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Academic Success and Competencies for Learning in Portuguese Higher Education Students: A Quantitative Investigation

Sandra T. Valadas (svaladas@ualg.pt)

Fernando Ribeiro Gonçalves (fgonc@ualg.pt)

CUIE/University of Algarve; CIECC/University of Aveiro (Portugal)

Introduction

Concepts are discussed within the frame of educational development literature and research on student learning. Conceptions of learning, approaches to learning and studying derived from Marton and Säljö's (1976, 1997) ideas on learning and on Entwistle and Ramsden (1983) descriptions of approaches to learning. An extensive body of quantitative and qualitative research focused on understanding learning from the student perspective. The results have suggested that students tend to adopt qualitatively different ways of learning and of studying, which, at a certain extent, may represent a reaction to their perceptions of the teaching-learning environments (Biggs, 2003; Entwistle, 2000; Prosser & Trigwell, 1999; Ramsden, 1997).

The purpose of this study is contribute to a better understanding of the strategies that Portuguese higher education students use in order to learn, their perceptions of learning and academic achievement. It is also our rationale to study which approaches were used by students in their learning tasks. Academic success is discussed and assessed, as a multidimensional approach that covers the relations among success and learning. It was our intention to understand the impact of a set of procedural variables related to learning on academic achievement, as well as to create a typology concerning the learning strategies students use in their academic tasks.

Method

A model that hypothesized relationships between university students' approaches to learning and academic achievement was tested.

Five-hundred sixty-six (N = 556) university students from 1st and 4th years, and five different scientific domains (Technological Sciences, Human and Social Sciences, Economy and Management, Environmental Science, Natural Sciences) participated in the study. The *Approaches and Study Skills Inventory for Students – ASSIST* (Tait, Entwistle & McCune, 1998) was used to measure the way students think about learning and studying.

A socio-demographic questionnaire was constructed to evaluate some academic success indicators.

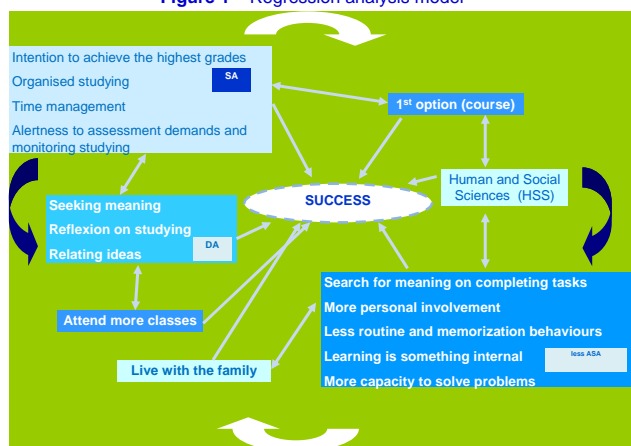
We considered, as potential indicators, some motivational aspects concerning the course (satisfaction, preference (1st, 2nd, 3rd), hours of study/week, classes attended), variables of academic performance (number of subjects/courses concluded with success, number of applications at the beginning of the year) and a measure of previous academic success. Cluster analysis (*k-means*) was performed in order to characterise participants through the identification of students profiles considering the constructs analysed.

Results

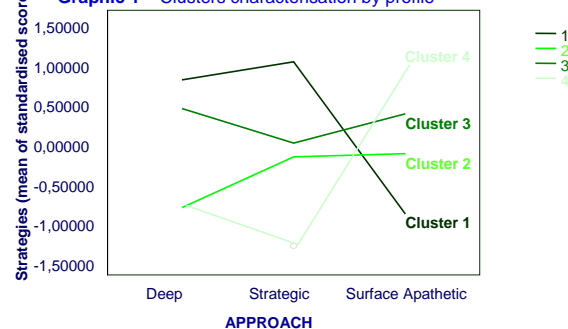
In Figure 1 we present a scheme that represents relationships between constructs that resulted from regression analysis.

Graphic 1 characterise clusters by profile. The three scales do not score equally (for instance, there is a global tendency in the sample to lower scores on Surface Approach than on Deep Approach).

Figure 1 – Regression analysis model



Graphic 1 – Clusters characterisation by profile



Overall, the results revealed important associations between the constructs, as well as the identification of variables that might predict academic success for the sample studied. Moreover, the cluster analyses, together with these results, allowed us to construct a model with a bipolar perspective, in order to understand the complex relations underlying students' approaches to academic tasks (Figure 2).

Discussion

In terms of the approaches to learning, results suggested that the use of deep approaches to learning may not result in academic success. These findings are consistent with other obtained in different investigations (Elliott et al., 1999; Hall, Bolen & Gupton, 1995; Minbashian et al., 2004; Newstead, 1992; Rose et al., 1996). On the other hand, a strategic approach seems to be determinant to higher quality performances and to success at the academy.

Cluster analysis lead us to the polarities that characterise the concept of approaches to learning (Ramsden, 1984; Biggs, 1993; Entwistle et al., 2000; Long, 2003). We also obtained a bipolar model (consistent with the one found by Long, 2003), that included students with high scores in deep and strategic approaches (Cluster 1), and in surface approach (Cluster 4). Our results indicated that the same student uses different approaches according to the situations he/she experiences. Nevertheless, it is possible to observe general tendencies to adopt particular approaches, related to different demands of the courses and to previous educational experiences (Ramsden, 2003). Results for Clusters 2 and 3, although consistent with other investigations, suggested some mutability and instability. In this sense, we can talk about variability and, at the same time, consistency of the concept of learning in our sample.

In what concerns academic success, conceptually, students with higher levels of academic success are more strategic in the way they approach learning and study. They are mainly from courses in the Human and Social Sciences scientific domain. These students also attend regularly most of the classes; the course was their first choice, and are still living with their families.

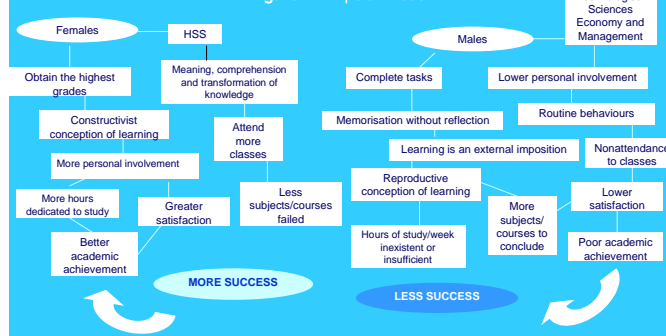
We also observed that a considerable number of 1st year students conceptualize the teacher as the only *active figure* in the process of learning and teaching, and valorize essentially the acquisition of information as the major strategy to study for exams. In this sense, if higher education teachers are looking for significant approaches to learning, it seems crucial to include tasks that require critical analysis and synthesis, besides memorization. Teachers can encourage their students to reflect on why they are at the University, and help them in their attempt to challenge points of view consensually accepted, so that they can develop either intellectually and as individuals.

If we think about the implications to the process of learning and teaching, changes in the curricular design of the course should affect, according to Richardson (2006), the way in which students perceive the different courses. In particular, the choice of curricula design, teaching methods, and appropriate modalities of assessment, can conduct to learning and study competences more suitable according to the Bologna paradigm if we adopt courses "just for you". Teachers awareness of differences on the way their students learn can really improve their quality of teaching...

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Figure 2 – Bipolar Model



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