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Taking a Look at Modern Teaching and Learning Approaches, Concepts and Perceptions

Craig W Peck*

Clinical Supervisor at UWC Dental Faculty, South Africa

***Corresponding Author:** Craig W Peck, Clinical Supervisor at UWC Dental Faculty, South Africa.

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Learning is a process in which students acquire and use knowledge to better understand themselves and the world around them resulting in conceptual change. Learning is not about the accumulation of loosely related theoretical facts which are repeated without meaning, as suggested in cognitive learning theory in which students are viewed merely as a processors of information [1,2]. The broader concept of adult learning (andragogy), where adults accept responsibility for their own learning, is concurrently underpinned by a variety of associated learning theories [2]. The eventual outcome of learning is the creation of a person who is able to challenge their own reality of the world through reflective practice and meaningful insight into concepts, theories and hypotheses [1,3-5].

There are several factors which influence student learning. Conceptions of learning, conceptions of knowledge, emotional intelligence and approaches to learning support the concept of constructivism. The student becomes a constructor of information as they create their own representations and build on prior knowledge in a constructive and meaningful way. Factors such as learning orientations, past experiences, student interest and motivation for learning are more focused on experiential learning, humanism and reflective practice, which describes learning as a personal act of fulfilling one's potential through a human desire to learn and grow. The inherent link between the cognitive and affective needs of learner's highlights learning as being a student-centred, self-directed, self-regulated and personal process, while guided by the educator. Learning theories of behaviourism, social learning theory, communities of practice as well as experiential learning underpin the influence that the learning environment and extrinsic factors play in student learning [1-7].

Haggis [7] states that the model of a student's approach to learning and its value in determining learning outcomes, is somewhat rigid and flawed and that a student's approach to learning is an inherent quality of their own learning styles. It is assumed that a deep approach is expected to result is greater academic success with a higher level of understanding and meaning attained from learning, whereas a surface approach reflects less active engagement between the student and the content, resulting in poorer outcomes [1,3-6]. While I agree with Haggis about the problem of equating learning approaches to learning outcomes directly, I feel that her opinions do not take the full value of constructivism into account.

It would not be unrealistic to assume that an undergraduate student in a new institution would not have the same level of academic confidence and ease of learning as a postgraduate student in the same institution. This difference merely indicates a gradual process of self-development as students are allowed to positively engage with the study material. Categorising this undergraduate student as using a surface approach to learning (and solely employing cognitive learning theory), is very premature and only reinforces societal stereotypes which could negatively impact on their academic careers. I feel that students instinctively learn new material by memorising facts in a so-called rote learning fashion, until they are better acquainted with the content. Only then are they able to better understand, apply and compare knowledge through processes that involve the repetition and reinforcement of cognitive learning in a constructive manner (constructivism).

The basis for developing such a model (learning approaches) seems somewhat ironic and contradictory in nature. Rather than encouraging and facilitating learning, it might discriminate against students with different learning abilities, capabilities and prior experi-

ences [7]. Learning approaches can be differentiated by the same descriptive verbs which define learning objectives and correlate well with those identified in Blooms Taxonomy [8] and Miller's Pyramid [9]. Embedding these objectives explicitly in teaching and learning activities (TLA's) and assessment tasks will give students a better idea of what is expected. This constructive alignment allows students to focus on assessment tasks while automatically focussing on the objectives [1]. Therefore, it is not the awareness of a student's individual approach to learning that influences outcomes and drives learning, but the positive effect of constructively aligning specific objectives with activities and assessments. I think most students, especially undergraduates, adopt a surface approach because it requires less work to meet the objectives - especially if those objectives are not clearly defined or not aligned with higher level thinking and assessment. This is also influenced by workload, time constraints, prior experiences and pressures to perform in a new educational environment [3,4].

The progression from a surface to a deep approach might require active effort and explicit intent, which I see as a "maturation" process where students seek to understand the content with deeper meaning. The inference by Haggis [7] that a deep, surface or strategic approach to learning is inherent, limits the idea that students can build on previous knowledge and understanding. Gravett [4] rightly states that prior knowledge is always the beginning of new knowledge (constructivism). This is more likely to occur with positive educational encouragement and enthusiasm on behalf of educators. Although teaching should be student-centred, I feel that learning should be objective-centred, which is the responsibility of educators to enforce and ensure by creating a multiply inclusive learning environment – however difficult a task this might be [3,7]. With positive motivation and constant repetition, learning can progress from a cognitive phase, through an affective phase to a metacognitive phase of self-regulation and self-motivation [5,6]. The implication of this is that learning is an accumulative process which is not dependant or limited by an approach to learning at any given time.

Further support for the ability of students to be able to progress to higher levels of understanding and not remain trapped within pre-defined and self-limiting approaches to learning, is located in neurobiology. The greater the number the neuronal connections and stabilising synapses that develop in the forebrain through learning and repetition, the more memory is formed [4]. Neurophysiology also explains the relationship between learning and emotion and why positive emotions enhance learning outcomes. According to Gravett [4], the feeling that something is true is a prerequisite for learning. Evidence for this lies in the inter-connectivity between the frontal lobes of the neo-cortex in forebrain and the limbic system in the form of "gating signals". If interest in the content or to learning is stimulated within the limbic system, stabilising synaptic networks and neuronal connections are enhanced between the limbic system and the forebrain, resulting in positive emotional responses to learning and improved focus. Negative emotions would result in a downshift of brain function and inhibit learning with a reduction of active engagement in complex intellectual tasks. Similarly, this is experienced if students experience undue stress, anxiety, danger and threat [3]. Labelling a student with a surface approach to learning might well induce such negative emotions, thereby impacting negatively on their progress and learning outcomes.

Not only do students progress academically through engaged learning, but their emotional intelligence can be developed and modified as they learn from different situations which challenge how they view the world [4,5]. The ability to challenge one's own beliefs as a result of learning, I feel is a sign of enhanced emotional intelligence.

Making the assumption that students inherently adopt a specific approach to learning [7] might be less valid than students being able to choose an approach in a flexibly appropriate manner as circumstances require it. It is almost certainly dependant on a plethora of additional student-dependant factors (previous personal experiences and knowledge, self-confidence, perceived ability, level of interest, intrinsic and extrinsic motivation, expectations, pressure), teacher-dependant factors (TLA's, enthusiasm, expertise, interest, active engagement) and environment-dependant factors (peer pressure, course design, assessment) [1,3-5,6]. The balancing act that a teacher is faced with, is to ensure that students are optimally challenged by taking them out of their comfort zones and placing them in a state of relaxed alertness with a degree of confusion [4] and constructive friction within a safe and educationally conducive environment [6]. It is here where new synapses and neuronal connections will be developed and become stabilised [4].

A further issue highlighted by Haggis [7] is the apparent "arrogance" of academia in expecting students to function at a level which has taken educational experts and professionals decades to reach. When students do not appear to be functioning at a level deemed appropriate by institutions, they are then thought to be adopting a surface approach to learning. This argument could only be valid if one does not accept the reality of constructivism in student learning. The realisation of the fundamental differences between a student and an already highly educated person is a key issue on which educational conceptual change is based. This is one of the main outcomes of student learning and therefore a student must be allowed to undergo the intrinsic changes which ultimately manifest as behavioural and thought modification.

Just as learning theories have evolved and should be applied in a mutually beneficial and inclusive manner to enhance student learning, so too should student approaches to learning be seen as a mutually beneficial process (or model) of educational growth and development, culminating in a metacognitive awareness of one's own reality. Learning should never be tamed, limited or labelled according to what is happening at the present. Learning is a process which should successfully use one's knowledge and experiences of the past in the hope of developing a set of possibilities that challenge and change one's future for the better. The shift from a teacher-centred approach to a student-centred approach and now to a learning-centred approach is proof of this global educational paradigm shift.

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