INVESTIGATING THE FACTORS INFLUENCING BLENDED LEARNING SUCCESS FOR SYSTEM ANALYSIS AND DESIGN COURSE IN UNIVERSITI UTARA MALAYSIA

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A dissertation submitted to Dean of Awang Had Salleh Graduate School in Partial Fulfillment of the requirement for Master of Science (Information Technology) Universiti Utara Malaysia

By
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Abstrak

Analisis Sistem dan Reka Bentuk (*SAD*) adalah salah satu kursus teras yang ditawarkan dalam program Ijazah Sarjana Muda dalam bidang Sains Komputer kerana ia keperluan untuk memenuhi syarat untuk menjadi penganalisis sistem, pengaturcara komputer dan ketua projek. Walau bagaimanapun, didapati pelajar tidak dapat menguasai secara menyeluruh subjek ini yang mana seterusnya akan menjejaskan peluang pekerjaan dan nilai produktiviti dalam rantaian pembangunan perisian. Hal ini boleh dikaitkan dengan kaedah pengajaran yang digunakan dalam pembelajaran masa kini. Dalam hal ini, penggunaan model pembelajaran teradun telah dicadangkan bagi tujuan untuk meningkatkan penglibatan pelajar dalam proses pembelajaran dan seterusnya dapat mengurangkan pencapaian prestasi yang rendah dalam bidang sains komputer. Secara khususnya, masih banyak lagi faktor-faktor yang perlu dipertimbangkan untuk mencapai kejayaan akademik pelajar bagi subjek Analisis Sistem dan Reka Bentuk (*SAD*) tetapi hal ini tidak dikaji secara empirikal dan menyeluruh. Oleh yang demikian, kajian ini mempunyai beberapa matlamat untuk dicapai iaitu; (1) untuk mengenal pasti faktor-faktor yang mempengaruhi kejayaan model pembelajaran selari dengan pengajaran dan pembelajaran *SAD*, (2) untuk mengenal pasti hubungan antara faktor-faktor kejayaan dan kejayaan akademik dalam *SAD*, dan (3) untuk mengenal pasti kesan-kesan faktor kejayaan ke atas kejayaan akademik dalam *SAD*. Bagi mencapai objektif-objektif ini, kaedah penyelidikan kuantitatif telah digunakan di mana ia melibatkan instrumen kajian yang diagihkan kepada 151 pelajar dengan menggunakan persampelan rawak mudah, dan data yang dikumpul dianalisis dengan korelasi dan regresi. Kajian mendapati bahawa sikap, tahap penggunaan teknologi, akses pelajar kepada teknologi, perisian kursus pelajar, kurikulum, pembelajaran berkualiti tentang muka sistem, kualiti kuliah, dan sistem e-pembelajaran komprehensif mempengaruhi pelajar secara positif dalam aspek kejayaan akademik dalam bidang *SAD*.

Kata kunci: Sistem Analisis dan Reka Bentuk; model pembelajaran yang disesuaikan; faktor-faktor kejayaan; kejayaan akademik

Abstract

System Analysis and Design (SAD) is one of the core courses offered in Bachelor's degree programme in Computer Science because its lessons are requisites in becoming system analyst, computer programmer and project leader. However, it is observed that students are not grasping the details of the lessons, and this is affecting their employability and the productivity value in the software development chain. This experience is linked to the presently-used teaching method. In this regard, blended learning model, which improves students' learning experience and reduces underachievement in computer science, is suggested. Specifically, the generality of the factors that must be considered to achieve students' academic success in SAD has not been adequately and empirically investigated. This study therefore aims (1) to identify factors that effect the success of blended learning model for the teaching and learning of SAD, (2) to identify the relationship between the success factors and academic success of SAD, and (3) to identify the effects of the success factors on academic success of SAD. To achieve these objectives, a quantitative research method was employed, involving administration of survey instruments distributed to 151 students using simple random sampling, and data collected were analysed using correlation and regression. The study found that students' attitude, students' technology usage level, students' access to technology, students' courseware, curriculum, learning system interface quality, lecture quality, and e-learning system comprehensiveness positively influence students' academic success in SAD.

Keywords: System Analysis and Design; blended learning model; success factors; Academic success

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CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter introduces this study by discussing its background, and gives the general overview of the study and its necessary details. System Analysis and Design (SAD) as a core course of computer science students and its teaching and learning difficulties are discussed as it affects the 21st century labour market demand. It highlights the problem statement to be solved, which is lack of clear and valid elicitation of the success factors for the teaching and learning of SAD. The research questions and objectives which are to be answered and accomplished respectively are also listed. This chapter also highlights the scope of the study which shows its delimitation. The significance of the study and the contributions are also discussed. The variables and key terms investigated in this study are defined and operationalised in view of the specifics of the study.

1.1 Background of the Study

System Analysis and Design (SAD) is one of the core courses offered in many Bachelor's degree programmes in Computer science and its related fields like Information Technology (IT) and Information Systems (IS) (Emre, 2014). SAD course synopsis usually centres on analysis of computer components and functionalities related with the users' actions and the requirement delivery (Dennis, Wixom & Tegarden, 2015).

In an ideal software engineering job chain, SAD would be done before the art of writing codes to instruct the computer functionalities. These functionalities are expected to have been analysed with uses cases attached to their respective actors, and identified conditions and

The contents of the thesis is for internal user only

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