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The Use of Accounting Software for Effective Teaching and Learning Introductory Accounting: A Pedagogical Discussion

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Abstract: The use of accounting software in teaching and learning accounting has been widely proposed by many prominent academic scholars. The shift from conventional educational process to an innovative practice allows the relevant and contemporary knowledge and skills to be spread and developed holistically in an attempt to produce accounting graduates who are equipped with the required competencies to fulfill the demands of the ever-changing business environment. The ability to integrate accounting knowledge with computer skills is arguably pivotal in producing high quality human capital. The failure to produce advanced and multi-skilled future workers may adversely tarnish the role of the accounting education system that serves as a platform for preparing professional accountants. The main aim of the study is to provide a pedagogical discussion on the potentiality of employing accounting software in teaching and learning introductory accounting knowledge. It is argued that accounting software offers an alternative pedagogy that is able to instill relevant and fundamental knowledge of accounting, while at the same time enhance the Information and Communication Technology (ICT) skills among the students.

Key words: Accounting software, teaching and learning, introductory accounting, accounting education, higher learning institutions, innovative pedagogy

INTRODUCTION

Accounting education in many parts of the world has been subjected to intense criticisms. The eroding quality of accounting graduates due to a serious mismatch between the demand of the market and the supply of future accountants (Howieson, 2003; Jackling and Lange, 2009; Bui and Porter, 2010), lack of critical non-technical skills (Hassal *et al*., 2005; De Villiers, 2010), over-emphasis on the content-driven approach in which textbooks are overly used (Ferguson *et al*., 2007) and the increasing cases of academic dishonesty (Burke *et al*., 2007, Kassim *et al*., 2015) have become amongst the prime subjects of constant debates in the accounting academic domain. Although the contributing factors for these problematic occurrences vary, critics are of the opinion that one of the fundamental flaws in the existing accounting education is that the teaching pedagogy remains static and has not dynamically grown at the same pace of the accounting profession (Ainsworth, 2001). Consequently, the accounting graduates are being ill-prepared and this may adversely affect the quality of their performance in the workplace. The majority of the accounting educators claim that the teaching approach being practiced at the university level often produces accounting graduates with many staggering flaws including a serious lack of creative thinking abilities (May *et al*., 1995). The students' perspective of thinking is too confined in the sense that it becomes difficult for them to think outside the box or go beyond the boundaries of accounting realm. Perhaps such deficiency is attributed to the persistent stereotypical images being referred to accountants such as nerdy "bean counters", introverted, boring and antisocial to highlight some instances (Wessels and Steenkamp, 2009). To a certain extent, these stereotypes appear to disregard the true role of accountants who are increasingly expected to have multi-disciplinary skills and able to produce business and accounting related information and engage in a variety of managerial functions (Villiers, 2010).

The Malaysian accounting education system suffers the same shortcomings and calls for reform have been put forth by many local accounting educators. In response to such urgent calls, the Malaysian Ministry of Higher Education (MOHE) has released a blueprint entitled Halatuju 2: Reassessment Report on Accounting

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Program at Public Universities of Malaysia 2006. In the blueprint, one of the main aims listed is to ensure that public universities are able to produce high quality accounting graduates who are able to integrate and apply multi-disciplinary knowledge and skills in overcoming the challenges of the modern day business environment. To further strengthen the educational system, in 2013, MOHE launched the National Education Blueprint 2013-2025 that serves as an on-going effort in producing balanced graduates in a holistic and integrated manner. The blueprint highlights eleven strategic and operational shifts that are aimed at bringing improvement to the quality of education in Malaysia. One of the vital strategies included is to link the use of Information and Communication Technology (ICT) in the learning environment. Under the contention that ICT brings considerable impact of the manner in which knowledge and skills are disseminated and developed by students, the use of ICT and computer technology have been spurred to encompass the different levels of educational environment including at the university level.

The core focus of this study is to engage in a pedagogical discussion on the use of the accounting software in teaching and learning accounting. In tandem with the rapid advancement of ICT and computer technology, it is posited that the software may provide an impetus for educators to employ it as a pedagogical instrument for more effective approach in facilitating the students' understanding of the theoretical basis and the technical parts of accounting. The remaining parts of the paper are structured as follows. The importance of ICT and computer technology in diverse areas of accounting is presented in the next section. The empirical evidences suggest a number of potential benefits that could be derived through the employment of computer and technology assisted learning styles. Despite the benefits, there are also some challenges that need to be faced by the educators. A conclusion ends the studu.

IMPORTANCE OF ICT AND COMPUTER TECHNOLOGY IN ACCOUNTING EDUCATION

There are numerous challenges in teaching and learning accounting. For example, the challenge of "instrumentality" becomes potent as the main motive for studying accounting is often linked to the future extrinsic rewards instead of for the love of the subject (Marriot, 2004). Moreover, the learning style of the students is repeatedly rooted in surface learning as deep learning is unfavored. These challenges pose a serious threat to the quality of accounting graduates and the survival of the accounting profession. Hence, as an attempt of reinforcing the teaching and learning processes, many scholars have suggested exploiting the potential benefits of ICT and computer technology in the accounting education (Goffe and Sosin, 2005; Stanley and Edwards, 2005). As Marriot (2004) argues, using computer simulations and spreadsheet models as pedagogical approaches can enhance the experiential learning opportunities particularly for students who prefer more abstract and theoretical learning styles. By focusing on the financial management field, Marriot (2004) finds that such an approach offers an enjoyable, challenging and rewarding learning experience.

The argument indicating that ICT and computer technology could bring significant improvement to students' experiential learning is supported by Stanley and Edwards (2005). To them, by using interactive multimedia technology in teaching accounting information system cycles, it can replicate the learning experiences provided in a practical environment and thus offer virtually real world situations to the students. Arguably by doing this, the students are presented with the opportunity to participate and ultimately obtain valuable insights from this context rich learning environment. The computer technology is often manifested as an effective approach to teach accounting as it allows faculty members to change the delivery method and avoid rigidity. Craig and Amernic (2006) are in agreement on the contention that educational software technology such as Power Point offers flexibility and has a profound effect on higher education and arguably can bring a host of positive outcomes to the students' learning process. However, they warn that any initiative to embark on new technologies in teaching should be thoroughly thought rather than accepting them blithely and unquestionably.

According to Hurt (2007), given the current situation where the business environment is rapidly changing which requires information to be prepared and speedily disseminated, the accounting education should no longer emphasize on the technical development. It should highlight on developing the fundamental skills as demanded by the profession. In response to this situation, he recommends for a revamp in the existing accounting educational system by introducing a six-layer curriculum (careers in accounting, essential skills, accounting foundations, service learning, specialization and the role of accounting in society). In one of the proposed layers, the accounting students are required to possess pivotal skills in pertinent software tools that cut across the conventional areas of accounting practice. McKee (2004)'s study is one of the experimental evidences in relation to the application of customized multimedia software in teaching cost and managerial accounting subjects. The anecdotal evidence in his study

suggests that by using such software, it effectively increases students' understanding of the basic components of a cost system. Besides, it offers a multisensory experience and serves as an interactive avenue for the students to better see the connections between an array of account components.

In a related study, an experimental research was conducted to examine the impact on the use of intelligent learning and assessment software on knowledge acquisition of students in the financial accounting area (Baxter and Thibodeau, 2011). They contend that the software provides a unique mechanism for educational teaching in introductory accounting courses that address functional competencies of financial accounting. The results of the experiment suggest that students who use the software perform significantly better on the exams that tested the underlying financial accounting materials. Another study by Kuruppu (2012) shows a practical approach in incorporating audit software into the auditing curriculum. By using the audit software known as Audit Command Language (ACL), Kuruppu (2012) offers a tested but flexible pedagogy in the teaching of auditing. The feedback obtained from the students has been positive. About 86% of the students agree that such style of instruction avoids rigidity and serves as a highly effective tool in learning auditing.

The research of Boulianne (2014) presents one of the most current empirical evidence on the impact of accounting software on students' knowledge acquisition. By surveying the differences in knowledge acquisition of 3 different groups of students (students who completed accounting case manually using pencil and paper approach, using accounting software and first manually and then using accounting software), Boulianne (2014) discovers some interesting findings. Firstly, students who first completed the case manually and then used the accounting software to complete the same case experience the best knowledge acquisition. Secondly, students who use only the accounting software to complete the case experience better knowledge acquisition as compared to the ones who only complete the case manually. Therefore, these results suggest that accounting software has significant impact on knowledge acquisition of the students. If it is used together with the traditional system of teaching and learning, it has the potential of yielding even better performance.

EMPLOYING ACCOUNTING SOFTWARE IN THE TEACHING AND LEARNING OF ACCOUNTING

The foregoing review of prior studies indicates that by using relevant computer software and technology, a new form of learning environment is created and it offers an alternative platform in teaching and learning in many areas of accounting. The empirical evidences exemplify favorable impacts that can be provided to the students rather than only focusing on the traditional approaches. Although remaining relevant, the traditional approaches have been constantly blamed for producing accounting graduates who have good technical abilities but with an acute shortage of relevant skills and expertise. The demands of the evolving business environment have necessitated some changes in the manner in which accounting knowledge and skills are being imparted and developed in students. Arguably, the use of computer software becomes inevitable and educators which being the agents of knowledge transfer and skills providers should exploit the potentials that such technology can offer for the benefit of the students.

The extant literature has also indicated that the accounting software can be employed in many areas of accounting. Due to its flexibility and the embedded special features, the delivery methods in computer-assisted technology settings are more attractive and effective. However, the educators should not solely depend on the accounting software in delivering knowledge of accounting to the students. For example, Connell *et al.* (2011) argue that the heavy reliance on accounting software to one extent might enhance the students' academic score. But, to the other extent, it might potentially hinder the students' learning outcome in understanding the basic accounting procedures and concepts. A number of academic scholars have addressed skepticism that teaching students by merely using accounting software can create graduates with over-reliance on accounting software, but less sensitive to changes and non-routine transactions (Ijiri, 1983; Togo and McNamee, 1995; Wood *et al.*, 1998; Connell *et al.*, 2011).

Ideally, there should be a balance in using accounting software in teaching and learning activities. As suggested by Wood *et al.* (1998), the accounting software should be treated as the "transparent box" where the users must first understand the contents of the knowledge before the system can be used. The use of the system is considered as "an automation of manual procedure" and the application of the theoretical knowledge in accounting (Wood *et al.*, 1998). Nonetheless, the availability of many accounting software in the market can further contribute to its widespread usage in the education system as a pedagogical instrument.

CHALLENGES IN IMPLEMENTING ICT AND COMPUTER TECHNOLOGY IN CLASSROOMS

In the foregoing discussion, the use of accounting software in teaching and learning has been argued to provide several advantages to both educators and students. However, despite its advantages, there appear

to be some major challenges faced by the educators in Implementing the ICT and Computer Technology in classrooms. In order to ensure effective teaching, the educators need to match the teaching style with the learning style of the students. Students who are passive learners and depend too much on the educators might face difficulties with the use of computer technology, since it requires the students to participate actively in the class where they are expected to interact directly with the problem solving. As argued by Groff and Mouza (2008), students who prefer the traditional learning environment, where the educators play an active part to lead the class, might face problem since the learning environment in computer-assisted technology requires the students to be active learners rather than expect the educators to guide them. The learning process is being shifted to student-centered environment.

On the other hand, the application of accounting software in the introductory accounting courses might hinder the process of understanding accounting concepts and principles (Helmi, 1986). This is because the students may heavily rely on the automatic functions provided in the accounting software without understanding the basic accounting principles behind them. In fact, some accounting softwares enable students to record the business transactions step by step but providing less opportunity for the students to critically think of the impact and reasons behind the records (Bagranoff, 1993). Consequently, this may create students with technical knowledge but with a lack of understanding on the fundamental knowledge in accounting.

In addition, applying computer technology in the class requires substantial investment in preparing the infrastructure and facilities to develop a proper learning platform. Often, due to budget constraints, the technology enabled classrooms are limited and insufficient to cater for a large number of students. As a result, it fails to provide support for in novative teaching methods (Howieson, 2003). As stated by Kipsoi *et al*. (2012), huge investment is needed to acquire the relevant hardware, software, infrastructure and the internet connection. Similarly, the educators and the technical staff may have to undergo periodical training workshops to enhance their skills and expertise. Hence, the training cost, in the short run, may increase and this is likely to adversely impact the university's budget which is already tight.

Another challenge is the educators' readiness in embarking on computer technology-oriented pedagogy. Although, educators are the subject expertise of the accounting subject, but somehow they may have a lack of computer-technological skill. This shortcoming in turn may hamper the teaching and learning process. Therefore, in order to ensure the educational goals are attained through the use of accounting software in teaching and learning accounting, educators are also required to equip themselves with such skills. The scarce resources faced by the educators are among the constraints which are giving them limited access and time to get familiarized with the computer software (Hennessy *et al*., 2015).

Furthermore, there is a limited time for educators to finish the subject content. By implementing the computer technology, the interaction between students and educators is likely to be increased and consequently, the lesson plan may not be able to be completed within the stipulated duration (Hennessy *et al*., 2015). As the new pedagogy allows students to play an active part in the learning process, more time is required by the educators in explaining the subject matter since it is now integrated with the accounting software.

CONCLUSION

Teaching and learning are a two-way communication process requiring an active participation on the part of the educators and the students. However, in most occasions, the students prefer to remain passive in class and let the educators do the "chatting" and "talking". In overcoming this apparent flaw in the tertiary education, the use of accounting software in teaching accounting courses is arguably pivotal to facilitate active learning and proves to be beneficial as it enables the achievement of different teaching and learning goals simultaneously. The employment of accounting software motivates the students to play an active role that can assist them to better understand the subject matter by simply doing what they are expected to be doing in the real world.

Learning basic accounting knowledge by using textbooks is not only dull and boring, but can sometimes be difficult to grasp. Therefore, it can be very time consuming to the educators to keep on explaining certain accounting concepts and principles to the students. However, the accounting software allows the students to apply the knowledge acquired in the class and this, therefore, can accelerate the learning process. For example, Lusher *et al*. (2012) have provided evidence that students who are constantly exposed to the computerized classroom perform better in an introductory financial accounting assessment as opposed to the students in the traditional setting. Hence, the application of accounting software in teaching basic accounting can be regarded as a teaching innovation that supports the traditional teaching and learning processes.

In addition, the rapid growth in ICT poses a big challenge to the traditional teaching which does not equip students with computer literacy and accounting software skills. Therefore, there is a need for accounting educators to modify the course syllabus to be in line with the technological changes in the business world (Abed, 2014). As discussed earlier, accounting software has the potential of improving a student's understanding on the basic accounting subjects. Therefore, the teaching and learning activities can be dichotomized into the traditional method and the employment of accounting software to further accelerate the students' knowledge acquisition. Perhaps such an approach may be able to equip the students with a strong theoretical and practical knowledge in accounting and may either directly or indirectly prepare them to confront with the challenges in the real workforce.

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