



**Faculty of Information and Communication Technology**

**A FRAMEWORK ON COLLABORATIVE LEARNING ACTIVITIES  
TO ACTIVELY ENGAGE STUDENTS IN LEARNING  
MANAGEMENT SYSTEM**

**Mastura Binti Mohd Azlim**

**Doctor of Philosophy**

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**A FRAMEWORK ON COLLABORATIVE LEARNING ACTIVITIES TO  
ACTIVELY ENGAGE STUDENTS IN LEARNING MANAGEMENT SYSTEM**

**MASTURA BINTI MOHD AZLIM**

**A thesis submitted  
in fulfillment of the requirements for the degree of Doctor of Philosophy**

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**UNIVERSITI TEKNIKAL MALAYSIA MELAKA**

**2016**

## DECLARATION

I declare that this thesis entitled “A Framework on Collaborative Learning Activities to Actively Engage Students in Learning Management System” is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

Signature : .....

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Date : .....

## **APPROVAL**

I hereby declare that I have read this dissertation and in my opinion this dissertation is sufficient in terms of scope and quality as a partial fulfillment of Doctor of Philosophy.

Signature : .....

Supervisor Name : Profesor Dr. Burairah Hussin

Date : .....

## **DEDICATION**

To my beloved family

## ABSTRACT

Learning management system is an electronic learning platform to deliver, monitor and manage learning. However, past research showed less engagement among students in building knowledge because often times the students are treated as mere technology users. In addition, many instructors do not fully utilise the tools provided in the learning management system (LMS) and have use it only to upload notes and announcement. The purpose of this study is to introduce the implementation framework named Collaborative Learning Activities Framework (CLAF) into LMS that can help the instructors to fully utilise the tools in LMS by constructing collaborative learning activities. This framework also aims to increase students' engagement in the learning activities provided. This study involves 119 students and 30 lecturers from Universiti Teknikal Malaysia Melaka (UTeM), Melaka. The separate pre-post engagement research design was implemented to assess the effectiveness of the framework in increasing students' engagement. These students were divided into three classes and their engagement is assessed for comparison between LMS learning environment without CLAF. This study implemented questionnaires, semi-structured interview, structured observation rubric and pre-post engagement questionnaire. The study found that students show higher active engagement in the LMS with CLAF as compared to the LMS without CLAF. The assessment of the engagement is made based the elements of Engagement Theory. In addition, a training session has been conducted together with instructors to expose them to CLAF. After that, they were asked to answer questionnaires regarding their motivation towards the framework. The instructors showed good motivation to apply the framework but have requested for the design of the framework to be more interactive. The main findings of this study found that the CLAF design which is infused with Engagement Theory can improve instructors' motivation to utilise the tools in LMS and engage students actively in online collaborative learning activities. The study also found that CLAF is able to helps instructor constructing collaborative learning activities more efficient. This study has contributed in constructing research instruments based on Engagement Theory.

## ABSTRAK

*Sistem pengurusan pembelajaran merupakan platform pembelajaran elektronik untuk menyampaikan, memantau dan menguruskan pembelajaran. Walau bagaimanapun, kajian lepas membuktikan pelajar kurang keterlibatan dalam membina pengetahuan kerana sering kali dilayan sebagai pengguna teknologi semata-mata. Tambahan pula, pensyarah tidak menggunakan sepenuhnya peralatan-peralatan yang disediakan dalam sistem pengurusan pembelajaran (LMS) dan menggunakannya hanya untuk memuatnaik nota dan menyebarkan pengumuman. Tujuan kajian ini adalah untuk memperkenalkan kerangka pelaksanaan yang dinamakan Kerangka Aktiviti Pembelajaran Kolaboratif (CLAF) ke dalam LMS yang dapat membantu pensyarah menggunakan sepenuhnya peralatan-peralatan di dalam LMS dengan menyediakan aktiviti pembelajaran kolaboratif. Kerangka ini juga bertujuan untuk meningkatkan keterlibatan pelajar dalam aktiviti pembelajaran yang disediakan. Kajian ini melibatkan 119 orang pelajar dan 30 orang pensyarah dari Universiti Teknikal Malaysia Melaka (UTeM), Melaka. Reka bentuk kajian pra keterlibatan – pasca keterlibatan yang berasingan telah dilaksanakan untuk menilai keberkesanan kerangka tersebut meningkatkan keterlibatan pelajar. Pelajar-pelajar ini dibahagikan kepada tiga kelas dan keterlibatan mereka dinilai untuk dibandingkan antara suasana pembelajaran tradisional dan pembelajaran dalam LMS. Kajian ini menggunakan instrumen soal selidik, temu bual semi-struktur, rubrik pemerhatian berstruktur dan juga set ujian pra keterlibatan dan pasca keterlibatan. Hasil kajian mendapati keterlibatan pelajar lebih aktif dalam LMS berbanding secara tradisional. Penilaian keterlibatan ini dibuat berdasarkan elemen Teori Keterlibatan (Engagement Theory). Selain itu, satu sesi latihan telah dilaksanakan bersama-sama pensyarah untuk mendedahkan mereka dengan CLAF. Selepas itu, mereka diminta untuk menjawab soal selidik berkenaan motivasi mereka terhadap kerangka tersebut. Pensyarah menunjukkan motivasi yang baik untuk mengaplikasikan kerangka tersebut tetapi mempunyai permintaan yang lebih dalam reka bentuk yang lebih interaktif. Hasil utama kajian ini mendapati reka bentuk CLAF yang diselitkan Teori Keterlibatan dapat meningkatkan motivasi pensyarah untuk menggunakan peralatan dalam LMS dan melibatkan pelajar secara aktif dalam aktiviti pembelajaran kolaboratif di atas talian. Hasil kajian juga mendapati sistem prototaip Collaborative Learning Wizard (CLW) mampu membantu pensyarah membina aktiviti kolaboratif dalam LMS dengan lebih efisien. Kajian ini juga turut memberi sumbangan dalam menghasilkan instrumen kajian yang mengimplimentasikan Teori Keterlibatan.*

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## **LIST OF ABBREVIATIONS**

<b>CLAF</b>	-	Collaborative Learning Activity Framework
<b>LMS</b>	-	Learning Management System
<b>CLW</b>	-	Collaborative Learning Wizard
<b>NSSE</b>	-	National Survey of Student Engagement

## LIST OF PUBLICATION

### Local Journals

Mastura Azlim, Kalthom Husain, Burairah Hussin and Zulisman Maksom (2015). Utilization of Learning Management System in Higher Education Institution in Enhancing Teaching and Learning Process. *Journal of Human Capital Development*, 7(1).

### International Journal

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## **Local Conferences**

Mastura Azlim, Burairah Hussin and Mohd Ruhaizad Rusli (2015). Portal Warisan Seni sebagai Alat Bantu Mengajar Dikir Barat di Kolej Komuniti Selandar. *In National Conference of TVET Innovation 2015 (NCTVETi2015.)*

# CHAPTER 1

## INTRODUCTION

### 1.1 Overview

In the last fifty years, education has shifted to two situations namely the relationship between instructors and students; and mode of delivery. Azmi et al. (2012) observed that the shifts have completely changed the learning model in today's education. The relationship between instructors and students have grown and shift from instructor-centred learning to student-centred learning (Makrakis and Kostoulas-Makrakis, 2012; Rabbany et al., 2013). In this shifted relationship, instructors' role can expand from knowledge transmitters towards taking an active role as facilitator, curriculum developers, knowledge constructors and transformative learning agents. The second shift is the mode of delivery in learning and teaching practices. Education is no longer bound to time and place. Education has evolved rapidly in line with the progress of today's technology. The use of these technologies has been developed among schools and universities to support both students and instructors (Borwarnginn and Tate, 2014). Penny (2011) describes that educational technology offers wide opportunities of learning regardless of time and space constraints.

Technology such as the Internet in education plays an important role to engage students in learning activities (Kakbra and Sidqi, 2013). Although some researchers and educators still ponder on the effectiveness of online learning, Park, Kier and Jugdev (2011) explain that online learning can be as effective as traditional learning when the method and technologies used are appropriate to the activity and interaction among students, instructors and material.