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PARADIGM OF SHIFT IN ASSESSMENT: CONSTRUCTIVIST AND INSTRUCTIONAL TECHNOLOGY MODEL

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Abstract
The essence of Section 15 of Malaysian Qualifications Framework (MQF) guidelines and standards launched by Malaysian Qualifications Agency (MQA) in 2007 emphasizes eight domains of learning outcomes, which are significantly beneficial for Malaysia to ensure graduates employability. The MQF standards are in line with the Accounting and Finance related industries' competencies requirement to meet the ever-demanding future accountants' profession. In addition, the advancement in information and technology has prompted Institutes of Higher Learning (IHL) to utilize computer-aided or e-learning types of assessments to replace or complement the traditional paper-based methods of assessment to evaluate the achievement of the students' skills and competencies. Educators must realize that the learning styles of students in the 21st century have moved towards student-centered learning and educators act more as facilitator in the learning process. Therefore, it is imperative for educators to evolve into more innovative types of assessments which can evaluate 21st century industries' competencies requirement as well as a combination of active and collaborative learning tools. This study attempts to put forward a combination of Constructivist Teaching and Learning theory and technology in promoting and incorporating visual learning and assessment tools in the classrooms using a "Constructivist and Instructional Technology Model".

Keywords-- graduate employability, e-learning assessment, industry competencies, constructivist, instructional technology

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INTRODUCTION

Passion in teaching is one of the most important factors when pursuing the career in education. However, more often than not, those who enter into the teaching profession are those who lack the "real" passion and interest in teaching. Teaching profession is considered as the last resort to gain employment especially during economic downturn when finding job is difficult. In addition, those who decided to shift to the teaching profession are sometimes originally from the industries. The misconception is that teaching profession is less hectic as compared to working in industries.

Consequently, the majority of educators with industry background are only trained in their respective field of professional expertise for example engineering, architecture, multimedia, information technology and accountancy but not in teaching or cross discipline between the professional areas and teaching. These educators who decided to enter into teaching profession are either not well-trained in teaching pedagogy or the higher learning institutions which is their employers do not provide sufficient training in terms of this teaching pedagogy especially in institute of higher learning setting.

Furthermore, this also explains the scenario on why little empirical studies have been conducted in relation to Accounting and Finance education in the areas of curriculum design, teaching and learning pedagogy as well as testing and evaluation or assessment methods in Malaysia. Ainsworth (2001) argues that typically Accounting and Finance educators feel comfortable to discuss research with colleagues in the professional Accounting and Finance related areas but discussion in relation to Accounting and Finance education are far less common and uncomfortable.

EVOLVING VIEW ON ROLES OF STUDENTS' ASSESSMENT

However, there is an evolving view of students' assessment which encompasses a dynamic process of continuous evaluating students' progress towards achieving course learning objectives and outcomes. (Apostolo, 1999). This view foresees that this type of continuous assessment can assist educators to enhance students' learning as well as provide feedback to the on whether the students' have been able to achieve the learning objectives and outcomes of the course content materials. Apostolou (1999) further emphasized a comprehensive assessment programme is one of the key instruments to support continuous quality of programmes offered by Institutes of Higher Learning (IHL). Furthermore, according to this view, assessment should be regarded as integral part of the teaching and learning process instead of merely a separate activity from teaching-learning instructional and curriculum.

In the context of institutes of higher learning in Malaysia, this practice however, is unusual practice. Instead, "assessment" of students' performance is viewed as how successful the students are in achieving grades and mostly scores achieved in the final examination. Students are mostly evaluated based on the number of A's grade that they attained. As a result, most of the "assessments" given to the students are only focusing on ways to achieve good grades especially in final examinations. At this juncture, the "actual" purpose of "assessment" has been diverted into scoring good grades normally in term of high cumulated grade point average (CGPA) rather than providing room for improvements for the students to learn or acquire the learning outcomes of these courses.

As a result, when these students graduated, those who score higher grades or very high level of CGPA are unable to secure

employment due to lack of soft skills such as communication skills, ability to solve complex problems, or even lack of ability to work in a group (team work). Thus, a lot effort has been put forward by the Ministry of Higher Education (MOHE) in Malaysia to improve the students' skills to meet employers' needs. One of the views is to improve the way instructors evaluate students' performance. Educators or lecturers alike who play the role of instructors in institutes of higher learning are being urged to come out with better methods of assessment to incorporate these soft skills to ensure that students are able to acquire the skills upon graduation and ready for employment.

Garfield (1994) argued that, mathematics related courses such as Statistics courses have always been perceived as mastering a set of skills, procedures and vocabularies. Therefore, educators' central focus of testing and evaluation on these types of courses has been to assess students' computational skills or the ability to retrieve information through memorization. This suggests that students' ability is only tested on the basic knowledge and comprehension or lower level of cognitive domain. The current system fails to assess the higher-order domain of skills such as problem-solving and critical thinking ability and application of complex concepts (Garfield, 1994). This scenario can be clearly seen in Malaysia education system especially at the higher learning institutions level. Malaysian students have the tendency to excel in memorization skills but lack of problem solving and critical thinking; application of theories and concepts as well as presentation skills. Majority of the students that the nation produces has no problem in computation skills but again lack the ability to apply complex concepts to real-life situations.

INDUSTRIES COMPETENCIES REQUIREMENTS: ACCOUNTING AND FINANCE AREAS

According to the CFA Institute Asia-Pacific Career Guide 2014, some of the competencies requirements by the Accounting, Finance and Investment related industries include skills such as analytical, intrapersonal, problem solving, communication, critical thinking other than the basic quantitative and mathematical skills. This is supported by Ainsworth (2001) who stressed that future accountants should acquire three most important different sets of professional skills: communication skills, personal and attitudes as well as problem solving.

Based on this, it is becoming more essential and critical for educators in Malaysia to develop new methods of students' assessment to assess the learning outcomes of the accounting and finance related courses based on the competencies requirements of the industries. This is because the traditional methods of testing students' performance only involve evaluating students' performance in order for them to have the ability to compute answers and apply formula. On the contrary, current learning outcomes of accounting and finance related courses demand students to have higher-order skills of cognitive domain such as solving real world problem and using critical analysis and rationalizing.

NEW ALTERNATIVE METHODS OF ASSESMENT FOR SKILLS DEVELOPMENT OF FUTURE ACCOUNTING AND FINANCE GRADUATES

The advancement in information and technology has also prompted IHL to utilize computer-aided or e-learning type of assessment to replace or complement the traditional paper-based methods of assessment (Marriot and Lau, 2008). Marriot and Lau (2008) further stated that computer-aided or e-learning assessments provide automated feedback immediately. This suggests that students can get feedback in a speedier manner as compared to traditional paper-based methods of assessment and this in turn will assist students to take faster corrective actions to improve and enhance their learning. In discussing further on this matter, Garfield (1994) further stressed that in order to develop thinkers in the areas of Accounting and Finance, as the accounting course objectives and learning outcomes become broader and more ambitious, it is essential to move away from the traditional methods of assessment.

CURRENT SCENARIO IN MALAYSIA'S INSTITUTE OF HIGHER LEARNING

Similar to other programmes being offered in institute of higher learning, one of the components related to Accounting and Finance education is in the preparation of assessment and evaluation for students. In the context of higher education in Malaysia, due to lack of training in teaching, more often than not, the assessment provided for students by Accounting and Finance educators is merely justified as assigning a grade for students to pass their examination and not as a tool to enhance or improve students' learning, let alone ensuring learning outcomes or the necessary skills to be acquired by the students in the respective course have been attained.

This, in turn has become a "destructive force" to the students' motivation, interest, learning engagement and passion in acquiring the necessary knowledge and skills for their future employment after graduation. Marrriot and Lau (2008) state that although student motivation has connection with their desire to participate in the learning process, there exist relationship between students' motivation in learning process and the underlying objectives or goals which affect their level of involvement in academic activities. Ottewill (2003) in his studies revealed that the primary motivation for business and management students were driven by extrinsic rather than intrinsic factors with students motivated by prospects of gaining employment and career consideration.

Garfield (1994) provides information and awareness on how "assessment" can be used in order to improve students' learning as well as enhancing the skills that the students are supposed to acquire from the various courses enroll by students. Garfield (1994) further states that generally people view 'assessment" and "evaluation" of students' performance in different context and perspective. In elaborating further on this issue, he claims that most mathematical related faculties especially view assessment as merely giving grades or scores in final examination, quizzes and assignment to students. In addition, Mathematics related courses such as Quantitative Studies, Accounting and Finance are perceived as mastering computational skills and procedures through memorization which relates only to lower level of cognitive domain ignoring the higher level of cognitive domain such as problem solving, application of complex concepts, presentation, communication and other soft skills.

This also implies that Accounting and Finance related courses which are traditionally mathematical based also shares similar views. In this instance somewhere, something went terribly wrong and the main issue and question which arise from the above scenario is "Does our current education system fail to use the correct method(s) of students' assessment?"

21st CENTURY STUDENTS' LEARNING STYLES

The 21st century learning styles by the students has evolved tremendously and totally different from their predecessor. The 21st learning styles focus more on the students' needs, interests and abilities.

The students are the knowledge creator and learning processes are based on intentional learning. In other words, the students develop their own self-awareness about the reason for study, the learning process itself and how education is used. The theory associated to this is called constructivist learning theory. According to Duffy and Jonassen (1991), constructivists believe that knowledge are constructed by people and do not exist outside the human mind. In addition, these learners' constructs

understanding and they do not simply imitate and just reflect or copy what they are told or what they read. As such, they will try to look for meaning and try to find regularity and orders in the absence of full or complete information.

Students were "active learners" who constructed new knowledge "as they moved through different cognitive stages, building on what they already knew" (Cushman et.al, 2003). Therefore, the constructivist learning process is an active learning process which involves active participation of the students or also known as student-centered learning not passive reception of teaching. Educator normally will act as facilitator in the learning process and students are the active participants. Since the students will be the knowledge creator, the key idea is for the students to construct their own knowledge. The role of the educators is to encourage active participation of the students through collaborative learning.

As posited by Spiro et al (1991), during the learning process, students may conceive differently from the external reality based on their set of experiences with the real world. However, through collaborative and cooperative learning with their peers, the students may discuss their understanding and as such stimulate as well as develop shared or consensus understanding. Constructivism proposes that learning environments should support multiple perspectives or interpretations of reality, knowledge construction, and context-rich, experience-based activities." (David H. Jonassen, 1998). In essence, the constructivist theory of learning comprises of five main components namely development of new knowledge by enhancing creativity and promote intellectual development, participation in collaborative and cooperative learning, critical thinking enhancement, opportunities to learn new things and students' empowerment to be successful in 21st century.

In relation to the use of technology, nowadays, in the era of new millennium, innovative tools such as Facebook, weblog, e-Portfolio, online Forum can be used as learning and assessment tools or instructional technology for young generation since they are more familiarize with this kind of technology. In reality, these tools are the virtual space in which the young generation is more comfortable to communicate. Hence, it is timely for us as educators to take this opportunity to go to where our learners have the familiarity and comfort to communicate and use these "space" as tools to enhance learning.

In essence, new "space" such as Facebook, e-Portfolio, online Forum etc. provides attraction to young generation. Almost all universities and colleges have been trying to embark the new technology in the learning processes. Based on this fact, a lot of research has been conducted on the new method of learning known as e-learning. In Malaysia, e-learning tools are still new in the Accounting and Finance education. That is why this paper proposed the latest use of technology in teaching and learning processes especially as innovative assessment tools in learning. This is because this new technology has been predicted to be widely used in Malaysia in the future. According to Ismail et al. (2010), e-learning tools is perceived to be an ideal delivery vehicle for learning to meet ever demanding competencies of the industries and complement the learning styles in the 21st century.

Hence, it is proposed that the constructivist theory to be combined with instructional technology by incorporating visual learning and assessment tools in the classroom called Constructivist and Instructional Technology Model as shown in Figure 1.

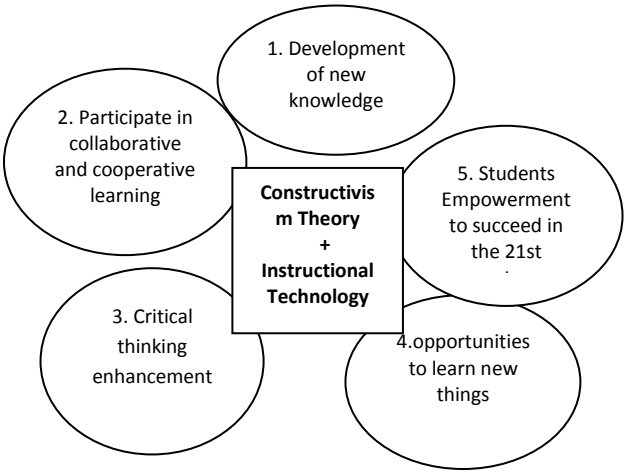

Figure 1. Constructivist and Instructional Technology Model

It is important to note that, educators need to develop new ways or alternatives of assessing students' performance. This is to ensure that assessment is not only used to evaluate students' merely on assigning grades but also as a tool to enhance and improve students' acquisition of the course learning outcomes. Hence, by applying this approach, the entire curriculum is driven by assessments that focus on two major items, i.e. Content Principles (well-defined learning outcomes) which is one of the most essential components for students learning and Learning Principles which should encompasses enhancement of learning of the courses alongside with good instructional practice and assessment (Garfield, 1994). The latter principle can be achieved through various teaching and learning approaches used by educators/lecturers to help students achieve the learning outcomes of the courses. Thus, developing an "assessment plan" is of prime importance. It is then very important to strategize the assessment activities so that it is manageable, and at the same time reasonably not overburdening the educators, yet able to give reliable and valid results of students' performance.

CONCLUSION

In essence, "assessment" is not merely a matter of giving students grades. More importantly, it should be viewed as a tool to ensure the development of students' progress in learning. Garfield (1994) suggested that the educators should review, revise and discuss with their colleagues on what they can learn from the assessment information. According to Stenmark (1991), educators should be more open on why and how these students are being assessed. Finally, educators should never be complacent, but continue to venture further into development and improvement of more innovative assessments as suggested under the "Constructivist and Instructional Technology Model" as well as different alternatives of assessment's methods in order to meet students' needs in acquiring the desirable learning outcomes of the courses and not merely focus on the grades entirely.

Therefore, further research need to be conducted to investigate the relationship between students' learning progress with the methods of assessment using the suggested model. In doing so, it is believed that the research can contribute significantly to the development of continuous quality "assessment" that can be beneficial to graduates' employability. Kamogawa (2003) stated that Malaysian Government believes that highly skilled human capital is the basis to develop the nation to become knowledge-based economy. This explains the reasons for the government effort to continuously reforming higher educational policies in both private and public IHL since 1990s (Kamogawa, 2003). Hence, this study can assist Malaysia's aspiration to develop and

produce highly skilled human capital as the country move towards becoming knowledge-based economy by 2020.

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