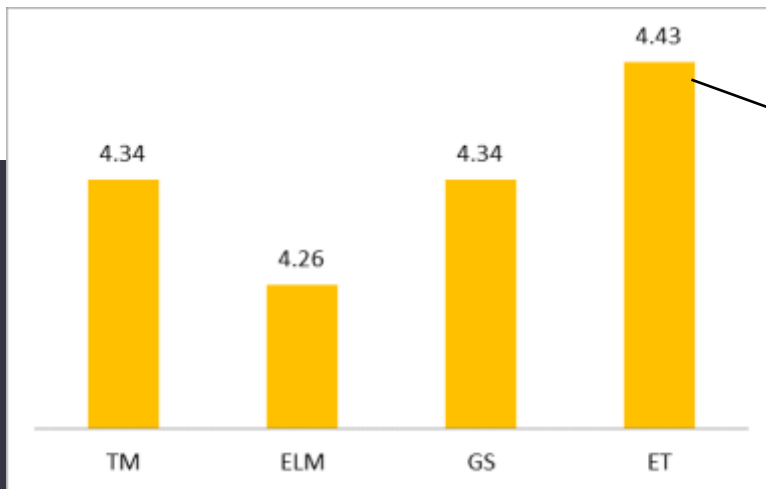
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Teaching methods:  
Efficient learning due to quick and easy distribution of learning materials

Figure 2: Mean value of WhatsApp Questionnaire items (1-16)

14



Easy to download, to operate, to access at participants own mobile phone and it is inexpensive compared to other learning app/gadget/social media platform

Figure 3: Average mean value of the four dimension of learning and teaching. TM-teaching method; ELM-evaluation of learning methods, GS-guidance and supervision, ET-equipment and technical

15

## NOVELTY AND CONTRIBUTIONS

### NOVELTY

- Creative and innovative way in using WhatsApp for active learning in classroom activities generate personalized learning environment (students' own smartphone).
- This increase students' interest and participation for efficient learning.

### CONTRIBUTIONS

- Students had experienced an active and efficient learning
- Technical obstacles raised in the use of WhatsApp outside the classroom are not an issue and were overcome

16



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