

# From Previous Epistemologies to Current Epistemologies: Usage of Deep learning and Surface Learning at Universities.

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## Abstract

The main aim of this article is to understand and improve teaching and learning standard. This will be explored using the factors that encourage a surface approach to learning and to focus on factors that encourage a deep approach to learning. Currently there is a changing trend around the globe in teaching and improving learning, there are changing epistemologies and ontologies in teaching and learning. There are also personal approaches to learning.

The above factors can be explained into two phrases (1). Today there is pedagogy of difference. (2) Today there are differences in modern epistemology from previous ones used in general educational setting, e.g, materials and methods, assessment procedures, theories and applications, the course ethos and relationships between teachers and students. The pedagogy of difference can be differences of epistemologies in improving teaching and learning. In this study the golden thread is based on deep and surface learning as well as their applications. This study value itself in understanding the deep learning approach as a valuable basis in creating knowledge. From the author's perspective

**Keywords:** Epistemology, deep learning approach, surface learning approach

## 1. Definitions of Concepts / Terminologies

- Epistemology: According to Pallas (2001) epistemology is the belief about what counts as knowledge in the field of education, what evidence of a claim is, and what warrant for that evidence.
- Pedagogy: According to the Oxford dictionary (2006) pedagogy is the study of teaching methods.
- Learning: According to the Oxford dictionary (2006) learning is a knowledge obtained by study.
- Deep approach: In simpler terms Biggs & Tang (2009) posits that surface approach arises from an intention to get the task out of the way with minimum trouble, while appearing to meet course requirement. Furthermore, in this case low cognitive-level activities are used when higher level activities are required to do the task properly.
- Deep approach: This approach arises from the feelings which need to engage the test appropriately and meaningfully, so the student tries to use the most appropriate cognitive activities for handling it (Biggs & Tang 2009).

## 2. Module Background

Before I can dwell in details, I felt that there is a need to provide a little detail's about the modules I teach. These I believe will be useful and helpful in trying to implement and apply deep surface learning. First, I teach psychology second year and third years in 2009. This year (2012) I teach second and third years. Interesting enough to any person when someone speaks of psychology – what comes into your mind (e.g. Clever person, intelligent person, learned person, a person who can read peoples minds and a person who thinks deep.

But shifting the focus a little how can deep learning approach promulgated by Biggs & Ramsday as well as Tang be encouraged in a psychology lecture hall to ordinary second year level students. How can deep learning approach be used to enhance student learning in our Universities?

### **3. Brief About Teaching Methods**

- It is of true that one cannot encourage deep learning approach whilst the environment is not conducive. I teach more than 310 students in one lecture hall. Every module had learning out comes which had to done by the end of each semester, learning content is based on theoretical and practical applications of the text in the prescribed books. Of course practical learning activities had to be undertaken by students, formative assessment will be conducted through test, containing variations of questions. In some cases students have to demonstrate certain abilities through practical test.
- Approaches identified check Case & Marshal (2004).

### **4. Understanding Surface Approach Learning: My Classroom Perspective**

Case & Gunstone (2003) mentioned that over the last two decades the notion of approaches to learning has become a highly influential framing for thinking about student learning in higher education, particularly in providing lectures and educational developers with a theory of why some students are more successful than others. In my opinion surface learning approach should be discouraged, because it can be used by everyone and all the people, and in this case it is not really appropriate to scholarship and academic environment (Biggs & Tang 2009).

Biggs & Tang (2009) stated that the concept of the surface approach may be applied to any area, not only to learning; furthermore they mentioned that the terms “cutting corners, and sweeping under the carpets” cover the idea of surface learning approach. Now if it is like this-there is no relevancy to encourage surface learning at the Universities. One must also remember that we teach/lecture truth, originality, and debate about real global issues with social relation. We lecture students to be real critical thinkers, people who will use the higher schemas of their cognitive levels. Lastly, in teaching psychology I teach future behavioural analysts who will deal with sensitive issues e.g., measurement of brain activities. Note: what if you teach a student to learn more surface approach-this particular student will fail to analyze the deep meaning of the patient, brain levels. This will results is us academics being failures to students and our societies.

Not rejecting surface learning at all. It is the fact, it is there in our University learning programmes, but it should be discouraged, for example we use true or false questions and various multiple choice questions, these to me are surface approach question. Furthermore Biggs & Tang (2009) mentioned that surface approach applied to academic learning, its example include rote learning selected content instead of understanding it, padding an essay, listing points instead of addressing and argument, quoting secondary references as if they were primary ones

“In using the surface approach, students focus on what mention call the signs of learning; the words used, isolated facts, terms treated independently of each other. This prevents students from seeing what the signs of the meaning and structure of what is taught. Simply, they cannot see the wood for the trees. Emotionally, learning becomes a drag, a task to be got out of the way. Hence the presences of negative feelings about the learning task” ( Biggs & Tang 2009).

### **5. Understanding Deep Approach Learning: My Classroom Perspective**

According to Biggs & Tang (2009) when students feel the need to know, they automatically try to focus on underlying meanings, on main ideas, themes, principles, or successful applications, so students needing to know will naturally try to learn the details, as well as making sure they understand the big picture. Furthermore, when students are using the deep approach in handling the task, students have positive

feelings: interest, a sense of importance, challenge and exhilaration.

In case of my teaching with psychology students, deep learning approach is definitely a need approach as psychology profession needs it, carefully considering the pros and cons of diagnosis, therapy, ordinary counseling. I will encourage deep approach learning, focusing or aligning myself with Biggs and Tang (2009) factors listed below.

#### 5.1 *From the Student's Side*

- An intention to engage the task meaningfully and appropriately. Such an intention may arise from an intrinsic curiosity or from a determination to do well.
- Appropriate background knowledge.
- The ability to focus at a high conceptual level, working from first principle, which in turn a well structured knowledge base.
- A genuine preference, and ability, for working conceptually rather than with unrelated detail.

#### 5.2 *From the Teacher's Side*

- Teaching in such a way as to explicitly bring out the structure of the topic or subjects
- Teaching to elicit an active from students e.g., by questioning, presenting problems, rather than teaching to expound information.
- Teaching by building on what students already know.
- Confronting and eradicating student's misconceptions.
- Assessing for structures rather than for independent facts
- Teaching and assessing in a way that encourages a positive working atmosphere from them.
- Emphasizing depth of learning, rather than breadth of coverage.
- I general, and most importantly, using teaching and assessment methods that support the explicit aims and intended outcomes of these course.

Biggs & Tang (2009) further posits that desirable student learning depends both on students-based factors ability, appropriate prior knowledge, clearly accessible new knowledge and on the teaching context, decision making and good management.

### **6. Ramsden's Model of Student Learning**

Case & Gunstone (2003) mentioned the position out that students respond and react to the situation they perceive, which is frequently quite different to that defined by teachers and researchers. Furthermore, they posit that although a course / module might formally state certain educational objectives, students could be looking for a simple set of rules for what really has to be done to pass the examination. According to my perspective this is a true student's perception in learning which cannot be ignored. For example, some students do not see themselves as future psychologist; therefore they just need the module to add the required credits, so to obtain the degree according to University rules. Therefore, this type of students will use surface learning approach than deep learning approach. In simpler terms they (students) need to pass the module or course than to critically digging up knowledge and understanding the module.

**Figure 1. [Should be inserted]**

Interestingly Case & Gunstone (2003) stated that a predisposition to a particular learning approach is seen as the individual student's way of achieving balance in the system as perceived by the students. They further mentioned that Ramsden stresses that the diagram should not be taken to suggest a single causal sequence of events, but rather a 'chain' of interactions at different levels of generality. In the diagram the relationship between student perceptions, different levels of context, approaches to learning, and learning outcomes are represented in the diagram.

### **7. Teaching and Approaches to Learning**

It is found to be true, that students should have a certain cognitive abilities for them to execute their academic task efficiently. Therefore I tend to agree with Biggs & Tang (2009) by stating that to achieve most intended learning outcomes (ILOS), a range of verbs, from high to low cognitive level need to be activated. The highest would refer to such activities as reflecting, theorizing and so on, the lowest to memorizing, and in between are various levels of activity. Biggs & Tang (2009) further mentioned that when using a deep learning approach, students use the full range of desired learning activities, they learn terminology, and they memorize formulae, but move from there to applying these formulae to new examples, and so on. However, when using the surface learning approach, there is a shortfall; students handle all tasks, low and high with low level verbs (e.g., two pages of writing).

The conclusion drawn by Biggs & Tang (2009) is that surface learning approach be discouraged – I share the same sentiments – but I will elaborate upon concluding this essay, showing or reflecting from my lecture hall experience and student's experience. Biggs & Tang (2009) also states that at University, intended outcomes would be high level, requiring students to reflect, hypothesize, and apply. Surface and Deep learning approaches to sometime thought, but are most useful thought of as reaction to the teaching environment.

### **8. Learning Through Epistemologies**

Universities are hub of knowledge creation, knowledge dissemination and creation of innovative citizens or civil society. Academic scholar, educational researcher and students have used different epistemologies to understand what is knowledge and learning. An epistemological position was previously positioned in liberalism, Marxist and pragmatism, structuralism and many more. So well surface learning approached to learning and the very appropriate epistemologies in educational field currently. Therefore deep learning approach, indicate a very clear paradigm shift and usage of pedagogical approach in learning – especially in Higher Education (HE).

### **9. Motivation, Perception and Application of Surface and Deep Learning Approach**

Research findings by Entwistle (1986) indicate that different forms of motivation area are associated with the three main approaches of learning (deep, surface and strategic). Also these approaches are strongly affected by assessment procedures, workload, freedom in learning, and by what students perceive to be good teaching. The research at Lancaster University initially involved interviews with student to discover whether depending on surface approaches to learning could be identified in coasting academic disciplines (English, Economics, Psychology, Physics and Engineering) and across a range of academic activities (including essays-writing, reading and programme solving).

By measuring the perception of the whole class towards a certain approach, it is possible to obtain an index of the learning environment provided by the lecture. But it is also crucial to recognize that perceptions are essentially individual, depending on completing perceptions of relevance in the content (often enhanced by the lecture) and of task requirements. At the Universities and Colleges students focus of attention is pulled away from a concern with personal understanding by the lecturer and by the organizational requirements of competing demands both academic and social( Entwistle (1986).

It is crucial to highlight different factor analysis in all of these approaches. Entwistle (1986) conducted a national survey which was carried out using the inventory with over 2000 students. In factor analysis reported elsewhere, the sub-scales provided four related factors.

- The first two factors were clearly defined and present combinations of approaches and styles with distinctive forms of motivation. The deep approach was closely associated with comprehension learning (Holist) and intrinsic motivation. The surface approach was linked to syllabus boundless, operation learning (serialist), improvidence, fear of failure, and less strongly to extensive motivation. The strategic approach was grouped with operation learning, but closer relationships were indicated with both achievement motivation and extrinsic motivation. The final factor brought together is disorganized. Studying with negative attitudes and globetrotting (Entwistle 1986)

## 10. Conclusion

I still believe that education, teaching and learning in higher education should be integrated and use both surface and deep learning approaches. When I set up the paper I include multiple choice questions in which the student will respond to computer card, of course students are provided with the option to choose which does not required a deep thinking and synthesis of the question posed. On the other hand deep learning is still important for the higher education community. It will teach those analytical skills and creativity as well as familiarity with academic discourse. At the end both approaches can be used in studying and assessing students in Psychology.

## References

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Figure 1. A model of student learning in context (Ramsden 1988). In / adapted with permission from Case & Gunstone 2003)

