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Analysis Of Determinants And Factors Motivating Students In Higher Education: Case Of The Students Of Chemistry At The Ben M'sik Faculty Of Sciences.

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Abstract

In the framework of helping students to regain motivation during their university career, we took the initiative to analyze the factors and determinants of this motivation for chemistry students at the Ben M'sik Faculty Of Sciences - Casablanca. In this study we are interested to study the impact of motivation on university career and choice of formation. 302 chemistry students of different levels from the first year to the Master participated in the survey; they are between 18 and 28 years. This study aims to have data on university career and choice of formation of chemistry students and their levels of motivation. The analysis of these results shows that taking into account the motivation during orientation and learning process influence positively the university success and performance of learners.

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Keywords: university motivation; university career and choice of formation; failure and success; Moroccan university; teaching chemistry

1. Introduction:

Considered as one of the most important conditions for learning, motivation to learn has become a problem for a growing number of university students.

In university unmotivated students to succeed academically is often manifested in two ways: either students are disengaged from the start because they do not see the importance of the subject matter, whether motivated at first they become demotivated after a while due to several factors. Anyway, this motivation has important consequences:

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Absenteeism, lack of attention in class, unconstructive attitude, lack of student engagement which leads to low marks or failures later and many of them will be brought to give up their study (Viau & Joly (2001).

Thus, the teacher should better understand the dynamics that increases student motivation and focus their attention on understanding courses and gain their implication in the proceedings of the sitting (Urdan & Schoenfelder, 2006; Yee & Tang, 2003 Trouilloud & al., 2006; Wentzel & al. , 2010).

Romanville (2002) considers that students are aware of the importance of working independently, and are able to discover the implicit rule and tacit didactic contracts increase their chance of success. They must be motivated and have a real interest in their studies; their skills acquired posteriorly must be adapted to their choice.

What then is the motivation in the learning context?

In general, as behaviorists have defined motivation, is a set of biological and psychological mechanisms that allow the triggering of action in its orientation, intensity and persistence. In the learning context, it is a dynamic state based on the perception that a learner can have of himself and his environment that pushes him to a choice of activity, to engage in it and persevere in accomplishing in order to arrive to the goals (Viau 1994).

Unfortunately some teachers ignore the aspect motivation during the pedagogical act, they do not even think. The question they often ask is "why our students do not succeed?"Their response is quick:"They are weak without level» The question we should ask again; motivated teaching it improves understanding of learning and it increases the desire to learn?

It is in this sense that our subject is part of a goal to improve the quality of higher education in our country. The general objective of this research is to examine the impact of motivation on the process of learning of chemistry students at the Faculty of Science Ben M'sik, and analyze the determinants and factors of this motivation. The principal axis that we will treat in this paper is “the impact of motivation on university career and choice of formation”.

2. Problematic

Many reasons are evoked to explain the university failure and student performance: The method of formation used by teachers, the bad pedagogical organization of faculties, lack of follow up of parents, etc.

However, it never mentions the causes for the lack of motivation related to university student orientation. As Morissette (2002) notes in his book “accompany the construction of knowledge” gestures and harmful attitudes of teacher such as: give the impression to students that they have no power over their intelligence, classify students in weak or strong, do not worry about the meaning and value attributed to learning, valorize the evaluation rather than learning, ridiculing a response or the experience of a study, (p 205). Sometimes students also adopting certain gestures and harmful attitudes to learning in these terms: "we never have time; it is too long! I stop! Anyway, I do not understand anything! I have not even chosen these types of studies ... ".All these factors are not taken into account in the search for causes of university failure and lack of student performance and as yet the motivation is an important factor for successful learning.

3. Method

3.1. Participants

A large group of 302 chemistry students from the faculty of Science Ben M'sik participated in this study including 193 girls and 109 boys with an age range from 18 to 28 years, and a mean of 21, 5 years, distributed according to the levels from S2 to the Master.

Tab1: Distribution by gender

	2nd Semester (S2)	4th Semester (S4)	6th Semester (S6)	Master	Total	Age (mean)
Female	40	73	46	34	193	21,45
Male	33	32	31	13	109	21,68
Total	73	105	77	47	302	21,56

3.2. Measures:

In a research work, "The survey by questionnaire consists in posing, in writing, to subjects a series of questions relating to a situation, to their opinions, to their expectations ..." (N'da 2002). This method requires that responses be written. In general, the survey by questionnaire aims to verify hypotheses by analyzing social phenomena that can be studied from the information given by individuals.

In our work, we preceded using two types of questions: closed questions and open questions.

Our anonymous questionnaire is composed of 61 questions divided into eleven themes in this paper we will take a special interest in the second theme (university career and choice of formation).

3.3. Procedure:

A first test version of the questionnaire was distributed to students in February 2014, but unfortunately they found a large French language problem even if the questionnaire is posed in the simplest way possible, for this we have adopted an Arabic translation, and left the choice to students to answer either in French or in Arabic.

A second structured version was redistributed in May 2014 and we collected 302 completed questionnaires of the 350 copies distributed.

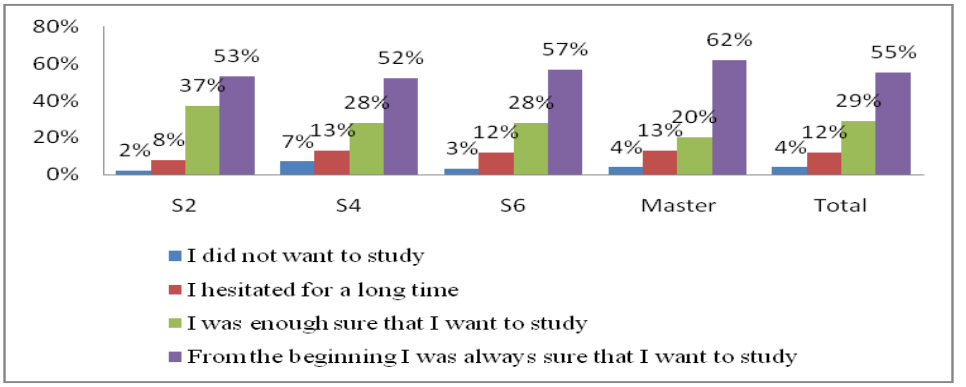
3.4. Analysis:

After the data collection, we used SPSS 20 software for data processing and analysis. Our interest in this study is focused on the impact of motivation on university career and choice of formation.

3.4.1. Willingness to study:

The first pertinent question that was asked in this axis was: (Which of the following characterized the best your situation before undertaking your university studies?), the following graph can give us some important information:

Graph 1: Situation before undertaking the studies according to levels

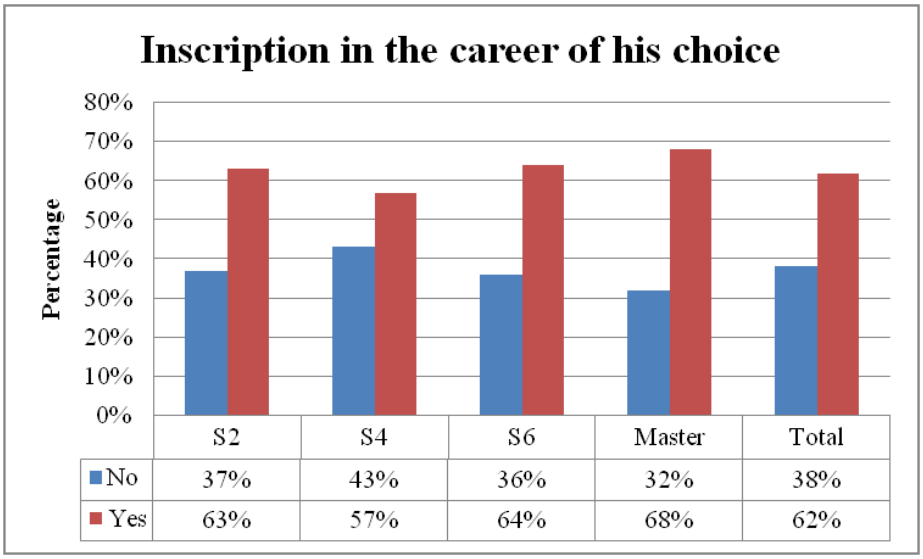


Before their access to higher education, the vast majority of students had the desire to study. However, this level of certainty varies strongly according to the levels of study. Thus, it is maximum for the students of the Master (more than three out of five students were sure from the beginning to want to study and only between 4% and 13% of students who did not want or have hesitated to study) and reaches its minimum for students in S2 and S4.

Thus, the girls had more willingness to get higher education than boys by a value of 61% in front 45% for boys.

3.4.2. Inscription in the career of his choice:

Graph 2: Statistics for the question "The formation whose you are registered at the beginning of your higher education it is your first choice of orientation?



At the Ben M'sik Faculty Of Sciences (FSB), two out of five students made their first inscription in a career that was not the one they preferred. This rate varies from a level to another as it attained 43% in S4 as the maximum value and 32% in the Master level as the minimum value (rates can be considered also significant).

This variable varies in the same way as well for girls than for boys.

In this case, we can think that the inscription in the FSB (as an open access institution) poses a problem because it was not the first choice of nearly 40% of students. This may explain the lack of motivation observed with chemistry students in the FSB.

3.4.3. Desired final diploma:

Tab 2: Statistics for the question "What examination of the end of studies do you envisage?"

	S2	S4	S6	Master	Total
Fundamental license	15 %	20 %	22 %	0 %	14 %
Professional license	12 %	5 %	2 %	0 %	5 %
Master's degree	12 %	20 %	21 %	22 %	17 %
Specialized Master's degree	2 %	7 %	5 %	52 %	12 %
Engineering diploma	4 %	12 %	4 %	0 %	6 %
Doctoral degree	28 %	19 %	21 %	20 %	26 %
I do not know yet	27 %	17 %	25 %	6 %	20 %

Generally, just a quarter of chemistry students in FSB who intend for the doctoral degree as the envisaged final diploma, and one student on five has not specified his objective yet concerning his final diploma.

For students in S2, a third of students are destined to the doctoral degree, another third have not yet determined their final goal of study. They are the most motivated students to prepare thesis later.

For students in S4, students are grouped into three major proportions each one represents 1/5, the first group aims the fundamental license as a terminal diploma, the second one aims the master's degree and the third one aims the doctoral degree.

For students in S6, a quarter of the students have not yet mentioned their terminal objective (a very large proportion which should be minimal at this level normally, because they are in a determinative year).

For the Master level more than half of students think to stop their studies at this level and it was only one of five of students who wants to prepare a thesis later.

The girls want to stop their studies in fundamental license more than boys, and these later are more motivated to continue their studies in master's degree and doctoral degree more than girls with a very significant proportion going until 35%.

This analysis shows that the motivation of students to continue their studies is not presented in the same way at the faculty; generally university students enter to the faculty with a strong motivation. However, it decreases over the years. The difference between these different groups of students is statistically significant.

3.4.4. Information about careers of studies and university life:

Tab 3: Statistics for the answer ("much too little" + "too little") to the question: "How do you feel informed in the following areas?"

	S2	S4	S6	Master	Total
Study and examination regulations in the career	47%	40%	25%	50%	39%
Use of multimedia / internet in studies and teaching	39%	35%	23%	14%	29%
Opportunities to have a scholarship	39%	40%	27%	48%	38%
Opportunities to study in a foreign country	47%	45%	45%	56%	47%
The situation of the labor market in the envisaged professional field	23%	55%	39%	44%	42%
Diplomas of the level license and master	25%	39%	16%	15%	26%
Current political programs concerning the development of universities	33%	53%	32%	48%	42%

Generally, chemistry students of the FSB have the feeling of being badly informed when the subject is far from the pedagogical aspects (diplomas of the level license and master, study and examination regulations in the career, use of multimedia / internet in studies and teaching).

This global deficit of information is particularly marked in the field of the possibilities of studies in a foreign country because half of the students say that they are too little informed (until 56 % in Master's degree).

We also observe that the majority of the students (42 %) say that they are too little informed about the working market situation in the professional field and the development policy of universities.

In the field of the possibilities of obtaining of scholarships, two students on five say that they are badly informed about this domain. It is interesting to note, that the students of S6 are clearly least numerous to say that they are too little informed about all the proposed domains.

For the distinction by gender we observe that the boys are the least numerous to say that they are too little informed about the great majority of the proposed domains. It is observed that the impact of gender on the evaluation of the information offered is not important enough (the gap varies between 0% and 15%).

4. Conclusion

The observed results allowed us to identify some reasons for the lack of motivation in the process of university learning and its consequences. The bad university orientation, the absence of teacher's vocation and other elements related to the pedagogical act and also the lack of communication between the establishment and the students on one hand and between the teachers and the students on the other hand are fundamental elements of the lack of motivation.

These results correspond to one axis only (university career and choice of formation) from eleven other axes, that is why we point out that these findings are not definitive; future research in the PhD thesis will supply more enriched explanations.

In spite of the limits of this study, these results seem to show that the university orientation is a determining factor of the motivation in the higher education. Only the students having chosen this teaching have goals and interest for learning. But pedagogical reinforcement must be provided to maintain and increase the motivation to reach the excellence.

Students who do not choose this option need more of help, the intervention of the teacher to redefine their learning goals, their professional future project and the reorientation of the interest of study. It is understood that these students have no motivation from the beginning and strategies for intervention on their motivation must be envisaged.

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