BIG ACADEMIC OPEN COURSE: THINKING STYLES AND APPROVAL PERCENTAGES

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Abstract

The growing demand for enrolment of undergraduate students in institutions of higher education (HEI) has generated the need for new modalities to carry out the teaching and learning process. The objective of this work identifies the relationship between thinking styles and approval rates in a group of students applying the Big Academic Open Course (BAOC) modality, school courses for large groups. BAOC is based on the b-learning and MOOC courses applied to school courses. Its greatest advantage is that it optimizes physical and human resources to serve a greater number of students, breaking the space-time paradigm. The methodology used includes the Numerical Methods in Engineering course, students' thinking styles are identified, work teams are formed based on their thinking style and their performance is analyzed during the quarter. Tests were performed for 3 years. The approval index in each quarter allows us to analyze the correlation between thinking style and approval rate. The results show that students with a predominant thinking style of “logic” obtained better grades. We can conclude that thinking styles are a determining factor for the formation of work teams in a course.

Keywords: b-learning, MOOC, cooperative learning, conduction modality of the teaching-learning process.

1 INTRODUCTION

Neuroscience has shown that there are brain mechanisms that enhance the way of learning, unlearning, and re-learning, its application in the educational field can generate positive results. For this reason it is important that teachers have information regarding the students characteristics and potentialities, as well as the implications it has on learning, which will allow them to make argued decisions to adapt the pedagogical processes of their teaching.

When we learn the physical structure of the brain is transformed, the neural networks that make each individual unique are transformed, defining our way of perceiving and understanding reality.

The Neuroscientist Judy Willis [1], proposes two fundamental points in the learning process, first, the student emotional state, because it influences the perception of information. And secondly, it frames the methodology used during teaching, the ability to capture attention and motivate the interest of the student. From the Neuroscience point of view, learning from experience is the best, each time the event is repeated, you can react faster with better solutions [2].

Ned Herrmann's total brain theory is based on studies of Sperry's brain dominance [3] and the MacLean triune brain theory [4]. Herrmann conducts his research with biological feedback equipment (bio-feedback) and electroencephalography [5], which rethinks the problem of brain dominance, proposes a metaphorical model of the brain by dividing it into four quadrants: two upper cortical and two lower limbic. Each quadrant is associated with a particular thinking style, creating and learning, with which you can describe your thinking style based on the dominance of the quadrants. A table with the characteristics of each quadrant of the Ned Herrmann model [6] is shown in Table 1.

Table 1. Characteristics and location of brain quadrants.

Brain quadrant	Location	Characteristics
A	Left upper lobe	It is responsible for logical, analytical, mathematical thinking and based on concrete facts, so it is qualitative and critical, it focuses on