

An Analytical Study of the Phenomenon of University Dropout: Causal Factors and Solutions: Case of the Faculty of Sciences Ben M'Sick, Morocco

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Abstract

The phenomenon of dropping out of university is a real problem that the Ministry of National Education has been dealing with for years without, however, managing to find truly satisfactory solutions. This study aims to determine the causal factors responsible and how to find solutions and treatments that contribute, if not to reduce, at least to eradicate this phenomenon. Statistics show that the dropout rate is increasing for the first year, especially in open access establishments that receive the majority of new baccalaureate graduates. At the level of the Faculty of Sciences Ben M'sick, 27% of students have dropped out of school in the last five years. To achieve the research objectives, we surveyed a sample of 560 undergraduate students of the year 2018-2019 from the Faculty of Sciences Ben M'sick, grouping different fields: (Physics, Chemistry, Biology, and Geology). The results of the survey after counting the questionnaires, showed that 68.46% of students dropped out of school which indicates that several reasons and factors contributed to this phenomenon of dropping out, such as the lack of guidance and educational direction of students, the effect of problems related to the change of the language of instruction can also be the only source of the language barrier. Difficulties in understanding and assimilating courses, inadequate teaching methods, absenteeism, insufficient communication between the professor and the student due to massification lead to an increase in the dropout rate.

Keywords: Dropping out, University, Evaluation, Pedagogy, Continuous improvement

1. Introduction

The phenomenon of dropping out of university is considered a major concern in Moroccan education, affecting those responsible for university education, especially first-year students (Echchafi et al., 2017). In the context of education, and specifically at the higher education level, a dropout is "a person who abandons his or her studies without completing the cycle begun", i.e., without obtaining a degree (Renald, 1993). Among the individual factors that cause failure, the most frequently cited are students' living conditions (work, transportation, housing), their previous schooling (especially repeating years), their choice of orientation, and their ability to adapt to the demands of university life (Lakhal & Khechine, 2021; Ling et al., 2003).

The problem of academic failure is one of the salient aspects of the Moroccan university crisis, which has cost Morocco more than three billion and 700 million dirhams, including all university-related

expenses (National Assessment Panel, 2018). According to figures published by the Ministry of National Education, Vocational Training, Higher Education and Scientific Research, the Minister confirmed that 87% of Moroccan students pursue their university studies in open polarization institutions, indicating that the total number of students present in these academic institutions reached one million and 10.000 students, of which 16% enroll in September and fail the exams in December, while 47% of students stay more than five years at the university and leave it without any university degree (diploma or license) and he also indicated that the number of holders of a bachelor's degree continues to increase between 2015 and 2019, with an increase of 22%, adding that about 47.2% drop out of university studies without obtaining a degree) (National Assessment Panel, 2018).

The minister pointed out that among the greatest constraints experienced by the "former" pedagogical system is the low level of education due to the difference in the language of instruction between secondary and higher education, in addition to the low level of knowledge in the basic subjects. Thus the lack of basic personal skills of students (Lebkiri et al., n.d.; National Assessment Panel, 2018). Among the remedies to this dilemma, Morocco decided to adopt the Bachelor system after following a series of studies and report on the large number of imbalances and problems that the LMD system suffers. So the student before, during, and after entering higher education institutions by adopting an electronic portal of information, academic counselling and guidance assistance, as well as cognitive diversity to strengthen the level of knowledge of the student in the core subjects, then opening units to discover other areas of knowledge, as well as the development of cultural and value balance of students, in addition to life and personal skills units to enable students to adapt to the working methods of the university as well as language units to qualify the student in foreign languages to obtain the certificate (Laroui, 2021; The Commission of Education and Cultural and Social, 2019).

A previous study by Beaud indicates that the undergraduate success rate is flawed because it omits a key factor in understanding the failure problem, that of the in-year failure rate and that of ghost students who formally enroll in the university and do not attend classes. In addition, he identifies three factors that may contribute to academic failure: undergraduate specialization, pedagogical organization, and under-supervision of students (Beaud, 2005). Lozano shows that some internal and external factors force a student to drop out of a program. Firstly, students who drop out of the program have not only academic, socio-economic, and personal difficulties but there are other factors such as lack of motivation and bad decisions when choosing a university course, generating the abandonment of the process of learning a foreign language (Lozano, 2013).

In 2015, an earlier study by Sarfati describes the three types of pathways followed by university students that cause failure: those who change majors quickly, those who choose the university a la carte, and those who accumulate difficulties. Learners associated with the first pathway enrolled in and turned to a track they aspired to go into, while the others have difficulties in their university selection process (Sarfati, 2015). In our study, we highlight the factors causing the phenomenon of university dropout from the point of view of students, taking the case of the Faculty of Sciences Ben M'sick.

2. Issue

The phenomenon of dropping out of university is a problem that affects educational leaders, as far as first-year students are concerned. The problematic of the study is summarized in the following questions: What are the factors causing first-year students to drop out? And what are the solutions proposed to limit this phenomenon?

3. Methodology

3.1 Study Population

The study first targeted groups of students from the different fields of study: (Physics, Chemistry, Biology, Geology). We surveyed 560 students of the Faculty of Sciences Ben M'Sick who answered the questionnaire.

Table 1: Distribution of Sample Members According to the Variable "Gender"

Gender	Total	Percentage %
Male	235	40%
Female	335	60%

Table 2: Distribution of the Sample Members According to the Scientific Field of Study

Academic year	1 st year
Physics	144
Chemistry	150
Biology	156
Geology	110
Total	560

To provide answers to these research questions, we developed a survey for students of the courses (Physics, Chemistry, Biology, Geology) of the academic year 2018-2019, intending to highlight the obstacles related to teaching, learning and some causes of the phenomenon of dropping out and therefore a failure. Thus, for the outcome of this work, the questions focused on the quality of teaching and learning of the lectures of the modules. The exploitation of the answers obtained would give a precise idea of the problems faced by teaching and learning.

3.2. Designing the Survey

The survey was divided into four parts to facilitate the understanding of the questions. The parts are:

- Student orientation.
- Difficulties encountered in studies.
- Conditions of study in the faculty.
- Integration within the faculty.

4. Results and Discussion

Once the survey questionnaire has been analyzed, it should be noted that the statistical analysis was carried out using the original software. Below are some results obtained for each part of the survey. Student dropout rates, covering five successive years of Ben M'Sick Faculty of Science, are presented in Figure 1. The 2015-2016 cohort, shows that 9580 students are enrolled each semester and 19.27% of the students dropped out, and some repeated and are still studying. While for the 2016-2017 cohort, there is a decrease in the number of students enrolled and the number of students who dropped out has increased compared to 2015-2016. For the 2017-2018 cohort, we see that there is a decrease of approximately 4.39% of students who dropped out, compared to a huge increase in students 10125 enrolled for this year. Tracking the 2018-2019 cohort, it is shown that there is an increase of 68.46% of students to leave the faculty without a degree, compared to a decrease in enrolled students. As for the 2019-2020 cohort, 27.95% of students leave the faculty without a degree and a certain percentage leave the faculty six months after the beginning of the academic year without passing the first semester exams.

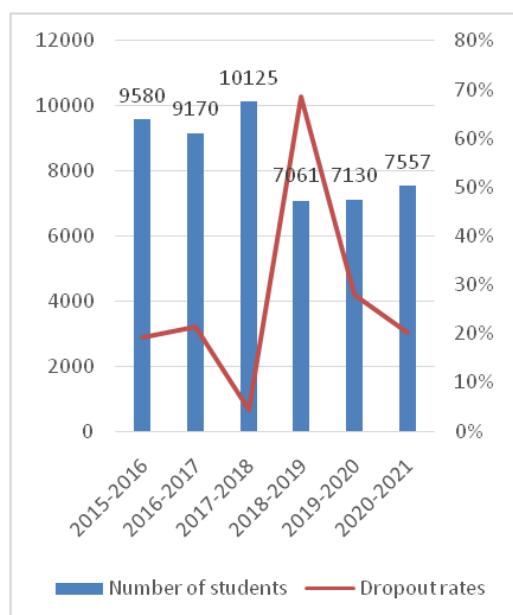
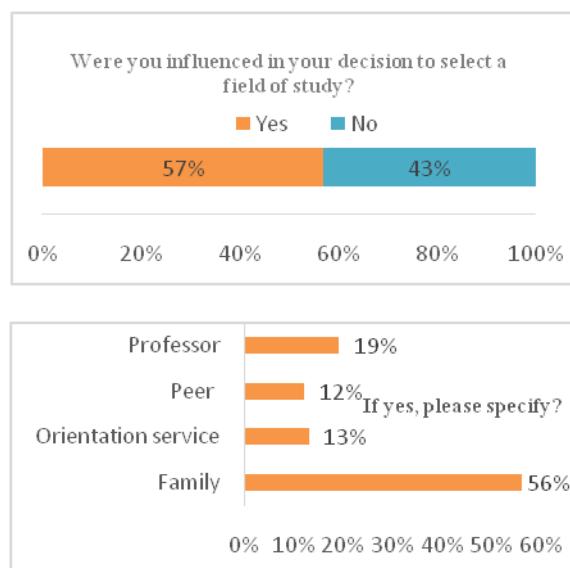


Figure 1: Statistical Data Covering Dropout rates During the Years 2015-2021 at FSBM

Morocco has adopted a new generation reform of the education system, and notwithstanding all these efforts to develop the education system, the academic failure rate remains high in open access establishments and many students drop out in the first year and leave the university without a diploma or qualification.

4.1 Student Orientation

Orientation consists in enabling the individual to become aware of his characteristics and to develop them to choose his studies and professional activities in all the conjunctions of his existence with the joint concern of serving society and the development of his responsibility" (Guichard, 1994; Sánchez-Cardona et al., 2021).



**Figure 2: Survey Results
Sources of information concerning the learner's career pathways**

Figure 2 shows that 57% of the students were influenced in their choice of field of study, while 43% were not. 56% of the respondents stated that their choice was advised by their family, 19% were influenced by professors, and 13% by the guidance services. We note that poor orientation is the primary factor in dropping out, and we cannot overlook the fact that these students perceive the university as a last choice to continue their student careers, when in fact it is only a passageway to the graduate school level experience.

4.2. Difficulties Encountered in Studies

At the academic language proficiency level, 73% of the students declare to have difficulties against only 27% who think they do not have any. The majority (93%) of the students have difficulties in assimilating courses rich in technical words, thus posing another problem of syntax and semantics. As well as about (75%) of the students consider that the work methodology recommended by the professor is not motivating for them and lacks certainty in the explanation of physical phenomena through

diagrams and examples (figure 3).

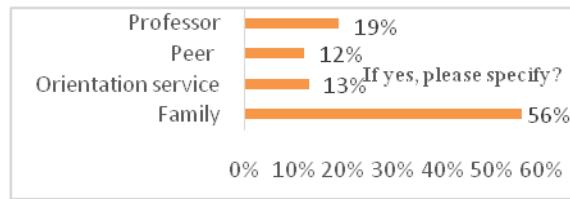


Figure 3: Survey Results: Linguistic and Methodological Barriers.

*Question 1 (Q1): Have you found difficulties in the methodology of working?

*Question 2 (Q2): Have you found difficulties in understanding the scientific subjects?

*Question 3 (Q3): Have you found any language difficulties?

According to the results, many difficulties handicap the first-year students related to the understanding of scientific subjects, the methodology of university work, and the language of teaching. Given their already low level of French in high school, the transition from teaching in Arabic in high school to teach in French at university is considered a handicap to understanding and assimilating the courses. These difficulties are frequent causes of university dropout.

4.3 Study Conditions at the University

According to figure 4, 38% of the students are satisfied with the study conditions at the faculty, while 62% are not. In addition, the majority of the respondents (93%) expressed that the number of students in the lecture halls and classrooms was excessive. Communication between professor and student is considered by 79% not to be satisfactory against 21% who think the opposite, on the other hand, the professor/student relationship is different; in high school, and the students maintained communication relationships with their professors. It is noticeable that these verbal exchanges will disappear at the university because of the massive presence of students in the lecture halls.

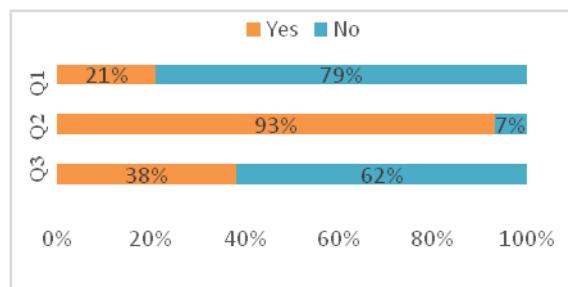


Figure 4: Survey Results: Conditions of Studying at the Faculty

*Question 1 (Q1): Is the communication between professors and students sufficient?

*Question 2 (Q2): Are the number of students in the lecture halls and in the tutorial rooms often too high?

*Question 3 (Q3): Do you find the learning conditions at the faculty satisfying?

In the light of these results, we can see that in addition to these problems, there is the constraint of communication between the professor and the student. Thus, the quantity of the content of the teaching courses is too loaded (7 modules per semester) whose hourly volume is insufficient, but also the unfavorable working conditions of the courses and the supervised works, namely the massification which can constitute a factor of demotivation for the studies.

4.4 Integration within the Faculty

Figure 5 shows that the attendance rate of students is more significant in tutorials (73%) than in lectures (40%). It is also noted that only 25% of the students who attend the course mention that they prepare it in advance. Also, 23% of the students prepare their tutorials in advance and 69% manage to understand the course and tutorials in groups of 4 students. Approximately 31% of students rely on tutoring by individuals or through online resources.

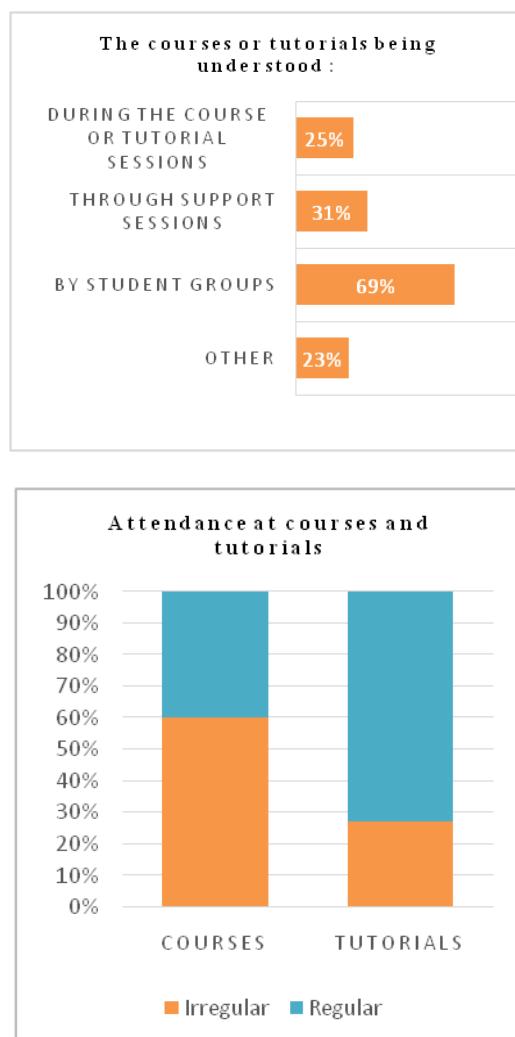


Figure 5: Survey Results: Attendance at on-site Courses.

It is noteworthy that these surveys depend on other factors, in particular absenteeism and lateness, both of which are linked to social problems. This leads to the inability to follow the sequence of the course and the tutorials, which affects the effort that the student must make.

4.5 Solutions for Preventing University Dropout

After reviewing the wide range of programs that different universities around the world have implemented to increase student retention, Cabrera and colleagues describe the following types of interventions that universities can undertake (Stăiculescu & Ramona, 2018).

- Academic advising programs (e.g., through university professors);
- Programs that provide pre-university information and advising on undergraduate majors;
- Programs that provide advising and support to students, especially training in learning strategies and psychological support;
- Guidelines for preventing student dropout;
- Efforts specifically targeted students in online courses.

The problem of university dropouts is considered a national problem that requires concerted efforts to find effective solutions to protect students from its devastating effects, the most important of which are:

The implementation of a coordination cell between secondary and higher education to ensure better information for high school students about university tracks and the necessary prerequisites, as well as more adequate guidance and assistance in preparing their career plans,

Linguistic and pedagogical support for students in difficulty,

Support for students in developing methodological skills to bring them up to academic requirements.

4. Conclusions

This study has allowed us to identify the causal factors of undergraduate students' dropout from different streams in the Faculty of Science Ben M'sick. Indeed, the results obtained show that 68.46% of students have dropped out of their studies for the year 2018-2019 which indicates that there are several reasons and factors that have contributed to this phenomenon of dropouts, such as the lack of guidance and pedagogical direction of students, changes in teaching languages can also be the sole source of the language barrier. This leads to difficulties in learning disciplinary notions and scientific concepts, difficulties in understanding and assimilating courses, inadequate teaching methods, working conditions from the point of view of infrastructure and schedule volume, absenteeism, the problem of communication between the professor and the student due to massification which leads to an increase in the rate of repetition which explains the most important dropout rates in the first cycles of the university.

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