

STUDENTS' APPROACHES TO LEARNING: A REVIEWED LITERATURE

Nur Fakhzan bt Marwan
 Faculty of Business Management, Universiti Teknologi MARA Pahang
NurFakhzan@pahang.uitm.edu.my

ABSTRACT

The way students approach their learning is related to the quality of their learning outcomes. Thus, efforts should also be directed towards understanding how students learn. There are two general learning approaches: surface and deep approaches. These concepts were first appeared in the literature from three independent sources in the mid-1970s. In the United Kingdom, Noel Entwistle leads a group which explore student learning through interview and questionnaire across a wide range of disciplines. In Sweden, at Gothenburg University, Roger Saljo and others develop new ways of studying how students approach reading tasks. In Australia, John Biggs of the Newcastle University examines the motives and strategies of university students and develops the 3P model, which describes three processes that students use in studying. These researches on how students learn in higher education, how they develop and change, and what influence their approaches to learning, has provided a coherent, rich and illuminating picture for better understanding in designing educational programs, which will provide students with the opportunity to develop required skills and to improve their educational experience.

APPROACHES TO LEARNING

The concept of students' approaches to learning is increasingly attracting the attention of education researchers even though it has been prevalent since a few decades ago. The approaches to learning concept are a qualitative description of how students learn. There is a general consensus that students display a number of different approaches to learning. Three learning approaches have been identified, namely deep, surface and achieving. In this paper, achieving approach would not be focused as it is associated with the ego enhancement and cue-seeking behaviour, where it is based on the organisation of individual's time and working space.

In distinguishing deep and surface approaches to learning, four independent groups have conducted research experiments to identify and explore the nature of these two concepts. They are the Lancaster group, led by Entwistle, the Australian group, led by Biggs, the Swedish group, led by Marton, and the Richmond group, led by Pask.

The Lancaster Group - Project 1

The Lancaster Group conducted a research between 1968 and 1973 to identify the relationship between students' characteristics and the academic achievements. Four groups of students were recognized, namely:

- Group 1 - outstandingly successful, motivated by ambition, good study method but do not have an active social or sporting life;
- Group 2 - moderately success, lead an active social life but have low motivation and poor study method. They normally work long hour to achieve success
- Group 3 - also moderately successful but have high motivation and good study method. Nevertheless, they have radical ideas; and
- Group 4 - the least successful, have very low motivation, poor study methods and few hours spent studying, but lead a very active social and sporting life.

This project, however, did not examine the study processes or strategies adopted by students in carrying out the everyday academic tasks. Instead this study focused on students' motivation, personality and study methods, and related it to the academic performance. This research project reaches conclusions that introverts in most subject areas tend to be more successful than extroverts. Although this project is not

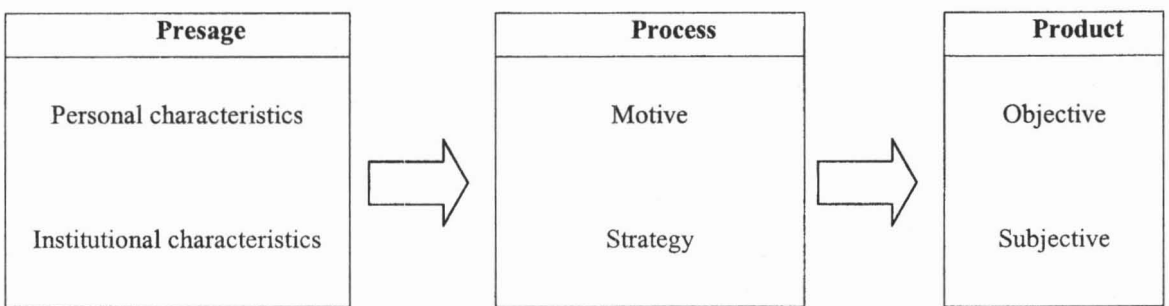
designed to examine study processes, nevertheless it indicates that students of differing personality types might approach studying in contrasting ways.

However, another study by Entwistle and Wilson (1977) showed that extroverts are also equally successful as introverts since they have equal high motivation and good study methods. However, the number of successful extroverts them is small compared to the introverts students. The Lancaster group project has established the factors identified with the poor degree results, namely fear and failure, cynical and disenchanted as well as disorganised and dilatory.

The Australian Group – Biggs

The celebrated Biggs' (1979) 3P model focuses on learning process. The outline of Biggs's model is depicted in Figure 1 below:

Figure 1 : Biggs' 3P model
(Adapted from Biggs (1979))



There are three elements involved in this model: Presage, Process and Product. Presage factor consists of two parts: personal (students' characteristics) and situational (teaching context). Both parts have a direct and immediate effect on the students' performance, as well as affect the students' motives for undertaking learning and the strategies adopted in approaching learning. Process factor involves students' motives and strategies in handling the learning task. Different motives and strategies will produce different approaches to study as shown in figure 2 below:

Figure 2 : Motive and Strategy in Approaches to Learning

APPROACH	MOTIVE	STRATEGY
Surface	Surface Motive (SM) is instrumental. Its main purpose is to meet requirements minimally; a balance between failing and working more than is necessary	Surface Strategy (SS) is reproductive. SS is to limit target to bare essentials and reproduce through rote learning.
Deep	Deep Motive (DM) is intrinsic interest in what is being learned and develop competence in particular academic subjects	Deep Strategy (DS) is meaningful; read widely and inter-relate with previous relevant knowledge, etc
Achieving	Achieving Motive (AM) is based on competition and ego-enhancement, obtain highest grade no matter the material is interesting or not	Achieving strategy is based on organising one's time and working space; behave as 'model student'

(Biggs 1987 :5)

This model represents a linear movement from presage to process to product; therefore any alteration to any part will affect other parts of the system. Biggs argues that, given constraints to their cognitive ability, students are able to choose the approaches to learning deliberately that will bring them closer to the desired outcomes. Biggs also provides evidence that students' approaches to learning vary according to their

capability of metalearning. This includes the individual student differences, such as general abilities and the locus of control¹.

The similarity between the Lancaster Group and Biggs is both groups employ quantitative methods of investigation that are based on traditional psychometric techniques, such as factor analysis to develop inventories of learning characteristics. These two groups have established that motivation plays an essential role in influencing the approaches to learning.

The Swedish Group

The ideas of deep and surface approaches are also found in the work of the Swedish group based in Gothenburg. This group conducts experiments to discover the link between learning approaches and learning outcomes from reading academic articles. Marton and Saljo's (1976) fundamental contribution in the deep-surface approaches literature is the *students' intention* is crucial in determining the learning approach adopted. They found that students approach the learning task with one of two intentions: to remember the words used, or try to discover the meaning. Depending on their original intention, students would use a strategy to suit; if first intention were adopted, student would use rote learning and rehearsal strategy. If the second were chosen, students would try to understand the concept and contents of the learned materials. The first approach is known as a surface approach, while the second is a deep approach.

Note that this difference between intention and approach is paralleled with Biggs (1987) distinction between motive and strategy. However, the Swedish Group stresses that individual chooses an approach to studying in response to both a particular task content and context. In other words, the individual student's learning approach is flexible. This is contrasted with the Lancaster Group's proposition that students have fixed, predetermined study approaches.

The shortcoming of Marton and Saljo's work is the experiment was conducted in the artificial condition. Later, Svensson (1977) addresses this limitation by conducting research in normal study environment. He found that deep learners spend a longer time on studying as they found the subject is interesting. Svensson also reveals the fundamental distinction between deep and surface approaches to learning, with deep approach results in high degree of understanding, and the opposite effect for surface approach. This relation is agreed to be partly inevitable, as the deep approach is necessary but not sufficient condition for a deep understanding.

The Swedish group, then, proceeds to examine the relationship between approaches to learning and various learning context. Marton and Saljo (1976) found that the types of questions used in the exams and tests influence the learning approaches adopted by students. Examination questions that encourage surface approach seemed successful in inducing that approach. They also found that a surface approach is easier to induce than deep approach. The overburdening of syllabuses and heavy workload may have heavily influenced the low understandings achieved by surface learners. Fransson (1977) discovered that anxiety and interest could also affect the learning approach. Intrinsic interest in the subject or particular task seems to lead to a deep approach, extrinsic interest to a surface approach. However, interests or motivation are related to previous experiences of learning. Fransson also found that assessment methods that create anxiety or perceived threatening situation might push students toward learning in ineffective and dispiriting ways. These contextual factors will be discussed further in the next section.

The Richmond Group – Pask

Pask and others, working from Richmond, examine how students how students learn complex new information (Pask and Scott 1972; Robertson 1977). While the subjects of the Swedish group experiment are asked to read the given article, Pask has expressly required the participants to develop understanding. Based on the research outcome, Pask is able to identify three general categories of learning approach (or learning style): serialist, holist and versatile. Serialist adopts 'step-by-step' strategy to master the procedural detail. This strategy can involve memorization of facts which may hinder students from seeing the issues from wider perspectives. A holist, on the contrary, perceives a task from a global outlook and tries to understand the meaning of the task. A holist also uses previous experiences in attempting to comprehend

¹There are two types of the locus of control. The first type includes the students who believe that they have some control over their learning (an internal types). The other type is students who believe their learning to be governed by external forces (an external type).

the fundamental issues discussed in the article. The third learning style, versatile, is students who are capable in adopting either serial or holist styles depending on the situations.

Certainly there are similarities between Pask' categories and Marton and Saljo's deep and surface approach. However, the treatment of both experiments is fundamentally different (Entwistle 1979). Pask's main interest is to observe how individual student goes in achieving the set target. In contrast, Marton and Saljo let the students to determine their outcome and observe how this has an impact on their choices on approaches to learning.

The Lancaster Group- Project 2

Having noted the overlapping concepts between the Swedish Group's and the Richmond Group's research, the Lancaster Group (1975-1980) has extended the work of these two groups both conceptually and empirically using the mixture of quantitative and qualitative methods. The Approaches to Studying Inventory (ASI) is developed and the ideas of Swedish and Richmond Groups were incorporated explicitly. This indicates that the Lancaster Group realised that the external factors have potential influence on students' approaches to learning. Four distinctive approaches to learning have been identified, and they are outlined in Figure 3 below:

Figure 3 : Study Orientations and Its Elements

Orientation	Elements
Meaning	Deep approach, comprehension learning, interrelating ideas, use of evidence and intrinsic motivation
Reproducing	Surface approach, operation learning, improvidence, fear of failure, syllabus boundness and extrinsic motivation
Achieving	Achievement motivation, intrinsic motivation and strategic approach
Non-Academic	Disorganised study methods, negative attitudes to studying, globetrotting and low intrinsic motivation.

(Adapted from Entwistle and Ramsden 1983 : 52)

The terms 'study orientation' rather than 'approaches to learning' is used to represent the combination of learning style and learning approach, which in turn are affected by personality, motivation, strategy and study methods.

The summary of the main findings of these five empirical research projects is outlined in the Figure 6:

Figure 6 : The Summary of the Five Empirical Researches by Four Independent Groups

Group	Methodology	Focus	Inventory	Main finding	Implications
Lancaster Group (1968-1973)	Quantitative method	Relationship between personality type and study method		Four main student types are identified Introvert students are found to be more successful than extroverts	Students' characteristics, such as general ability and personality, and motivation play important roles in influencing the approaches to learning
Australian Group (late 1980s)	Quantitative method	Learning process	Study process Questionnaire (SPQ)	Personal and institutional characteristics have direct impact on the students' performance Different combination of motives and strategies produce 3 different types of learners	
Swedish Group (1970s)	Qualitative method	Link between learning approaches and learning outcomes		Students' intention (to understand or to reproduce) and contextual factors are crucial in determining the learning approaches adopted	Individual chooses a learning approach in response to both a particular task content and context
Richmond Group (1970s)	Qualitative method	How student learn complex new information		Identify three learning approaches	
Lancaster Group (1975-1980)	A mixture of quantitative and qualitative methods	To measure approaches to and styles of studying	Approaches to studying (ASI)	Four distinctive approaches to learning are identified	Study orientation is a combination of learning style and learning approach, which in turn is influenced by personality, study methods, motivation and strategy

CONCLUSION

This paper has demonstrated that the distinction between deep and surface learning is complex. The complexity of the nature of these concepts become clear as we can trace the earlier development from a simple input-output model of students learning by Lancaster Group project 1, to 3P model developed by Biggs that concentrated on the learning process, to Marton and Saljo's model that included intention (motivation) and contextual factors, to Pask's model which identified students' persistent tendency, that is learning style, from the specific approach adopted, and to finally a celebrated dynamic model developed by Lancaster Group Project 2, where metalearning acts as vital link between students, tasks, and outcome.

It is worth noting that the precise descriptions of surface and deep approaches differ from task to task, and so from course to course, just as learning outcomes in different subjects obviously difference. Nevertheless, the learning approaches have enough in common across different task to allow us to draw the general relevance of dichotomy between surface and deep approaches. An understanding of the meaning and application of this distinction is indispensable to educators in improving the quality of students' learning.

REFERENCES

- Biggs, J. (1987). *Student Approaches to Learning and Studying*. Hawthorn, Victoria: Australian Council for Educational Research.
- Biggs, J. (1993). *What Do Inventories Of Students' Learning Process Really Measure? A Theoretical Review And Clarification*. *British Journal of Educational Psychology*, 63, 3-19.
- Entwistle, N. and Ramsden, P. (1983). *Understanding Student Learning*, London: Croom-Helm.
- Entwistle, N.J.(1979). *Stages, Levels, Styles Or Strategies: Dilemmas In The Description Of Thinking*. *Education Review*, 31, 123-132.
- Entwistle, N.J and Wilson, J.D. (1977). *Degrees Of Excellence: The Academic Achievement Game*. London : Hodder & Stoughton.
- Fransson, A. (1977). *On Qualitative Differences In Learning IV ± Effects Of Intrinsic Motivation And Extrinsic Test Anxiety On Process And Outcome*. *British Journal of Educational Psychology*, 47, 244-57.
- Marton, F. & Saljo, R. (1976). *On Qualitative Differences In Learning, Outcome And Process II*. *British Journal of Educational Psychology*, 46, 115-127.
- Marton, F. and Booth, S. (1997). *Learning and Awareness*. Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Pask, G. and Scott, B.C.E. (1972). *Learning Strategies And Individual Competence*. *International Journal of Man±Machine Studies*, 4, 217±53.
- Robertson, I.T. (1977). *An Investigation Of Some Relationships Between Learning And Personality*. Unpublished PhD thesis, The Open University.
- Svensson, L., (1977). *On Qualitative Differences in Learning III--Study Skill and Learning*, *British Journal of Educational Psychology*, 47, 233-243.