



**Faculty of Cognitive Sciences and Human Development**

**Student's Engagement and Satisfaction Towards the Implementation of  
Backchannel in Class**

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Final Year Project Report

Masters

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**STUDENTS' ENGAGEMENT AND SATISFACTION TOWARDS THE  
IMPLEMENTATION OF BACKCHANNEL IN CLASS**

**RACHEL NGUI POH EIK**

**This project is submitted in partial fulfilment of the requirements for a  
Bachelor of Science with Honours  
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The project entitled 'Students' Engagement and Satisfaction Towards the Implementation of Backchannel in Class' was prepared by Rachel Ngui Poh Eik and submitted to the Faculty of Cognitive Sciences and Human Development in partial fulfilment of the requirements for a Bachelor of Science with Honours (Cognitive Science).

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## ABSTRACT

Educational technology can be a way to enhance the sometimes unengaged and ineffective face-to-face discussion in class into a highly effective and participatory learning experience. Due to the increasing use of educational technology, much educational research and practical pedagogy have focused on finding ways to overcome students' passivity and promote active learning environment in class. A well-known approach to promote active participation of otherwise passive students is by establishing a platform known as backchannel. Backchannel is a synchronous communication through online interaction spaces that takes place at the same time as spoken presentation. This study is to examine students' engagement and satisfaction towards the implementation of backchannel in class among students with different learning styles. In the presence of backchannel among students with different learning styles, no significant differences were shown in students' participation, motivation and perceived learning. However, students were satisfied with the ease of use and usefulness of backchannel.

*Keywords: backchannel, learning styles, students' engagement, participation, motivation, perceived learning, satisfaction, ease of use, usefulness*

## ABSTRAK

Teknologi dalam bidang pendidikan mampu mengubah kaedah pengajaran dari pembelajaran yang kurang menggalakkan dan kurang efisien kepada tahap pembelajaran yang sangat efektif serta memberikan pengalaman pembelajaran secara penglibatan. Perkembangan teknologi dalam bidang pendidikan menyebabkan para penyelidikan pendidikan dan pedadogi praktikal untuk memberi tumpuan dalam mencari penyelesaian kepada masalah pelajar yang pasif dan mempromosikan suasana pembelajaran aktif di dalam kelas.

*Backchannel* merupakan salah satu pendekatan yang agak terkenal untuk menggalakkan suasana pembelajaran yang aktif. *Backchannel* didefinisikan sebagai komunikasi segerak melalui ruangan interaksi atas talian yang berlaku ketika pembentangan secara lisan sedang dijalankan. Penyelidikan ini dijalankan untuk mengkaji penglibatan pelajar dan kepuasan terhadap implementasi *backchannel* di dalam kelas dalam kalangan para pelajar yang mempunyai berbeza-beza cara belajar. Tiada perbezaan yang jelas dari segi penyertaan, motivasi dan pemahaman pembelajaran ditunjukkan dalam kalangan para pelajar yang memiliki berbeza-beza cara belajar dalam kehadiran *backchannel* di dalam kelas. Namun begitu, para mahasiswa menunjukkan kepuasan dari segi kesenangan penggunaan *backchannel* dan kegunaan *backchannel*.

*Kata kunci: backchannel, cara belajar, penglibatan pelajar, penyertaan, motivasi, pemahaman pembelajaran, kepuasan, kesenangan penggunaan, kegunaan*

## **CHAPTER ONE**

### **INTRODUCTION**

This chapter provide the background of this study, problem statement, research objectives, research questions, significance of this study and definition of important terms used.

#### **1.0 Background of the Study**

Access to technology for students is not an option anymore these days. However, it is a prerequisite for full participation in high-quality education opportunities (U.S. Department of Education, 2014). According to U.S. Department of Education (2014), students without the access to technology in learning environment will be tremendously disadvantaged to do well in academic endeavours. Baran (2013) states that traditional teacher-directed pedagogies still dominate higher education learning and teaching environment.

However, modern technology tools have become crucial to support the development of deeper learning skills such as critical thinking, problem solving and decision-making (U.S. Department of Education, 2014). New media of technologies provide the opportunities for users especially students to create, share and express themselves in a different media channels. Hence, educational institutions are to reconsider their current teaching approaches due to increasing popularity social and networked internet technologies among internet users (Baran, 2013).

Educational technology can be a way to enhance the unengaged and ineffectual face-to-face discussion in class into a highly effective and participatory

learning experience (Donnelly, 2016). Due to the increasing use of educational technology, now that the educational research and practical pedagogy have focused on finding ways to overcome students' passivity and promote active learning environment in class (Pohl & Gehlen-Baum, 2011). Hence, Pohl and Gehlen-Baum (2011) claims that a well-known approach to promote active participation of otherwise passive students is by establishing a platform called as backchannel.

Toledo and Peters (2010) define the term backchannel linguistically as the feedback loop of verbal and non-verbal cues. For example, verbal loop such as "yes", "uh-uh", "hmm" and "okay" while non-verbal loop are body language such as nodding, shrugging, and face expression. Technically, backchannel is a synchronous communication through online interaction spaces that takes place at the same time as spoken presentation (Carpenter, 2015).

Backchannel phenomenon gains popularity as one of the educational tools due to the convergence of mobile devices, wireless internet access and online communication tools (Toledo & Peters, 2010). Some researchers agree that mobile devices such as smartphones and tablets provide a good solution for digital backchannel systems (Jiranantanagorn, Shen, Goodwin & Teoh, 2013).

## **1.1 Problem Statement**

Carpenter (2015) states that instructors often encounter silence in class when they ask students for any uncertainties or opinions. Only a few students actively participate and majority of them are unengaged. According to Norabany and Haraty (2009), discussions are not always encouraged in the classrooms. The factors are due to the fast teaching pace by lecturers, fear of asking dumb questions, feeling intimidated because of the large number of students in classrooms, weak

communication skills or lack of self-confidence (Norabany & Haraty, 2009). Besides, large space and isolation prevent students from asking or answering question, asking instructor to repeat something or further explanation (Jiranantanagorn, Shen, Goodwin & Teoh, 2015). Hence, Gehlen-Baum, Pohl and Bry (2014) suggest that digital backchannel can reduce the passivity of students and enhance the classroom.

There are few studies on backchannel in different aspects. Baron, Bestbier, Case and Collier-Reed (2015) investigate the effect of a backchannel on university classroom interaction. The research involved the use of specialised backchannel software. The backchannel software has the functions where students could anonymously post questions and vote on questions. Students can also give lecturer feedback to the lecturer regarding the pace of lectures or simply alert the lecturer that they were “lost” when using the software. The “like” and “vote” features in the backchannel are found to be very helpful to help students engage with the course material (Baron, Bestbier, Case and Collier-Reed, 2015).

On the other hand, Du, Rosson and Carroll (2012) analyse the communication pattern that emerged from the use of specified public digital backchannel in classroom. In this paper, the researchers focus on analysing the communication pattern and the usage of backchannel by students. The communication pattern are categorized into comment, suggestions, sharing information, discussion, miscellaneous, social content and questions. The results demonstrated that backchannel has the potential to turn those passive students into actively engage students in the classroom (Du, Rosson & Carroll, 2012).

Neustifter, Kukkonen, Coulter and Landry (2016) did a research about the engagement of backchannel. However, the focus is on the improved students’

perception of the engagement and enjoyment in class while using backchannel.

Neustifter, Kukkonen, Coulter and Landry (2016) examine the feasibility of using backchannel in large university lecture and how it affects students' perceptions of engagement. Apart from that, Gehlen-Baum, Pohl and Bry (2014) did a research on the usability of a prototype backchannel to promote awareness and participation for collaborative learning. The prototype gains positive feedback from participants but need to improve its usability.

Apart from the previous studies mentioned, there is lack of research focus on students' engagement in terms of participation, motivation and perceived learning and students' satisfaction in terms of ease of use and usefulness of backchannel. In addition, there is also lack of study on implementation of backchannel in class among students with different learning styles. Liu, Cheung and Lee (2015) recommend for future research to identify more related constructs to account for the remaining unexplained variance in user satisfaction with backchannel. This is because due to inconclusive results from previous studies on how and why people use backchannel (Liu, Cheung & Lee, 2015).

## **1.2 Research Objectives**

The objectives of this study are divided into general objective and specific objectives.

### **1.2.0 General objective.**

The general objective of this study is to examine students' engagement and satisfaction towards the implementation of backchannel in class among students with different learning styles.

### **1.2.1 Specific objectives.**

1. To examine students' engagement in terms of their participation in class with the presence of backchannel among students with different learning styles.
2. To examine students' engagement in terms of their motivation in class with the presence of backchannel among students with different learning styles.
3. To examine students' engagement in terms of their perceived learning in class with the presence of backchannel among students with different learning styles.
4. To examine students' satisfaction in terms of ease of use of backchannel in class.
5. To examine students' satisfaction in terms of usefulness of backchannel in class.

### **1.3 Research Questions**

1. Do students with different learning styles show different levels of participation with the presence of backchannel in class?
2. Do students with different learning styles show different levels of motivation with the presence of backchannel in class?
3. Do students with different learning styles perceived their learning differently with the presence of backchannel in class?
4. Are students satisfied with the backchannel platform?

## 1.4 Research Hypotheses

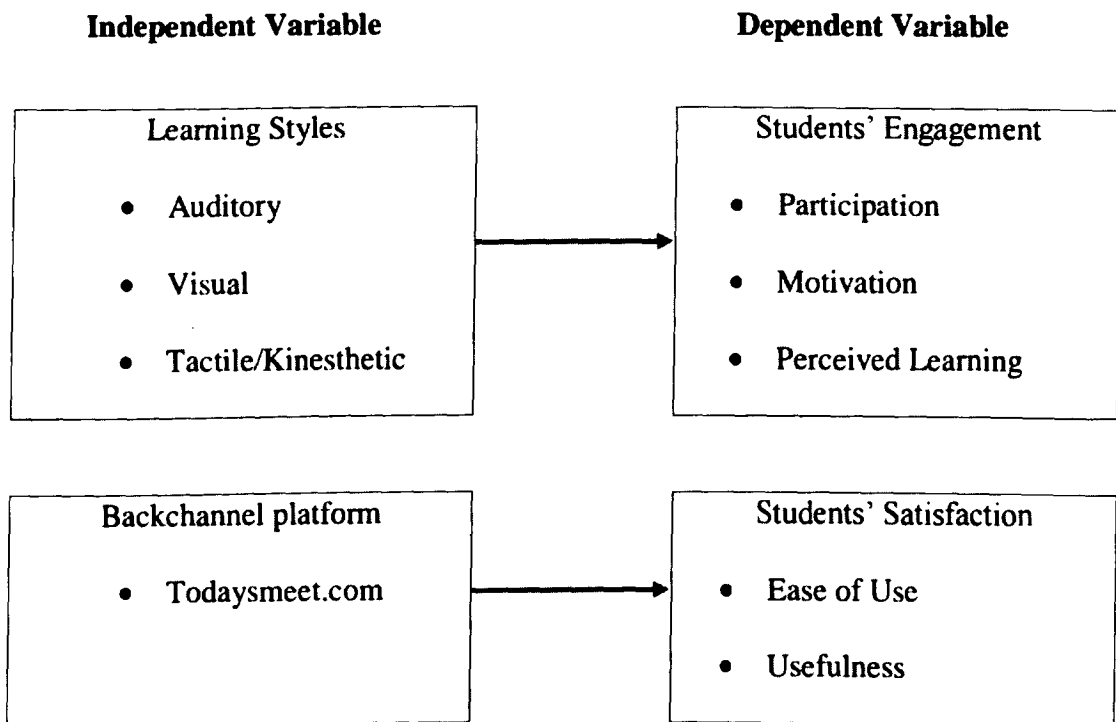
H<sub>0</sub> 1: There is no significant difference in students' participation in class with the presence of backchannel among students with different learning styles.

H<sub>0</sub> 2: There is no significant difference in students' motivation in class with the presence of backchannel among students with different learning styles.

H<sub>0</sub> 3: There is no significant difference in students' perceived learning in class with the presence of backchannel among students with different learning styles.

## 1.5 Research Framework

Figure 1.0 shows the research framework of this study.



*Figure 1.0. Research framework of study*

## **1.6 Significance of the Study**

The purpose of this study is to examine students' engagement and satisfaction towards the implementation of backchannel in class. A successful backchannel is determined through the students' engagement and satisfaction towards the implementation in class. It is important to notice students' changes in the way they engage in class when there is the presence of backchannel. It shows that backchannel is helping students engaging actively in class. Students' satisfaction indicates their interest and acceptance towards backchannel as a new method in learning process. Moreover, lecturers can consider implementing backchannel in class to keep tracks on students' learning progress and gain feedback from their pace of teaching from students. The result of this study can be used to determine whether the backchannel is wise to be implemented during lectures in class in UNIMAS.

## **1.7 Definition of Terms**

Terms used in this study are categorized into two types of definition: conceptual definition and operational definition.

### **1.7.0 Backchannel.**

#### *Conceptual definition*

According to Carpenter (2015), backchannel is defined as a synchronous communication through online interaction spaces that takes place at the same time as spoken presentation. Online interaction spaces are specifically the websites or platforms for backchannel only. However, spoken presentation can be from students, lecturers, conferences, meetings or as long as there is a verbal presentation by someone and audiences.

### *Operational definition*

Specialized backchannel website used for the purpose of this study is Todaysmeet.com.

#### **1.7.1 Engagement.**

##### *Conceptual definition*

Engagement refers to the extent of a student's active involvement in a learning activity (Skinner, Marchand, Kindermann & Furrer, 2008). Learning activity usually takes place in class. Fredericks and McColskey (2012) suggests that engagement reflects an individual's interaction with learning context. Engagement are includes behavioural, emotion and cognitive and these combination is called as a meta-construct. Behavioural engagement refers to the effort, perseverance and prosocial classroom conduct, while emotion engagement is stated as high interest and enthusiasm with low anxiety and boredom and finally cognitive engagement refers to concentration, strategic thinking, learning strategies and self-regulation (Veiga, Reeve, Wentzel & Robu, 2014).

##### *Operational definition*

In this study, engagement is examined in terms of behavioural, emotion and cognitive. However, the engagement is studied particularly to examine students' participation in class, students' motivation and students' perceived learning in class.

### **1.7.2 Participation.**

#### *Conceptual definition*

There are many definitions to define participation. Peterson (2001) defines participation as the action of taking part in something. Participation can be seen as an active engagement process (Dancer & Kamvounias, 2005). Researchers and instructors are more likely defines participation in quantitative and observable meaning instead of qualitative context (Rocca, 2010).

#### *Operational definition*

Participation in this study context is students behaviour and actions in class with the presence of backchannel, Todaysmeet. Participation is examined when students ask questions, give comments and opinions, feedbacks towards instructor and classmates, sharing information and involve in discussion in Todaysmeet (Harunasari, 2016).

### **1.7.3 Motivation.**

#### *Conceptual definition*

Lai (2011) suggests that motivation is refer to reasons that underlie behaviour hat us characterized by willingness and decision. Motivation involves beliefs, perceptions, values, interests and actions that are all closely related. Motivation can be divided into intrinsic motivation and extrinsic motivation (Lai, 2011). According to Lai (2011), intrinsic motivation is a motivation that is animated by personal enjoyment, interest, or pleasure while extrinsic is governed by reinforcement contingencies. Meanwhile, Harunasari

(2016) states that motivation is an affective criteria that assess the level of students' investment in, as well as emotional reactions to the learning task.

*Operational definition*

Motivation in this context of study refers to the students' feelings when they encounter backchannel, Todaysmeet, in class (Harunasari, 2016).

Motivation is examined whether students feel supported by lecturer and classmates also their enjoyment in learning when using Todaysmeet (Gameel, 2017).

**1.7.4 Perceived learning.**

*Conceptual definition*

Lo (2010) states that perceived learning is a desired academic achievement outcomes by students themselves. Lewis (2011), on the hand, indicates perceived learning as the extent to which a certain level of knowledge obtained on the new learning recognized by students. Additionally, perceived learning also defines as changes in learner's perceptions of skill and knowledge levels before and after the learning experience (Alavi, Marakas & Yoo, 2002).

*Operational definition*

In this study, perceived learning is the extent to which students learn better in the presence of Todaysmeet in class. Students' understanding of topic taught is increased when discussion takes place using Todaysmeet (Neustifter, Kukkonen, Coulter & Landry, 2016).

### **1.7.5 Satisfaction.**

#### *Conceptual definition*

According to Liaw and Huang (2013), satisfaction is the user acceptance of information systems and degree of comfort involved in using them. On the other hand, Doll and Torkzadeh (1988) defined satisfaction as the condition of taking an affective attitude toward a given system. Thus, a greater degree of satisfaction toward an information system implies a higher degree of willingness to use it (Liaw & Huang, 2013).

#### *Operational definition*

For the study purpose, the satisfaction was examined through the ease of use in using Todaysmeet as chosen backchannel. Ease of use refers to easy learning of Todaysmeet in short time, satisfied with the available features and functions in Todaysmeet and encounter less difficulty while using Todaysmeet (Li and Greenhow, 2015).

Secondly, the satisfaction was examined based on the usefulness of Todaysmeet during learning process in class. Usefulness refers to students feel satisfied with the interaction and assistance with lecturer and classmates within Todaysmeet (Al-Rahmi and Yusuf, 2015).

### **1.7.6 Learning Styles.**

#### *Conceptual definition*

Zywno and Waalen (2002) defines learning styles as the way students receive and process information within a learning environment. Besides, Felder (2001) states that students possess various styles in understanding and