

Reference:

Soto-Gogué, V., Ramírez-Montoya, M. S., Hernando-Gómez, A., & Renés-Arellano, P. (2020). Academic success in universities: a comparative study in Centers of America. In *Proceedings of the 8th International Conference on Technological Ecosystems for Enhancing Multiculturalism* (TEEM 2020). University of Salamanca. Spain.

Academic success in universities: a comparative study in Centers of America.

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ABSTRACT

The academic success of a university student is mediated and influenced by various factors, as well as by personal experience. Taking this framework into consideration, this paper describes the phases of research designed to determine the factors that influence the academic success of college students by answering the following question: How to promote academic success in college students? To this end, a justified and argued theoretical framework is shown, in which current references up to 2020 on factors associated with performance have been analyzed [1], to later present the procedure and research framework as well as the methods used, both qualitative and quantitative, in the context of different Centers of Academic Success in the University of America.

• Successful models • Associated factors • Methodology

KEYWORDS

• Academic success • Research • University
• Investigations

ACM Reference format:

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1 Context and motivation that gives impulse to the realization of the research

The objective of this article is to present a route about how a research is being developed to analyze the factors that are associated to the academic performance according to what has thrown the literature regarding the topic until 2020.

For some time now, education has been faced with the task of answering the question: How do students achieve learning? During the 20th century, the need arises to develop research about the concept of academic success and, therefore, about the factors involved in the process. From this context, it is proposed to design and implement programs, strategies and plans that encourage students to behave in a way that focuses on achieving academic success.

In general terms, there is diverse evidence about the models created to explain the issue of academic success. Specifically, this article will focus on the higher education stage. These models have been designed by the authors with the aim of responding to the different factors that influence whether academic success occurs in the life of a student [2]. Among the models found in the literature since the 1970s, we find the Red Integration Model [3], the Weidman Model [4], the Austin Student Participation Model [5], the Complementary Approach Model [6] and the Persistence and Retention Model [7, 8].

The paper presents a state of the art approach that involves the different models and factors that have some type of relationship with academic success in university students, and

then proceeds to describe the methodology used for the research that involves design, population, sample, and data collection techniques and instruments.

2 State of the art

2.1 Models of academic success

The following are the most relevant aspects found within the state of the art.

2.1.1 Red Integration Model. Also called interactionist model. This model states that students can be successful or not in the university according to the interaction they have with the different services of the institution and its relationship with the meaning that the student attributes to it [3].

This is done according to academic experience. Additionally, he comments that students acquire a commitment to their academic activity, which contributes to improving their academic performance and social integration; when these conditions are met, the student has a greater likelihood of continuing with his academic life and completing it. According to the socioeconomic conditions of the students, he comments that it is an influential factor in the successful completion of their studies.

2.1.2 Weidman model. This model proposes that the socialization of undergraduate students is largely related to the psychological and socio-structural factors of the student, to career choice, lifestyles, values and aspirations that they have [4].

At the end of the 1980s they constructed a model that, together with Weidman's [9], proposes the greater participation of students in activities offered by the institution to support their university life, the greater the degree of academic success.

2.1.3 Austin Student Participation Model. In the mid-80s, the author states that the student has some factors that, mixed with an adequate university environment, can make the student reach the fulfillment of his or her academic objectives, starting with institutional policy. The author affirmed that this has an effect on student learning, one of the facts that support this premise is class attendance, which can affect the time and effort that the student dedicates to his or her classes [5].

2.1.4 Complementary Approach Model. This model states that when studies of academic success are conducted, they should be carried out taking into account different factors, which have been mentioned in previous models [6], but it also states that they should be carried out in stages so that each of the factors and their various actors is taken into account:

First stage: the investigation of the skills that students bring with them and the socioeconomic factors, since this may affect the possibility of continuing with their studies.

2. Second stage: this is where the student must estimate numerically the costs and benefits offered by the institution in which he or she wishes to study.

3. Third stage: it has to do with the social and academic experiences that the student has, this will influence his

academic performance according to the institution he has chosen and its established.

2.1.5 Persistence and Retention Model. Within the literature found, there are some differences regarding the position of the conceptualization of persistence and retention, given that some authors do not establish a difference between the two concepts, and others do. We will begin by describing the authors who do not differentiate between persistence and retention [8].

For these authors, persistence and retention refer to the fact that a person remains enrolled in an educational institution, while withdrawal or abandonment occurs when the person does not complete his or her studies.

In this case, retention is considered to be "the persistence of students in a university study program until they achieve their degree or diploma," but it is added that in its definition there are no limits to determine the time in which the student can achieve it, whether due to factors associated with performance, repetition of subjects, or even the temporary suspension of his studies [7].

There is a differentiation between the concept of persistence and retention because they have two different approaches [8]. First, persistence focuses on the capacity that a student has to maintain his academic goals [5], [10], [11], [12] and retention as the capacity that the institution has to maintain a student year after year in the undergraduate program [13]. From the above, it can be said that persistence is focused on the student and retention in the institution that provides the educational service.

2.2. Factors associated with academic success.

There are a number of factors that are associated with academic performance and can have a positive influence if they work with the student from the beginning of the career, some of these are: previous academic preparation, the university campus, the commitment that students have with academic goals and with the institution, as well as social integration and financial support. Within the categorization found in the literature are:

2.2.1 Psychological factors. These factors include motivation [14], psychological well-being [15], attitudes and beliefs [16] and socio-occupational orientation [17].

2.2.2 Sociological factors. They correspond to the family, social and structural environment of the student and the way he/she relates within the university context.

2.2.3 Economic factors. These factors are evident in the family's economic planning, the supports the institution has to offer students, and the state's plans for the academic development of college students.

2.2.4 Institutional factors. The climate of the campus, the promotion and prevention programs aimed at improving the quality of life of the students, the organizational structure and the strategic planning of the university.

2.2.5. *Cognitive factors.* These are related to the student's intelligence, knowledge, and academic skills [18] and the level of commitment to his or her academic life [3].

2.2.6. *Academic factors.* These refer to the student's previous preparation in his previous academic level [19], academic performance from his previous educational experience and the results he is obtaining [20], and commitment to academic goals [21].

3 Hypothesis

The hypothesis of the proposed research is the following: The implementation of a program in a Center for University Success through the use of digital technologies promotes academic success, achieving an impact on academic life.

4 Objectives

The general objective of this research is: To analyze the variables that influence the academic success of university students from the perspective of teachers, students and administrators of different higher education institutions in North and South America; with the purpose of proposing strategies that promote academic success in the university through the use of technological resources.

The specific objectives of this research project are:

- To analyze the theoretical perspectives in relation to the academic success, the factors that influence, as well as the models developed from the topic.
- Contrast academic success in different universities in North America and Latin America.
- Contrast academic success from the perspective of the different actors in the educational process.
- Design and implement a plan of strategies to enhance academic success in college students.
- Evaluate the level of student satisfaction with the use of resources to foster academic success.

5 Research approach and method

In order to develop research on factors associated with academic success in university students, it is essential to first consider the method in which it will be carried out, as well as the components such as design, population and sample instruments that will be used.

This research will be developed through the mixed approach [22], which is characterized by the intentional integration of both the quantitative and qualitative approaches in the same research in order to improve the approach to a topic. For their part, mixed studies allow a balanced analysis of the research [24] and increase the validity of the justification, which can be incorporated into the various phases of the research process [25], such as note-taking, the terminology used, and the different procedures carried out [26, 27, 28], from the collection of quantitative information and its supplementation with qualitative techniques. The phases of information

collection are as follows: Information with quantitative techniques (Likert scale test) and with qualitative techniques (interviews and focus groups).

5.1 Population and sample

In the case of this study, the population is made up of four Student Success Resource Centers in different regions of Colombia and one each in North America, Central America and South America.

The population of this research is divided into three parts: first there are the students, then the teachers, and then the administrative bodies of the different universities.

5.2 Variables under study and techniques and instruments

Three variables have been established to carry out the research: a) academic success, b) university services, c) virtual education.

5.2.1. *Academic success.* The academic success of a student corresponds in great measure to the effort spent in his academic life, and is in turn involved with other factors, which have been mentioned previously, but basically the success of a student can be determined when the fulfillment of the objectives proposed by the institution, the results obtained, and the perception that the student has of his academic experience are all taken into account.

5.2.2. *University services.* Each educational institution develops within its strategic planning, policies focused on serving students at different times, when they are potential customers with pre-admission services and when they are real customers with post-admission services [1].

Pre-admission services

Pre-admission services are all those services that focus on providing the student with a college experience before making the decision to enroll. These services range from effective customer service to being a part of the university culture for a day as a test and accessing services as a real customer so that the student feels comfortable in what will be his new academic experience [2].

Post-admission services

When the institution has a student enrolled in one of its programs, it means that he or she has been chosen by a family and a young person to carry out an academic life project that brings with it goals that will be nurtured on a daily basis, but as mentioned above, it depends on the level of integration between the student and the institution that will achieve the student's permanence in the institution and his or her academic success. Therefore, within institutional policies, some should be aimed at social adaptation, young people at risk of dropping out and of course, academic life.

5.2.2. *Virtual education.* Education is a right that contributes to the dignity of human beings, which is why it should be a key to open the doors to growth, human development and social well-being. [30] Therefore, education must allow for social mobility and the closing of gaps in learning [31,32].

Now, the Information and Communication Technologies change the way we communicate with others because the information is transmitted, classified and processed in a different way from the labor, political, social, cultural, family and educational aspects [33, 34, 35], which has turned us into a knowledge society.

5.3 Sources of information

Documentary media: Access to information banks such as SCOPUS and WOS; to different databases with updated information. Additionally, access to university libraries with specialized magazines.

Sources of information: Universities that are found as a sample in the study and the different actors in the process of academic success (students, administrators and directors of each institution).

Software: SPSS, for quantitative data analysis and ATLAS for qualitative data analysis.

Video camera: to take the collection of the interviews.

5.4 Information capture and analysis

For the design of the instruments it is necessary to have a complete review of the state of the art to identify the aspects on which the focus will be made, then the design of the questions will be carried out with an expert peer review to verify the validity and reliability of the information to be collected [36]. SPSS software (for quantitative instruments) will then be used for data analysis to determine the validity of the instrument. Afterwards, the design of the semi-structured interview and focus groups will be carried out with the different institutions in order to obtain oral testimonies and then categorize the information collected with the Atlas software.

Once all the analyzed data is obtained, a report will be designed with all the analysis in a structured and organized way, contrasting it with the theoretical findings, which will give way to the design of strategies to enhance the object of study, which is academic success. Additionally, suggestions for further research and recommendations for the Academic Success Centers will be presented. The data and documents resulting from this research will be protected according to the European Code of Conduct for Integrity in Research with the established protocols for information management [37].

6 Current and planned contributions

The research project will contribute to the field of educational innovation, generating valuable knowledge by designing a program to promote academic success in universities using digital technologies.

ACKNOWLEDGMENTS

This article is a product of the project " Academic success in university students: a comparative study in different universities " with the support of the University of Huelva, Spain. This research is part of the PhD program in communication.

Special thanks to Tecnológico de Monterrey for the academic stay where this paper was written.

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