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"Students' voices at a portuguese university: academic motivation and its relationship with academic success."

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INTRODUCTION

In this paper the authors will try to point out some evidences that emerged from the data collected in the year of 2000 by the Permanent Observatory for Teaching and Learning Quality of the University of Algarve.

Data presented here will report exclusively to students' representations concerning the institution, themselves, their teachers and the curriculum, since we consider that students are the privileged informants about their own academic experience.

The main topic explored refers to students' evaluation of the influence of academic motivation on the abandonment of studies in higher education. Theoretical framework will also be presented.

We will present some behavioral symptoms that students evaluated as relevant indicators of lack of academic motivation. Also, the analysis will concern the meanings students attribute to academic failure as well as students' points of view about their own failure, according to their academic experience.

Results will be addressed to some theories that explain students' adaptation and academic success in a higher education institution. On the other hand, results will also be analysed in order to understand the influence of teacher pedagogical practices in the students' level of academic motivation. At this point, we will discuss some models of quality concerning learning and teaching in higher education and will propose a set of intervention dimensions.

THEORETICAL FRAMEWORK

The transition from high school level to a higher education institution has several implications in students' lives, considering the demands in terms of academic, personal, social and vocational areas of development (Baker *et al.*, 1985; Ribeiro Gonçalves, 2000; Soares, 1998; Valadas, 2001).

Pascarella and Terenzini (1991) refer to the wealth of contexts associated to the higher education reality as factors that unchain to new acquisitions and personal restructurings.

Other authors (Santos e Almeida, 1999) consider that the frequency of a higher education institution represent a particularly important phase in the student development.

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The relationship between **academic success** and **adjustment** to a higher education context has been studied in the past twenty years by several authors. Some of those authors (Chemers *et al.*, 2001; Gerdes & Mallinckrodt, 1994) point out that such adjustment not always occur in a positive sense. Frequently, this statement leads to poor performance levels as well as to low levels of academic motivation for continuing studies.

It is important to consider the **complexity of academic success** in its social-relational and bio-psychological components (Tavares *et al.*, 2000). In fact, academic success has a subjective nature that leads us, in one hand, to reflect upon academic adjustment and its evaluation, and, in the other hand, to the relationship between students' performance and personal learning goals.

Conceptualising success under its academic perspective invites us to: a) the analysis of study competences and learning strategies, b) relationships with academic performance. Literature has shown that academic performance depends, in a significant part, on students' approaches to learning. However, we cannot forget other factors such as teachers' evaluations and performances (Hativa & Birenbaum, 2000, Trigwell *et al.*, 1999), career development, personal satisfaction, interest and individual motivation. In other words, although instruction is regarded as the major environmental factor affecting scholastic success, there are other factors that can become more important when leaching does not produce the desired results. In fact, academic performance in higher education ultimately involves a complex interplay of student attributes and the educational environment.

In their studies, Weinstein e Mayer (1986), verified that students with a high level of academic performance ("good students") use more learning strategies and have what they call more flexibility and adaptation capacity to use productively these strategies. In this sense, the students are able to improve learning (Weinstein & Mayer, 1986; Zimmerman & Martinez-Pons, 1990), through the development of different forms of processing information, and the increase of their own academic performance (Zimmerman & Martinez-Pons, 1986). On the other hand, students with lower performances receive more often the influence of emotional factors that interfere with learning (Biggs, 1994; Marton & Booth, 1996; Weinstein & Mayer, 1986; Zimmerman & Martinez-Pons, 1990), and therefore seem to possess a smaller capacity to monitor and regulate the learning process.

Because the learning strategies selection depends on other indicators as motivational aspects, we may argue that students' approaches to learning constitute one of the factors that influence academic performance and success. From several studies that examine university life from the student perspective (Kember & Leung, 1999; Pressley & Ahmad, 1986), the analysis of students' perceptions of the motivational aspects of curricula, emerged motivation as the aspect most

frequently cited and raised by the students in detriment of other curriculum elements combined. Other studies (Gonzalez Pienda *et al.*, 1997) highlighted the importance of self-concept in the regulation of cognitive-motivational strategies involved in learning and academic performance.

The data from investigation frequently suggest the existence of a lack of interest for a specific course that can be related i) teacher performance, ii) perception of interest and utility of contents, iii) relationship with colleagues and iv) occupation with extra-curricular activities. In this sense, although the literature indicates that students who use and optimise good learning strategies attain a better performance in their studies (Marton, Watkins & Tang, 1997), in fact we cannot talk about a linear influence (Arias *et al.*, 2000).

The efficacy of student learning is determined, in part, by their motivation and ability to deal with related contextual demands (Shuell, 1986; Snowman, 1986). Students who are capable to clearly identify learning goals, can successfully achieve them and monitor their own progress. However, the degree to which students can reach these conditions depends (at least in part) on the way they face their own learning process (Biggs, 1985; Entwistle & Ramsden, 1983; Norton & Crowley, 1995).

Research into student learning has been based on two main theoretical sources: information processing (IP) and contextually based work on students' approaches to learning (SAL) (Biggs, 1993). IP models assume that student learning take place within-the-student, while SAL tradition emphasises a within-the-teaching/learning-context. The constructs underlying SAL paradigm have already reached significant consequences upon teaching and learning, and constitute a valid base for applied work in improving the quality of learning and teaching through the recognition of contextual variables in learning (Kember & Leung, 1999).

METHOD

- Participants

During the last registration period at the University of Algarve, we have collected the beliefs of more than 6000 graduation students about academic achievement and motivation using a self-filling questionnaire.

In Table 1 we present the distribution of the participants according to the academic year.

Table 1 – Distribution of the participants according to each academic year

Year	*N*	*%*
1st year	483	7,9
2nd year	1686	27,7
3rd year	1703	28,0
4th year	1707	28,0
5th year	514	8,4
TOTAL	**6093**	**100,0**

- Variables Measured

A set of 8 questions evaluated the importance that students attributed to different types of behaviour as indicators of lack of academic motivation.

Specifically, in those questions we asked if the lack of motivation could be revealed by the following symptoms:

SYMPTOM 1 – Negative image of the teacher

SYMPTOM 2 – Poor interaction with the teacher

SYMPTOM 3 – Lack of interest for the course

SYMPTOM 4 – Lack of motivation to study

SYMPTOM 5 – Lack of motivation to attend classes

SYMPTOM 6 – Minimising the importance of a particular course when compared to other courses

SYMPTOM 7 – Lack of motivation to take examinations

SYMPTOM 8 – Lack of motivation to take extra-examinations for improving academic results

A 18-point response scale was used to express students' opinion about the pertinence of each one of those symptoms as indicators of lack of academic motivation: Weak (1 to 6), Moderate (7 to 12) and Strong (13 to 18).

In order to understand what students think about the occurrence of an academic failure, we asked them to attribute one or more possible meanings to that failure. A closed question was used (students could choose more than one category) and the categories available for response were:

Academic failure is:

MEANING 01 – a reason for not keeping on studying
MEANING 02 – a reason for familiar worries
MEANING 03 – a source of financial problems
MEANING 04 – a reason for the weakness of self confidence
MEANING 05 – a reason for academic desertion
MEANING 06 – just a question of bad luck
MEANING 07 – a reason for lack of academic motivation

We also asked students to evaluate their academic performance using a 5-point scale ranging from *very weak* to *very good*.

In addition, students that evaluated their academic performance as *weak* or *very weak* had to choose one or more possible explanations for their academic failure among several alternatives. The set of possible was:

EXPLANATION 01 – I don't know how to study
EXPLANATION 02 – I am not motivated for studying
EXPLANATION 03 – I share my attention with other activities
EXPLANATION 04 – The place where I study is not the most adequate
EXPLANATION 05 – I miss a lot of theoretical classes
EXPLANATION 06 – I miss a lot of practical classes
EXPLANATION 07 – I don't keep the contents of the courses updated
EXPLANATION 08 – I don't take notes in classes
EXPLANATION 09 – I don't organise my notes after classes
EXPLANATION 10 – I don't ask teachers for help
EXPLANATION 11 – Other reasons

RESULTS

All behaviours were evaluated as having moderate pertinence as symptoms of lack of academic motivation. However, students seem to attribute more importance to symptom 3, considering that the lack of interest for the course is the strongest indicator of their weak level of motivation to continue their studies.

Special attention should also be given to symptom 4, referring to the lack of motivation to study.

On the other hand, the lack of motivation to take examinations is the less relevant indicator.

Table 2 presents the sample mean evaluation for each symptom.

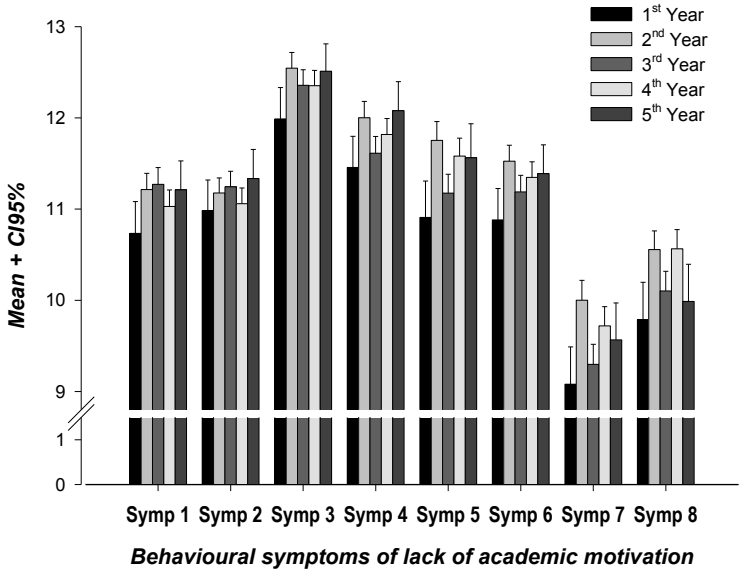
Table 2 – Pertinence evaluation for each symptom: descriptive statistics for the global sample (mean and standard-deviation)

Behavioural Symptoms	***Mean***	***SD***
SYMPTOM 1 Negative image of the teacher	11,1	3,73
SYMPTOM 2 Poor interaction with the teacher	11,2	3,54
SYMPTOM 3 Lack of interest for the course	12,4	3,53
SYMPTOM 4 Lack of motivation to study	11,8	3,69
SYMPTOM 5 Lack of motivation to attend classes	11,4	4,23
SYMPTOM 6 Minimising the importance of a particular course when compared to other courses	11,3	3,64
SYMPTOM 7 Lack of motivation to take examinations	9,6	4,48
SYMPTOM 8 Lack of motivation to take extra-examinations for improving academic results	10,3	4,38

Additionally we constructed profiles for each academic year (Figure 1), in order to appraise the effect of academic experience in the evaluation of those symptoms.

Students from the 1st year show systematically lower results than the other students, which means that they consider all the behavioural symptoms as weak indicators for the lack of academic motivation. However, a direct effect of academic experience in symptoms evaluation could not be detected.

Figure 1 – Responses profiles for each academic year
(mean + upper confidence limit 95%)



To understand what students think about the occurrence of academic failure, we present the percentage of students that attributed different meanings to that failure (Figure 2).

Figure 2 – Percentage of students choosing possible different meanings of academic failure
(percentage + upper confidence limit 95%)

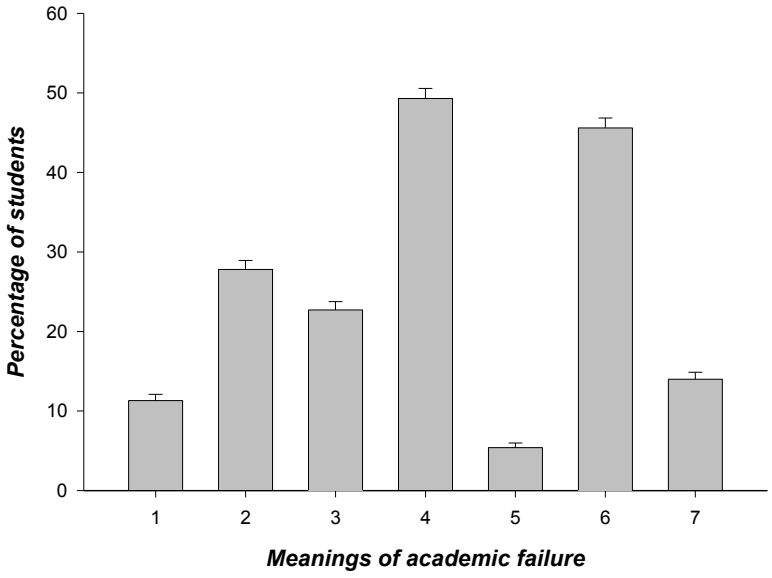


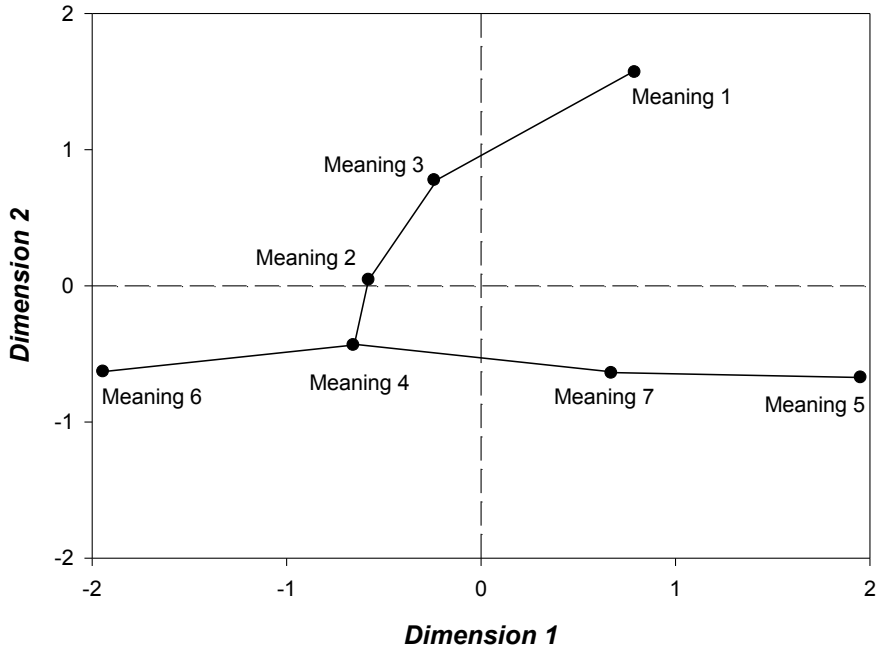
Figure 2 shows that meaning 4 and meaning 6 are the most referred by students. The occurrence of an academic failure seems to be strongly felt as a reason for the weakness of student' self-confidence. It is also interpreted as a question of bad luck.

The meanings related to academic abandonment (meanings 5, 1 and 7) seem to be less important.

A multidimensional scaling representation was used to illustrate the co-occurrences of the different meanings each student attribute to academic failure in higher education. A minimum spanning tree (**mst**) connecting the meanings more frequently chosen by the same student was imposed over data. This tree shows a radial structure that emerges from Meaning 4, clustering meanings related to familiar and financial problems that can even lead to not keeping on studying (meanings 2, 3 and 1) and clustering meanings that attribute to academic failure a role on the weakness of academic motivation (meanings 7 and 5). Considering academic failure as a question of bad luck is an isolated way of explaining this failure.

Figure 3 presents the multidimensional scale where the **mst** is represented.

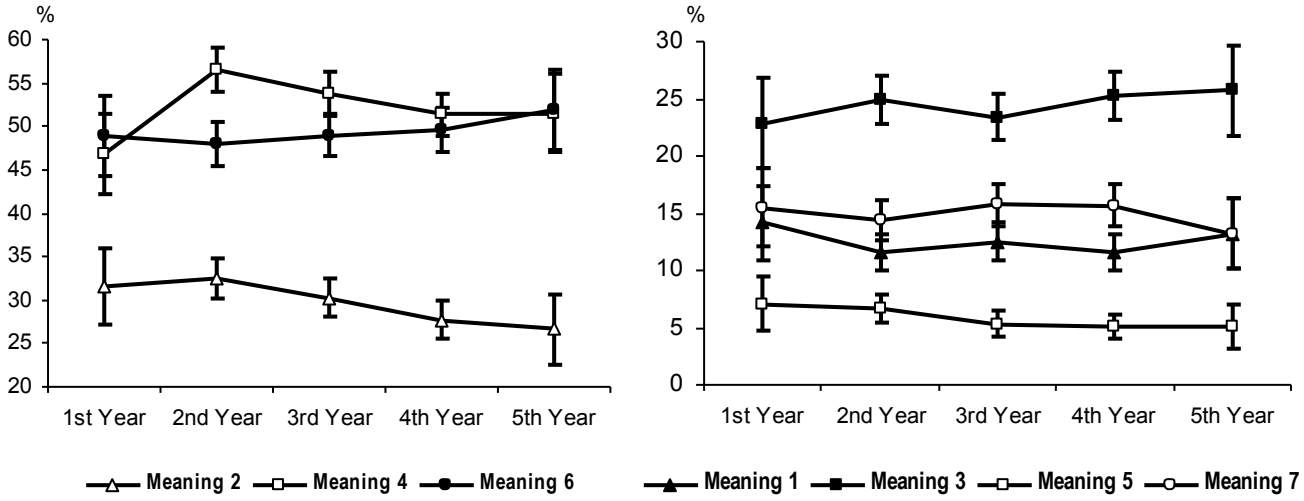
Figure 3 – Multidimensional Scaling for co-occurrence of meaning attribution to academic failure (stress = 0,005)



In order to illustrate the effect of student experience in the process of meaning attribution to academic failure, we established a comparison among academic years for each type of meaning considered. Figures 4 and 5 show the responses profiles for each academic year. Results don't show interaction between academic year and the meanings considered by students. However, meaning 4

is particularly chosen among 2nd year students; the importance of meanings 4 and 2 seems to decrease with academic experience.

Figures 4 and 5 – Responses profiles for each academic year
(percentage ± confidence limits 95%)



We now present the distribution of students according to their estimated level of academic performance (**Mean** = 3,08, **SD** = 0,79).

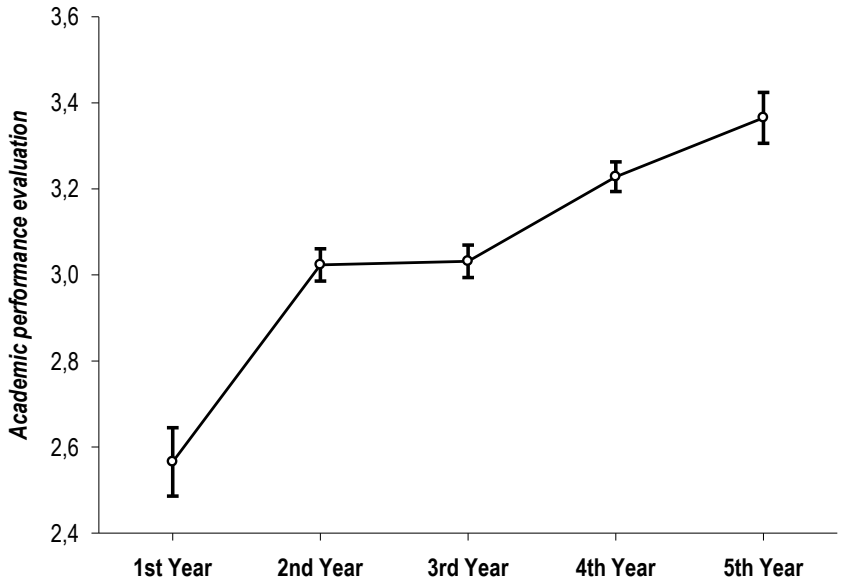
Table 3 – Distribution of students according to the estimated level of academic performance

Level	***N***	***%***
1 - Very Weak	184	3,1
2 - Weak	998	16,6
3 - Sufficient	3094	51,5
4 - Good	1625	27,1
5 - Very Good	103	1,7
TOTAL	**6004**	**100,0**

Missing values: 89 (1,5%)

Data shows that most of the students consider their level of academic performance as sufficient. However, 19,7% of the participants realise that they are weak or very weak students.
Figure 6 plots the evaluation for academic performance level against academic year.

Figure 6 – Evaluation of academic performance for each academic year
(mean ± confidence limits 95%)



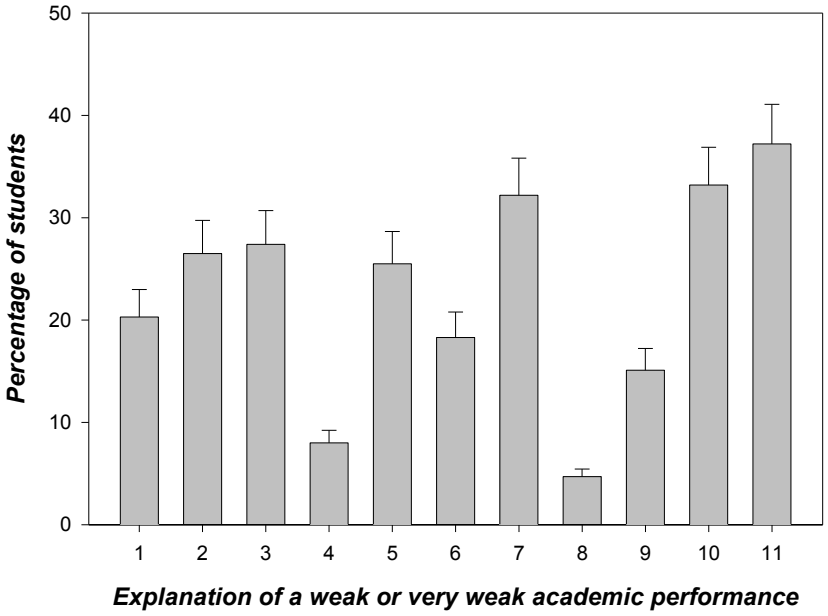
Although academic performance evaluation increased with academic experience, the biggest difference is found between the 1st and the 2nd year.

Next analysis is restricted to those students that evaluated their academic performance as *weak* or *very weak* (N = 1182).

Figure 7 shows the percentage of students that have chosen different types of explanations for their low level of academic performance. None explanation has reached a consensus of 40%, being explanation 11 the most chosen by students ("other reasons"). This results show that participants didn't accept available answers as viable ways of explaining their academic performance. Explanations 8 and 4 are less important, meaning that students don't think that the places of study or taking notes are pertinent explanations.

Participants chose explanations 7 and 10 more often, suggesting that not asking teachers for help or don't keeping course's contents updated are the most plausible explanations for their weak or very weak performance.

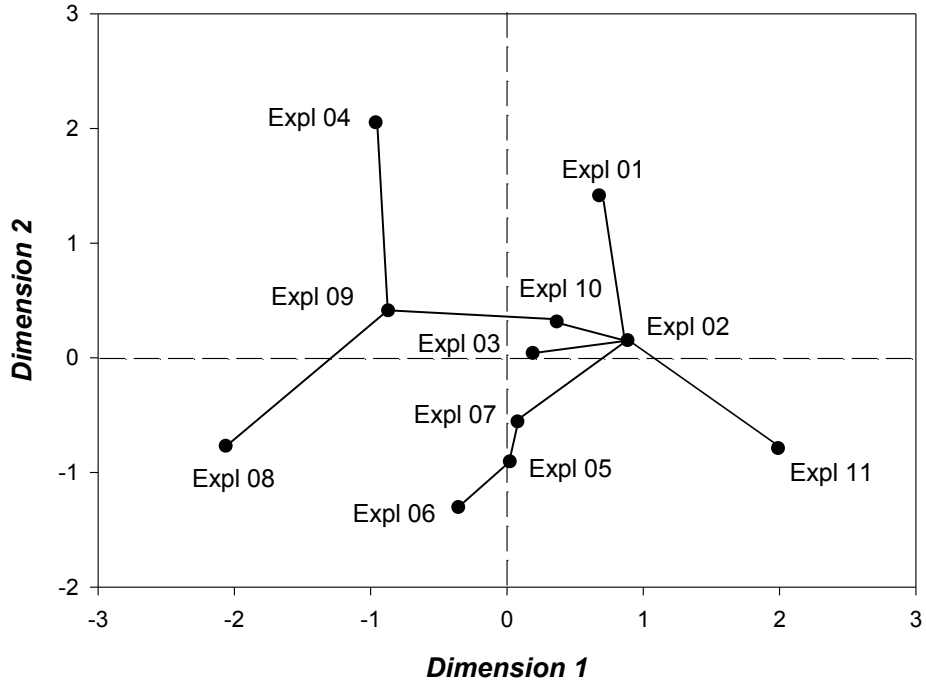
Figure 7 – Explanation of a weak or very weak academic performance
(percentage + upper confidence limit 95%)



We used again a multidimensional scaling representation to illustrate the proximity between the explanations chosen, due to the co-occurrences on students' response. A minimum spanning tree (**mst**) connects the explanations that are preferentially given by the same students.

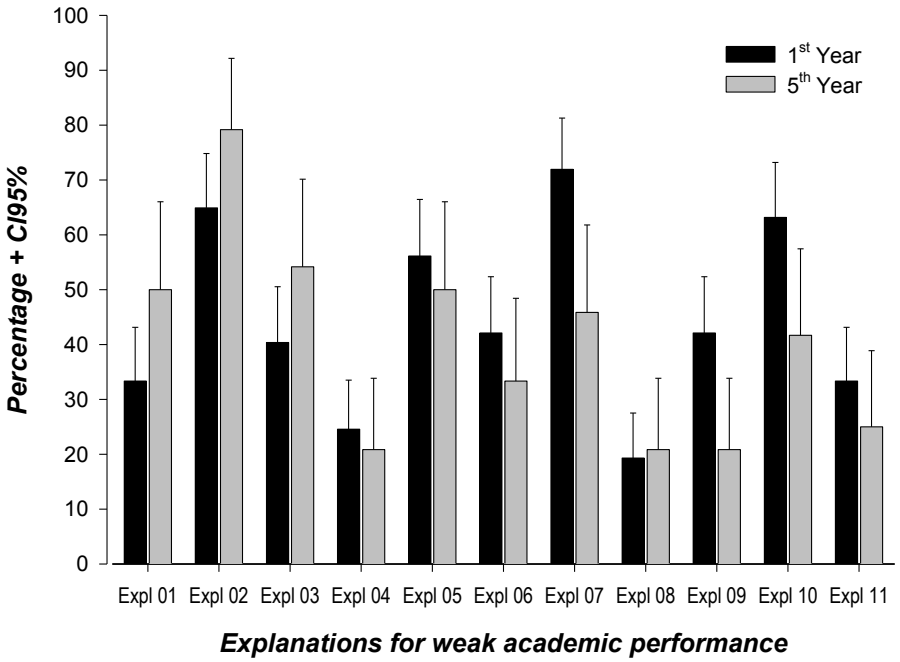
The tree shows a radial structure that emerged from explanation 02 - "I am not motivated for studying", suggesting that, when explaining their poor academic performance by a lack of motivation, students tend to add other explanations. Those patterns of response are easily identified in Figure 8. We can find a cluster joining explanation 10 (don't ask teachers for help), 9 (don't organize notes after classes), 4 (place of study not adequate) and 8 (don't take notes in classes). On the other hand, we can identify a group of explanations related with student absenteeism (missing theoretical and practical classes, explanations 5 and 6) and also with explanation 7 (not keeping the contents of the courses updated). Finally, there are isolated explanations that establish connection only with the more general explanation (not being motivated): students that don't know how to study (explanation 1) and students that share their attention with other activities (explanation 3).

Figure 8 – Multidimensional scale for preferences among explanations;
the **mst** is also represented (stress = 0,10)



To evaluate the effect of academic experience in beliefs about the reasons of a poor academic performance, we compared the percentages of students choosing each type of explanation in the 1st and in the 5th academic year. Figure 9 presents the responses profiles obtained.

Figure 9 – Response profiles for 1st *versus* 5th academic year
(percentage + upper confidence limit 95%)



The response profiles show that a set o explanations are more frequent in the 5th year than in the 1st year (explanations 1 and 3), while explanations 6 and 9 are less frequent in the 5th year. Also concerning explanations 2, 4, 5, 7, 8, 10 and 11 we don't observe any significant difference ($p > 0.1$).

DISCUSSION

In general, we can point six reasons that are strongly responsible for the students' level of academic motivation to continue their studies in a higher education context: the performance as student, the interest for the contents of the courses, the degree of difficulty of the courses, the performances of the teachers, the conditions offered by the Faculty and, finally, the quality of the University support services.

In this study we reported our analysis to representations students have about their own academic performance and behaviour, in order to further understand the complex reality of academic motivation. In fact, students are one of the most important sources of information in the analysis of their own academic experience. In our opinion, the representations students have of themselves, of academic life and institutional context can significatively contribute to a valid perception and understanding of the higher education reality. However, we realise that to further understand this reality it will be crucial also to attend the opinions of teachers and service and executive personnel.

In students' opinion, academic motivation to continue studies is mainly revealed by the lack of interest for the different courses. At this point, it seems important to understand the meaning of the expression *lack of interest for a course*, identifying specific behaviours that reveal this symptom. The existence of a variety of intimately related behaviours underlines the importance of operacionalizing this symptom.

Students also think that the lack of motivation to study is a moderate indicator of a lower level of motivation while attending examinations is not considered a significant symptom.

In our opinion, although in this study it was not possible to identify any pattern of association between symptom evaluation and academic experience, several investigations point to different results (Hayes *et al.*, 1997; Richardson, 1995). In fact, attending a higher education graduation is a development task envolving significant changes in as academic, social, vocational and personal domains (Baker, McNeil & Syrik, 1985; Gonçalves & Cruz, 1988; Ribeiro Gonçalves, 2000; Soares, 1998; Valadas, 2001).

Another result shows that most participants evaluated their academic performance as sufficient, being gradually more self-confident with academic experience. However, a significant difference occurs between 1st and 2nd years. Several authors (Almeida *et al.*, 1999; Pascarella & Terenzini, 1991) consider that 1st year at university is a critic period that can lead to crisis and developmental changes concerning relationships demands, different levels of responsability, learning strategies and study habits. Almeida (1998) points out personal, interpersonal and institutional variables as determinants of student adaptation and integration process in higher education context.

Those students who consider themselves as weak or very weak students evoked relationship with teachers, motivational factors and learning strategies as possible explanations for their failure. Some differences in these explanations were found between 1st and 5th students, which express the nature of taks demanded and the development level of students. The fact that 1st year students explained their lower level of success for not attending classes reflects the social and familiar demands they are facing in this integration period of their academic life (Biggs, 1994; Tavares et al., 2000). On the other hand, 5th year students seemed to attribute their failure to the incapacity for developing adequated learning strategies and study habits. In summary, while freshman students mainly refered integration and adaptation demands to explain their weak academic performance, last year students favoured explanations concerning an inadequated development of study habits. Consistent results have being pointed out by other authors (Biggs, 1994; Weinstein & Mayer, 1986; Zimmerman & Martinez-Pons, 1986, 1990).

Concerning the meaning students attributed to academic failure, although they considered it a possible cause for depleting self-confidence, they mainly believed that it is just a question of bad

luck, not to be taken as a valid reason for academic abandonment. The meanings associated to academic failure didn't change significantly with academic experience.

The results obtained clearly show that academic motivation is intimately related to a multitude of factors that must be addressed to some evidences on teaching and learning process in higher education. First, the culture of pedagogy must arise inside the institutions themselves and we think that such culture should move towards continuing education as a way of life for all the academic staff. To accomplish this, Universities should have a service for observing and analysing the *status quo* of the items above, in order to provide feedback for the Psychological and Social Services, as well as for the Faculties within the Universities and, at the same time, promoting ways of facing and dealing with those items.

Also, the curriculum design must be done hands in hands with the real society, the culture and the labour market needs and demands, i.e., the students have to feel that the subjects of the courses they are taking are useful for their future.

Another aspect that deserves our attention refers to students' academic skills. In fact, these skills are something in progress from their first academic year until the end of their courses and that is why this is a challenge that all teachers have to face in terms of pedagogy inside the classrooms. Special attention must also be given to the development of good learning strategies. Students do have their own experiences, their potential concerning scientific preparation and study habits. Several studies have showed that those students who have the capacity to create adequate learning strategies, easily develop study skills to obtain higher academic success. This seems to be a strong reason why we must invest on the area of learning approaches to study.

Concerning the influence of teachers' practice, it is also important to refer some factors regarding their pedagogical competences that might influence students' opinions. We are referring to teachers capacity to understand students needs and difficulties, their flexibility on the pedagogical/didactic approaches, their comprehension of the evaluation process (as a tool for diagnosing and rescuing, rather than for punishment), their capacity to establish/create good interactions environments and to help students, and finally, their scientific competence.

We propose an intervention programme in which we have to research, diagnose, intervene and evaluate; invest on training and provide help and formation for students, teachers and other personal. A Permanent Observatory for Teaching and Learning Quality inside the University of Algarve as already been created, but it is necessary to develop continuing education and training services for the academic staff, as well as improvement of the quality of the Psychological and Social Services.

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