Impact of Students' Perceptions of ICT-Supported Learning Environment on Approaches to Learning for Principles of Accounting in Secondary Schools

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Abstract: This research aims to study the impact of students' perceptions of ICT-supported Learning Environment and their personal characteristics on approaches to learning in the context of Malaysian accounting education at secondary school level. Students are facing the learning problem where they lack the opportunity to experience deep approaches to learning due to the teacher-centred teaching approach and immaturity of the curriculum and assessment design. In view of these problems, the Ministry of Education (MOE) has revised the curriculum and assessment from content-based to skilled-based with the aim to enable students to practise deep approach to learning with ICT. However, to what extent the new environment is able to stimulate deep approach to learning is the main issue underpinning by the present study which will be investigated through a correlational research design employing the Structural Equation Modeling (SEM) analysis method. Contributions and preliminary results of this study are discussed.

Keywords: Perceptions of ICT-supported learning environment, deep approach to learning, surface approach to learning, students' characteristics, Principles of Accounting

Introduction

A business or organisation communicates its results and position to its stakeholders through the use of financial statements. Given that financial statements are among the deliverables of an accounting task, accountancy is widely referred to as the "language of business". Basically, accounting is seen to involve the process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information [1]. Fundamental to the identifying and measuring processes, is the application of the double-entry book-keeping system to record financial transactions which conducted under the procedures named as accounting cycle. It involves a set of steps in preparing the financial statements for a given period. All these steps are inter-linked and it requires students to employ deep approach to learning in order to master the whole set of accounts throughout the accounting cycle rather than fragmentally studying on each of the accounting procedures. The deep approach to learning represents a personal commitment to learning through seeking meaning of the contents, trying to relate parts to each other, associating new information with existing prior knowledge or to personal meaningful context. It is contrasted with surface approach to learning which is characterised by motivation to acquire only sufficient knowledge to complete the task or pass the subject through rote learning [2, 3, and 4].

In 2010, the Malaysian Ministry of Education (MOE) has committed an effort to transform the curriculum and assessment of the fundamental accounting subject in secondary schools, the Principles of Accounting, from content-based to skilled-based with the aims to enable students to practise deep approach to learning with ICT [5]. The effort undertaken is to overcome the learning problems which will be discussed in the next section. However, to what extent the effort is able to impact positive changes in students' learning is the main issue underpinning the present study.

1. Research Motivation

Unlike other disciplines, accounting is a technically-oriented subject and hence, the teaching of accounting was found to be dominated by the objective of training students to know facts and solve problems from a procedural perspective [6]. Thus, it was observed by few researchers that students always perceive that learning accounting is simply about learning a set of rules and evidences suggest that they tend to adopt a surface learning approach compared to other subjects [7, 8].

Similarly, in the Malaysian context, students' learning for the subject of Principles of Accounting has yet to achieve deep approach as it was found that most of the accounting teachers tended to use the teacher-centred teaching methods such as lecture, drill and practice and demonstration of problem solving by teachers [9]. Such methods could lead to surface learning where the lower-level procedural skills are acquired without processing information for meaning. This problem could be attributed to the former curriculum and assessment of Principles of Accounting (before year 2010) which were arranged in such a way that the process of accounting cycle was fragmented by its steps. Students learnt each part of the process through the method of drill and practice where they were exposed to exercises or problems which were related to that portion of process only. In other words, there were different sets of exercises or problems for each of the steps of accounting cycle e.g. exercises for journal-entry were unrelated to exercises in trial balance. The division of the book-keeping procedures negates the students' skills and knowledge to relate every aspect of accounting into a coherent whole [10]. Under this learning content structure, students were more oriented towards surface approach to learning as they treated parts of the subject as separate entities and failed to master the full set of accounts. Moreover, students lacked exposure and were not encouraged to engage in deep learning approach through technology [11]. It further proves that students are lacking ICT skills to handle a full set of accounts where these skills have long been heralded as a crucial element in both professional accountancy and accounting education [12].

The launch of the revised curriculum and assessment signifies the commitment of MOE to improve learning quality which enables students to have a coherent understanding of accounting through enhancing their competencies in preparing a full set of accounts with the assistance of ICT. The overarching question now is how effective is the ICT-supported learning environment as perceived by students in influencing their deep approaches to learning? What are the other factors which influence students' approaches to learning? Is the perceived ICT-supported learning environment a mediator factor between individual personal characteristics and approaches to learning? All these stand as the general motivation for the present research.

2. Research Questions

The research questions for the present study are suggested as below:

I. Do the students' perceptions of ICT-supported learning environment (in terms of Personal Growth, Assessment, and Relationship) influence their approaches to learning?
II. Do the students' characteristics (in terms of Prior Accounting Knowledge, Academic Ability, Preconceptions of Accounting, and ICT Proficiency) influence their approaches to learning?
III. Is the students' perceived ICT-supported learning environment a mediator between their characteristics and approaches to learning?

3. Contribution

This study adds to the body of accounting education and student learning literature by investigating students' approaches to learning in the ICT-Supported Learning Environment through examining their perceptions of the environment and personal characteristics. It was commented that the direct investigations of students' perceptions are scant, particularly in relation to technological innovation in the learning environments [13]. Thus, this study makes a prima facie contribution for accounting educators to obtain the captured reflective voice of students. Furthermore, the findings of the present study could provide important information for educators on which aspect of the learning-teaching context can be altered for the sake of improvements in teaching and learning, curriculum, and assessment that encourages deep learning approach.

4. Methodology

This research employs a correlational research design. It aims to establish the empirical relationships of students' perceptions of ICT-Supported Learning Environment, their personal characteristics, and aprroaches to learning through using of Structural Equation Modeling (SEM) analysis method. A closed-ended questionnaire will be distributed to secondary school students who have completed their school-based assessments of Principles of Accounting. The questionnaire will be adapted from the instruments of Learning Process Questionnaire (LPQ; reliabilities for the subscales: .58-.75)[14] for measuring approaches to learning; Technology-Rich Outcomes-Focused Learning Environment Inventory (TROFLEI; reliabilities for the subscales: .77-.95)[15] and Course Experience Questionnaire (CEQ; reliabilities for the subscales: .67-.88)[16] for assessing Perceptions of ICT-Supported Learning Environment; and Expectations of Learning Accounting Inventory (ELAcc; reliabilities for the subscales: .67-.92)[17] and ICT Skills Audit Scale [18] for appraising the individual student's characteristics.

5. Preliminary Results

To ensure the successful implementation of the revised curriculum by 2010, a "try-out" project was conducted in 150 technical and national secondary schools nationwide in Malaysia in 2007. Studies on students' receptiveness on the ICT-supported learning environment have been conducted in the "try-out" project which involved 1,322 respondents. The results revealed an overall positive tendency of all the dimensions of receptiveness (with mean values above 3.5 of a 5-point Likert scale) by students with the under-achievers demonstrating significantly higher receptiveness in terms of the dimensions of Skills Acquisition (M = 3.818, SD = 0.522), Teaching Competency (M =

3.755, *SD* = 0.707), and ICT Liking and Utility (*M* = 3.819, *SD* = 0.587) than the high-achievers (*M* = 3.714, *SD* = 0.768), *t* = 2.913, *p* = 0.002 (one-tailed); (*M* = 3.606, *SD* = 0.832), *t* = 3.464, *p* = 0.0005 (one-tailed); and (*M* = 3.618, *SD* = 0.776), *t* = 5.316, *p* = 0.0000 (one-tailed) [19].

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