

Career Change: Are there options after failing at the first attempt?

DOI: 10.46932/sfjdv5n4-018

Received on: Mar 26nd, 2024

Accepted on: Apr 16th, 2024

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ABSTRACT

For university students, the choice of a career represents a fundamental step in what will be their professional and personal life once they graduate. Before the beginning of a school cycle, the student faces one of the most important processes of analysis and choice in his life, which, if not done conscientiously, will lead to disappointment, frustration and low morale, asking himself if the career he has chosen was really the best option or if he had a last chance to change his plans. Studying an academic career implies that after finishing it, the student is faced with the possibility of improving his knowledge by studying a postgraduate degree that will improve his skills and raise his self-esteem. Higher education institutions present in their entrance schemes a series of educational programs, but if the student for some reason cannot advance from the beginning, he/she has a last option to change careers. Therefore, the present research is carried out in a university in the southeast of Mexico. Its purpose is to show the statistics of career alternatives that the student would have as a second opportunity in the case that in the career that was his first option he has not satisfactorily covered the academic requirements. A statistical methodology is applied that would help the school services area to recommend a second opportunity.

Keywords: Choice, Career, Higher Education, Alternatives.

1 INTRODUCTION

In Mexico, education is governed by an educational system, which, among its main interests is to do everything possible to ensure that access and continuity within this sector is lasting and of high quality, especially preventing school dropouts. One of the reasons why young people drop out of school is because

the educational sector does not attend in an adequate and effective way the needs they have to be able to complete their studies in each of the academic levels. (Covarrubias, 2013)

Dropout is understood as a form of abandonment of higher education studies and involves different student behaviors that affect the continuity of their trajectories and do not necessarily involve poor performance, for example, changing careers in the same institution or in another, or entering the labor market due to economic pressures. On the other hand, school lag consists of the student not accrediting the subjects, which prevents him/her from continuing with the academic programs, until he/she passes them, so enrollment for subsequent subjects will be in terms different from the regular ones. (Alvarado, Vega, & Cepeda, 2013)

However, those who only change their mind about their choice should no longer be included among the so-called dropouts, but should be considered as disappointed. The dropouts that occur, only some of them actually constitute defection, since there are variabilities. So it is necessary to take into account that, in some cases, attrition is only a form of migration, of changing careers. A career change is defined as a change from an undergraduate degree to a similar one, or from an undergraduate degree to an undergraduate degree, or from one taught at a university to another offered by a higher education institute, and vice versa. This process may seem simple from the outside, but for the young person it really is not. On the other hand, the change of career is also considered as part of a purely academic-administrative procedure, by means of which a university student makes this change within the same university. It is assured that many young university students, after their first or second year of study, have doubts in relation to their choice of career, which is the reason why they drop out and change careers. (Hernández & de la Cruz, 2021)

In the case of a university in southeastern Mexico, students who for some reason do not obtain satisfactory results in the career they first chose, the school services area suggests that they change to another career that is also offered by the university as a viable second option. The development of this research focuses on the statistical analysis of students who have changed careers and want to know the probability of concluding another option also offered by the institution and thus obtain two benefits, the permanence of the student in the institution and contribute to reducing the dropout of the academic career.

1.1 CAREER CHOICE

The university student who chooses a career does so from a certain worldview, that is, from values, beliefs or images internalized in spaces of socialization and which, unconsciously or not, mediate both the interpretations that they themselves make of the context in which they develop, as well as their behaviors. From this approach, studying how young people choose their professional career, as well as

their own interpretations of the whys and wherefores of their decisions, implies an approach to the level of youth subjectivity. The development of a professional career for young people is of great importance at the individual level because it involves existential meanings. They consider that finishing a career is an indispensable element to fulfill themselves or to become someone in life, and for their part, the strongest and most widespread fear of entering the University is having to leave it or drop out of it. The possibility of entering higher education institutions and pursuing a career is seen in relation to aspects of personality and personal efforts to put interest, to like the subjects, to have a strong self-esteem and to leave aside mediocrity and professional failure. (Montero, 2000)

Every career choice implies thinking about a life project in a certain social context that frames it, since the map of young people's choices shows the predominance of conventional careers, fashionable careers, careers with unsatisfied labor demand, among others. (Covarrubias, 2013)

The theories of career choice consider that to the extent that such a choice has been made with awareness and maturity, it is more likely that the student's permanence will be successful, otherwise the risk of dropping out increases. (Velázquez & González, 2017)

Young people are often exposed to a wide range of possibilities that rather than helping them to decide what to study, confuse them or create imaginary scenarios that have nothing to do with the choice of career. (Covarrubias, 2013)

1.2 CAREER CHANGE

The Universidad Tecnológica de la Mixteca (UTM), where this document is focused, has 11 careers: computer engineering, electronics engineering, design engineering, business science, applied mathematics, food engineering, industrial engineering, mechatronics engineering, applied physics engineering, and the most recent ones, automotive mechanics engineering and civil engineering.

UTM offers relevant and quality scientific and technological training opportunities through its 11 on-site degree programs and one in virtual mode, all with a five-year duration. The first two semesters are called common core because of the subjects that have to do with knowledge in mathematics and physics. (UTM, 2023)

The first semesters mark the transition between high school and college. Certain practices that were done before, change completely in the university phase. Once they begin their academic studies, they have to adapt to new schedules, changes of professors, workshops and laboratories, among other activities. When the student has taken control of his or her destiny and manages to surpass expectations, he or she advances to the next level until concluding his or her academic preparation. Otherwise, if the student does not satisfactorily accredit the subjects of the career he/she has chosen during the first and/or

second semester, he/she may exhaust any possibility of continuing with his/her studies. It is at this point, where it is defined not to want to abandon their academic career. For this, the University has 10 other careers where the student, according to his profile, the compatibility of subjects in each career, can still choose another option that will give continuity to his permanence in the institution, since his personal goal is not to abandon his studies increasing the dropout rate.

Each year a number of students who fail to successfully complete the first and/or second semester have the option of changing careers. But, how to know if in this second opportunity the process and trajectory will be completed in five years.

To begin with, the following is established:

The student has the firm conviction to change careers and finish his trajectory in 5 years.

The student has made a conscientious evaluation of the academic load, projects to be carried out and additional activities that are presented to him/her when changing careers.

2 DEVELOPMENT OF STATICAL METHODOLOGY

The study includes the collection of data from five cohorts, identifying the number of students who, not being successful in their first choice, change careers and join other cohorts.

The institution of higher education from which the data were obtained is the Universidad Tecnológica de la Mixteca, which has 11 careers. For this study only 9 were taken into account: computer engineering, electronic engineering, design engineering, business science, applied mathematics, food engineering, industrial engineering, mechatronics engineering and applied physics engineering.

At the end of each school year, a number of students successfully complete their academic preparation. The first data we are interested in knowing is the percentage of terminal efficiency, which helps us to take actions to improve the training process and provide academic support to retain students who have gone through a stage of academic inconsistency.

In developing the calculation, it has been detected that there are students who, due to academic inconsistency during the first year of their studies, abandon their studies. When rethinking their future and deciding not to remain without studying, the school services area recommends choosing a second career in addition to taking into account the following: Similarity of subjects.

Initially, data is collected regarding the number of students who request a change of career in each cycle when they do not obtain satisfactory results in their first choice.

Table 1 shows the number of students who changed careers, represented by the letter I for entered and T for finished, from five generations.

Table 1. Concentration by school year of students who start and finish a second career option.

BALANCE OF STUDENTS PER SCHOOL YEAR WHO START AND FINISH A SECOND DEGREE PROGRAM																		
	Math		Computing		Physics		Industrial		Business Science		Mechatronics		Electronics		Food		Design	
COHORTE	I*	T*	I	T	I	T	I	T	I	T	I	T	I	T	I	T	I	T
2011-2016	0	0	2	2	0	0	0	0	3	2	0	0	2	0	1	0	2	0
2012-2017	2	2	4	1	1	0	4	1	4	4	0	0	2	1	1	0	6	1
2013-2018	1	1	1	0	1	0	5	2	2	1	3	0	4	3	3	1	5	1
2014-2019	1	0	4	10	2	0	11	5	11	5	2	0	6	3	1	0	8	4
2015-2020	2	2	5	0	1	1	13	2	7	2	4	1	9	2	1	1	8	2
2016-2021	3	0	4	2	3	0	10	1	5	3	4	0	8	0	1	1	4	1
TOTAL	9	5	20	6	8	1	43	11	32	17	13	1	31	9	8	3	33	9

Own source
I* = Enter T* = Terminate

The above table shows that out of a total of 197 students who changed careers during 5 school years, only 62 started and successfully completed their studies in five years, which represents a 31.47% success rate.

Table 2 shows the percentages of students who finished a career in which they decided to enter once they were unable to finish their first choice.

Table 2. Percentage of students by career who complete the study plan without interruption.

PERCENTAGE OF STUDENTS BY CAREER WHO COMPLETED THEIR SECOND OPTION									
	Math	Computer	Physics	Industrial	Business Science	Mechatronics	Electronics	Food	Design
%	55.56	30.00	12.50	25.28	53.13	7.69	29.03	37.50	27.27

Own source

In this study, 9 careers are contemplated, so if the student changes, he/she has eight options to choose from.

Table 3 below shows the careers from which the students came and those in which they chose to complete their studies.

Table 3. Careers with a high percentage of career completions

CAREERS WITH HIGH COMPLETION AND ORIGIN PERCENTAGES		
Career of Origin	Destination Career	% of Completion
Design, physics, computing and food	Mathematics	55.56
Computer, industrial, applied mathematics, mechatronics, food, applied physics, and engineering.	Business sciences	53.13
Mathematics, computer, industrial, business sciences and physics	Food	37.50
Mechatronics, electronics, business sciences, physics, industrial, food, and mathematics	Computer	30.00
Mechatronics, computer, physics, business science, mathematics and industrial	Electronics	29.03
Computer science, business sciences, mechatronics, industrial, physics, electronics and food	Design	27.27
Mechatronics, electronics, food, business sciences, physics, design and computer	Industrial	25.58
Mechatronics, industrial and design	Physics	12.50
Electronics, industrial, computer, business sciences, mathematics and physics	Mechatronics	7.69

Own source

The left column shows the careers from which the students came and, because they did not obtain good results during their first or second semester, they chose to pursue a second career (central column). Finally, the right column shows the percentage of completion or success.

3 DISCUSSION

The following viable scenarios are presented for students who wish to change careers after a first unsuccessful attempt.

If a student who tried to pursue a career in design engineering, physics, computer science, or food engineering the first time and for some reason does not succeed and asks to change to the bachelor's degree in applied mathematics as a second option, he/she will have a percentage of 55.56% of concluding the career.

If a student who tried to study computer engineering, industrial engineering, applied mathematics, mechatronics, food engineering, physics or design in the first time and for some reason does not succeed and asks to change to the business sciences as a second option, he/she will have a percentage of 53.13% of concluding the career.

If a student who tried to pursue a bachelor's degree in applied mathematics, computer science, industrial business science or physics the first time and for some reason does not succeed and asks to change to food engineering as a second option, he/she will have a percentage of 37.50% of concluding the food engineering degree.

If a student who tried to take the mechatronics engineering, electronics, business sciences, applied physics, industrial engineering, food or mathematics degree in a first time and for some reason does not succeed and asks to change to the computer engineering degree as a second option, he/she will have a percentage of 30.00% of concluding the computer engineering degree.

If a student who tried mechatronics engineering, computer science, applied physics, business science, applied mathematics or industrial engineering as a first choice and for some reason does not succeed and asks to change to electronics engineering as a second choice, he/she will have a 29.03% chance of completing the degree.

According to the table, students who try to change to engineering careers in design, industrial, applied physics, and mechatronics have a low percentage of completion of these careers.

The low success rates still need to be analyzed because, although there is a standard academic load in the first semesters of each career, there have been deficiencies in academic achievement and it is necessary to address this issue in order to generate viable alternatives if the student chooses a second opportunity.

4 CONCLUSION

After observing the trends, the school services area can make the following recommendation. If there were students from other career offered by the same institution and upon failing on their first attempt they wish to request their change to mathematics or business careers, the success rate for completion is extremely good. Above 50%.

Other of the most requested careers for a change are food engineering, computer science, electronics and even design engineering. These have a success rate between 27% and 37%. This is known to be low. But they cannot be discarded because there have been students who have managed to finish that second chance. Industrial engineering, applied physics and mechatronics engineering are the least successful even though they are good options.

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