UNDERSTANDING STUDENTS LEARNING IN DECIDING HIGHER EDUCATION LEARNING PROVISIONS

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ABSTRACT

A key element of the higher education that contributes significantly to graduates' learning abilities emanates from the learning processes offered by the institutions of higher learning. This has become an absolute necessicitv as the workplace now demands graduates with positive abilities and effective life-long learning skills. The provisions for them to continue develop these skills must be captured in the higher education curriculum designs and learning processes f they are to qualify with these qualities. The current higher education situation in Malaysia demands the institutions of higher learning like UiTM to expand and improve quickly to meet the needs to educate the growing young population. While the agenda for this is in place, one important issue that has emerged is maintaining the academic quality in concordance with sharp student increase. This paper assesses this problem /y reviewing the key learning concepts and theories. The culminating findings are contextualise to express conceiving this phenomenon. In concluding, it suggests that all parties concerned must have the right appreciation of the basics of their students' learning to address the challenge of change that affect the students' learning provision.

Keywords: Higher education, institutions of hzgher learning, students and graduates, learning, urriculum design and delivery.

Introduction

The Star, 5th September 2006 reads:

> *"Universities should produce thinkers who can provide input and feedback in a productive, neutral and rational manner. These institutions must be able to instill a culture that promotes thinking skills and ongoing analysis. They should mould intellectuals capable of answering the big and small problems that may cross many geographical boundaries and disciplines"*

> *- Datuk Seri Abdullah Badawi*

The above quote perhaps best exemplifies the nation's expectations from the national institutions of higher learning.

Equipping graduates with students' learning skills is becoming a serious concern for universities these days. The increasing accelerated change taking place in the business environment demands the universities to produce graduates with competent skills and knowledge, and who are able to learn and adapt to continually 'grow' throughout their careers. The rapidly changing market is quickly transforming societies, businesses, organisations and work. The objective for employees today is no longer lifelong employment; instead it is to learn to continue stay employable (Carnwell, 2006; Oxtoby, 2006). To stay

above the employable threshold necessitates them to continually learn, and learn quickly to keep pace with the changes that are taking place around them.

The Malaysian universities and colleges today are feeling the impact of this demand. Not only must they effectively develop students with adequate knowledge and skills of a particular profession, they should also produce graduates who are more cogniscent, equipped with excellent social and learning skills to meet the demands of the employment market. In meeting this challenge, academics and researchers (Akinyeni, 2006; Mumford, 1995; Kuldip, 2006; Carnwell; 2006; Bryant, 2006) are alike in underlining the critical need of universities to develop students having intellectuality, right personality, analytical ability and soft skills. They maintain that these are the foundations of sustenance of students' careers.

Since the late 1990s, UiTM, one of the Malaysian public universities, has been expanding and will continue to expand rapidly. More branch campuses and academic centres are established in-line with the expansion of its academic programmes as the university gears to have 200,000 students by 2015. While this fast expansion is a positive development, to maintain the academic quality of such a rapid student increase has become a very difficult challenge. There are hints of concern that this expansion is straining the current human and physical learning resources of the university. In accommodating the expansion/changes, courses are now more competing for available resources; academic provisions are modified; the lecturer to student ratio is increasing; learning and teaching hours are extended. As a result, the human resource has to perform beyond their normal job expectations. It alarms that if this continues unabated, this condition will consequently compromise the quality of graduates that the university produces.

The debate on the validity of the causal relationship between the change/expansion and the wearing away of the student quality is continuing. However, this paper will not discuss it. In conceiving this phenomenon, it propositions that that the basis for judgment on this argument lie centrally on how the parties understand what students learning should be. The starting point to understand the students learning is to appreciate what and how students should learn, how their cognitive abilities can best be developed to facilitate learning, before designing and implementing their learning provisions. To conclude, it suggest that the parties responsible for designing, managing and implementing the academic provisions to holistically understand and appreciate learning, if they are to circumvent this subject appropriately before taking the whole issue forward.

Learning

Whilst there appears to be a common agreement that learning is about the attainment of knowledge and skills (Gravan, 1997; Mullins, 2002; Osborne, 1996; Beaton and Richards, 1997), different theoretical school of thought defines learning in different ways. For example, Martin (1998) and Matrix (1998) define learning as a process by which behaviour changes as resulting from experience. This definition is shared by Bandura (1986) but on the other hand suggests that learning should be a relatively permanent change in behaviour or in behaviour potential, which results from experience. Conversely, Jones (1994) proposes that learning does not necessarily mean change because even when learning results in change, it is not necessarily behavioural in nature.

Peters (1972) claims that it is too complex to define education. He suggests that being 'educated' as a state that individuals achieve and education is a set of process that leads to this state. He adds that education that must involve a learning process, is not a single event but a planned humanistic process and must involve understanding. In agreeing with Peters, Jarvis (1995) adds that education must not be restricted to a specific learning process, to a specific time in life or to a specific location.

There also appear to be no absolute definition to draw a clear distinction where or how learning takes place. Allman (1982) and Peters (1972) suggest the tendency for many to perceive education as the front-end model of learning, which occurs during the formulative years, and when socially matured education ceases. Geertshuis *et al* (2002) found from their research that learning takes place within complex social systems populated by a multiplicity of factors that influence perceptions of learning and performance outcomes.

Rodgers (1986) and Jones (1994) warn of the tendency for many learning provisions to overlook the learner's cognitive abilities, motivation to learn, experience of adult learners and their preferred learning styles. Hassan (2005), in his research suggests that learning is limitless and the nature of the learning process varies. He adds that learning must also include non-institutionalised and non-structured education and concludes that learning, which includes education, training or development learning is essentially about improving the human potential and capability.

Significance of life-long learning skills

There are many literatures, which reflect the importance of the learning skills of people prior to their employment. Amongst them, Handy (1999), Mullins (2002), Matrix, (1998), Mabey and lies (1994), and Osborne (1996) are consistent in maintaining the significance of learning of the people in learning institutions and organisations. They stress that human capital improvements spawn within the realms of education, training and development, which will in-turn contribute to quality and performance improvements of organisations.

Wills (1994) asserts that learning must be a key element of the organisational philosophy. Beaton and Richards (1997) maintain that learning through the process of education, development and training contribute to organisational success. Bechtel Earlier Learn and Squires (2001), Davis and Davis (1998), Johnson (1997) see learning through training as one of the key tools for change management. Bentley (1991) adds that only Mullins (200 continuous learning can assist meeting the changing demands at the workplace as learning knowledge gained has a limited useful life span.

The DJEE (1997) further impresses that well-educated and continuously well-trained workforce is the pre-requisite for competitiveness. Axtell et al (1997), in appreciating the benefits of training following the acquisition of knowledge and skills from the 'educational process', suggest that the initial transfer of skill during the 'education process' is an important prerequisite of subsequent application at the connected to workplace.

The learning dimension in higher education

Learning spans across a very wide area of study and it is beyond the scope of this paper to discuss in detail. However, as understanding the key concepts of learning is important for underpinning the higher education learning provisions, the following literature review presents seven key concepts of learning which should be the learning as fundamental for the design and delivery of learning considerations and feel.

The individuals' learning dimension

To begin with, Abdullah (2001), in his review of learning literatures in his thesis, notes that the individual learning process is associated with the individual's sensory input where information coming from the senses is transformed, produced, elaborated, recovered and used. He offers his conceptualisation of the individuals' learning process cycle', which as shown in Figure 1.
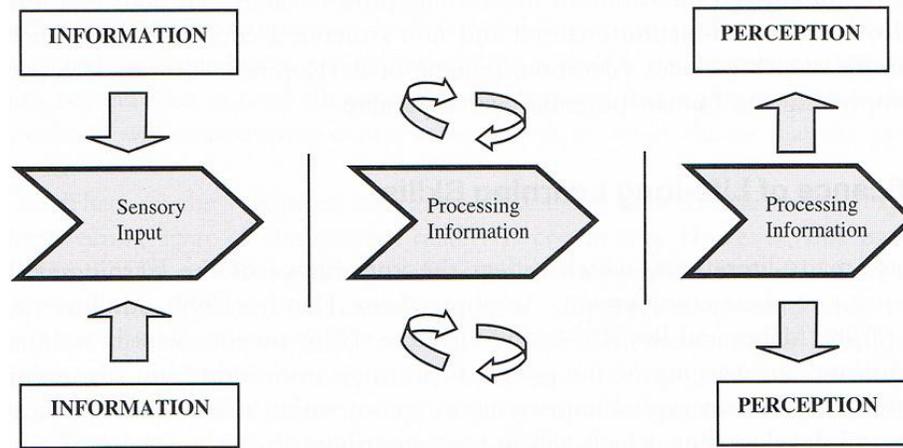

Figure 1: The individual's learning process (Abdullah, 2001)

Earlier learning concepts

Mullins (2001), Martin (1998), and Torrington et al (2002) identify that the later learning concepts on learning developed by management scholars today are rooted form principles that developed from the works of earlier leading psychology behavioural scientists such as Pavlov, Watson, Thorndike and Skinner.

Pavlov's *Theory of Classical Conditioning* demonstrates how instinctive reflexes could be 'conditioned' to respond to new situation and stimuli, Watson's Law of Exercise and Association refers to the process that occurs when two responses are connected together and when repeatedly exercised, illustrates the power of habits and the acceptance way of behaving. Thorndike's work drew attention to the outcomes of learning while Skinner's Theory of Operant Conditioning proves that response could be learned when the behavioural response is associated to a reward (or reinforcement) and could be broken down with punishment.

"Learning cycle"

Cognitive psychologists argue that the behaviourism is the 'passive' approach to conceive learning as they neglect cognitive 'active' elements such as curiosity, the desire to learn and feel. Muffins (2002) cite the works of Kholer and Tolman who proved that animals and humans were capable of cognitive behaviours, and Piaget who identified the stages of intellectual growth in humans. This spurred David Kiob (1984), who based his research on the works from Piaget, Dewey and Lewin (proponents of behavioural approach to learning), to argue that the cognitive theories on learning ignored the role of consciousness and subjective experience. He further researched and proposed the model of 'experiential learning cycle', which he believed reflected a better model for understanding learning. This model was further improvised by Mumford (2000) who suggested that the learning veers away from the

cycle after repeated exercise, and is now among the most frequently used model in management literatures today. This is shown in Figure 2.
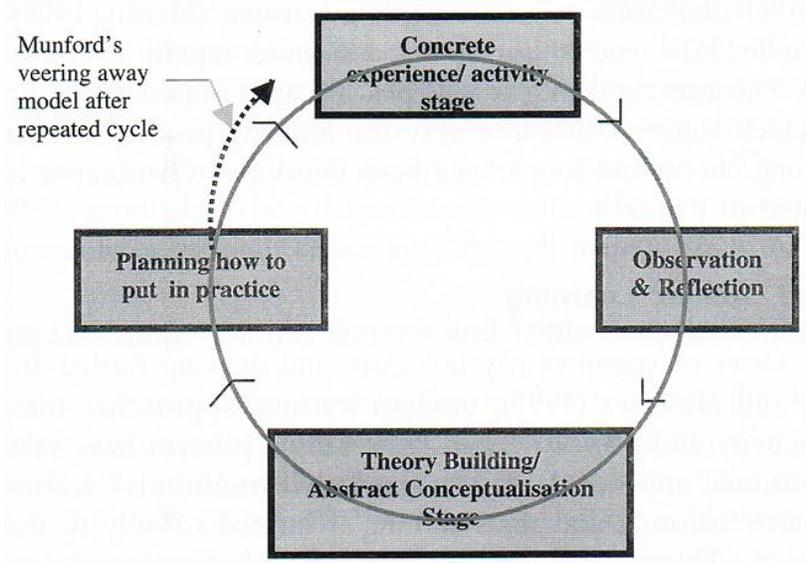
Figure 2: The learning cycles (Adopted from Klob, 1984 and Mumford, 2000)

Both their views emphasise that there is no end to learning; learning needs to be active, exploratory and test the environment (activity); the importance of reflections and internalisation (reflection). The useful way of understanding problems in the learning process (theory building) and using what is learned (putting it into practice) have remained as the fundamentals of learning. From another perspective, Mullins (2002) conceives learning from the personal dimension that relates to the factors in the 'environment' surrounding the individual, as shown in Figure 3.
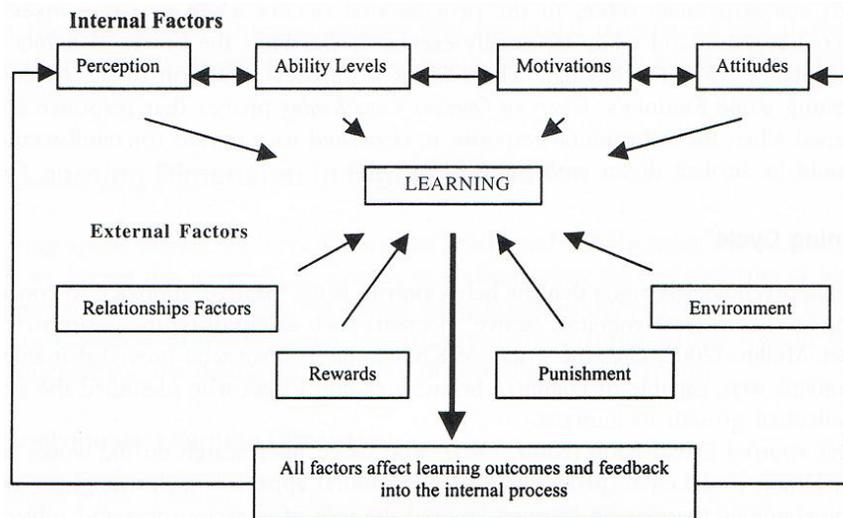
Figure 3: Simplified view of the learning process (Mullins, 2002)

"Learning curve"

The theory of learning based on the 'learning curve' is another important element that adds another dimension to understanding learning (Martin, 1998). It advocates the view that individuals tend to learn a new task more rapidly at first and the 'learning curve' is steep. The learning then gradually plateaus after acquiring significant experience. A variation which suggests that in reality the learning process is characterised by a series of learning curves and loops have been developed (Torrington et a!, 2002), and this is illustrated in Figure 4.
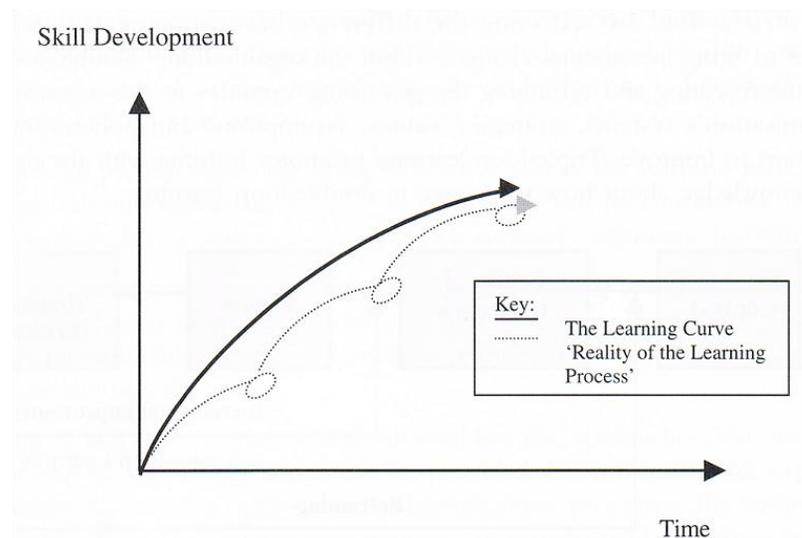

Figure 4: The learning curve (Adopted from Martin (1998) and Torrington *et al,* 2002)

"Passive" and "Active" learning

Following the views of cognitive psychologists, and drawing further from Rae (1995), Abella (1987) and Mathews (1995), modern learning approaches that emphasise on flexibility, reactivity and pro-activity in the learning process have taken prominence over the 'traditional approach'. It is argued that 'traditional' learning approaches promote 'passive' learning and that learning is limited to only to the listening and observing senses. This will not be very effective in harnessing the human cognitive and intellectual potential.

There is a change to 'active' learning approaches where the learning is more associated with 'action learning', 'experiential learning' and 'problem-based' learning. Active learning approaches emphasise the importance of the exploration of thinking, reflection and transformation. This has taken prominence since as can be exemplified in the provisions of education and learning in the developed countries. Abella (1987) identifies task force exercise, case discussion, simulation and games; role-play exercise, group discussion, individual exercise, presentation/lectures and behaviour modelling are the common methods that can be applied in the learning process.

"Incidental" and "intentional" learning

A sub-set to learning is the concept of 'incidental' or 'informal' and 'intentional' or 'formal learning' (Nedler and Nedler, 1999; Thomson, 1990). The notion that 'incidental' or 'informal' learning is the process where the learning occurs during the course of doing things, whilst 'intentional' or 'formal' learning that entails deliberate and structured presentations. Abdullah (2001), Bee and Bee (1998) and

Reid and Barrington (1999) mutually believed that to promote effective learning, individuals should learn not only by adaptation but also through manipulation or 'interventions'.

Organisational learning: "single, double and triple-loop learning"

Drawing from the conviction that organisations too need to learn the dealings of their undertakings, and to ensure that they themselves continue to improve to be effective, the Single, Double and Triple-Loop Learning theories are amongst the most commonly cited theories in the study of organisational learning. This is illustrated in Figure 5.

Single-loop learning suggests that an organisation will be able to learn when the organisational entities i.e., the individuals, groups or the organisation itself are able to modify their actions by reflecting the difference between expected and obtained outcomes to bring incremental changes within the organisation. Double-loop learning suggest interrogating and reframing the governing variables to the organisations (i.e., the organisation's systems, strategies, values, assumptions and policies, etc) for the organisation to improve. Triple-loop learning promotes learning with the development of new knowledge about how to engage in double-loop learning.
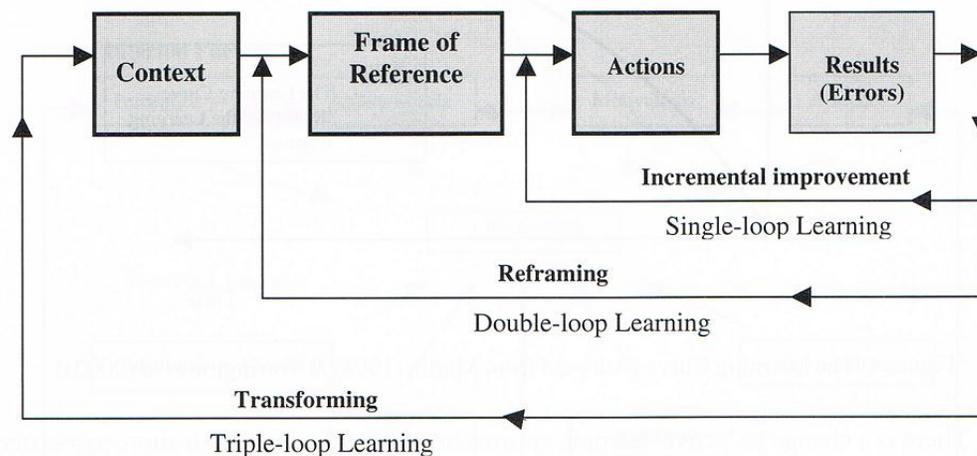

Figure 5: Single, Double and Triple-Loop Learning (Adopted from Argyris (1978), Argryis and Schon (1996) and Welsh (2004))

'Single-loop' learning suggests that incremental change within the organisational processes can be achieved through the continuous process of identifying and correcting failures/mistakes. 'Double-loop' learning extends the application of the similar process at the broader organisational operational level. Triple-loop learning involves transformational learning with the development of new knowledge about how to engage in double-loop learning. This may often lead to radical changes to the governing variables culminating from the actions that have taken place.

Culminating views on learning for higher education

Central to understanding learning within the context of this article, the key findings emerge as follows:

- Understanding how humans learn is a critical starting basis to understand learning. The basic concepts of learning as highlighted by Klob (1984), Mumford (2000) and Muffins (2002) in this paper provide an easy base to envision human learning.
- The most basic and simplest way to learn is through the process of 'conditioning' to begin learning. Responses can be learned when behavioral responses are associated with practice, rewards and reinforcements. This however, should not be the primary basis for learning in higher education because it tends not to promote their cognitive potential. As pointed by Rogers (1986) and Jones (1994) learning must transgress beyond the views of Pavlov's Theory of Classical Conditioning, Watson's Law of Exercise and Association and Skinner's Theory of Operant Conditioning to be effective.
- The learning process takes the form of a curve where the learning plateaus after acquiring certain experience, is cyclic in nature and can be continuous. This can be characterised by a series of cycles, which support continuous learning.
- Humans' cognitive abilities are the most significant elements of learning. This is more so in higher education learning because this provides the key platform to develop the students' mental potential i.e., curiosity, ability to think, reasoning, analytical abilities etc.
- Learning should consider formal and informal learning approaches. Various learning options can be considered which can be provided through incidental, experiential and intentional learning approaches. Through these processes, the sensory input when information/knowledge they acquire are transformed and processed form perceptions can be enhanced.
- 'Passive' learning approaches should be limited and 'active' learning should be the essentials of the academic curriculum design.
- Within the higher educational menagement context, organisational learning is a necessacity and this can take place through the single, double and triple-loop learning processes.

Conclusion

The findings outlined in this paper may be limited by the review of literatures but it provides insights to the fundamentals of how humans can effectively learn. The findings also note that how students should learn and how their cognitive abilities should be developed to facilitate learning. More importantly, it offers a tangible basis to design and deliver learning in higher education.

The debate on the impact of change versus its impact on students' learning/academic process, and its consequent effect on the student quality is continuing. However, this article posits that holistic and sound understanding of learning concepts and their implications should be the source to consider the academic design and delivery provisions. There is much to be learned and re-learned to ensure quality graduates. The proposition suggests the promotion of the students' learning skills that, which mutually stimulates intellectuality through the stimulation of their cognitive potential.

Notwithstanding any expansion or change, whether in UiTM or any other institutions of higher learning, together with any other situational variables that can impact the academic provisions, it is evident that the priorities in promoting the students' learning capabilities must be primary. This should also be the underpinning philosophy before any intervention to the design and deliveries of the academic provisions are applied.

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