

# Exploring the Outcomes and Obstacles of University Entrepreneurship Education: Evidence from Scientific Literature

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*Abstract– The university plays a pivotal role not only in students' academic development but also in enhancing their skills to tackle challenges. Entrepreneurship education enables the transformation of difficulties into opportunities, paving the way for success. The aim of this study was to systematically compile scientific evidence concerning the outcomes and challenges of entrepreneurship education within university classrooms. The search was conducted across SciELO, Scopus, and Web of Science databases, utilizing a search equation composed of synonyms and Boolean operators AND and OR. Inclusion and exclusion criteria were established, resulting in the selection of 20 scholarly articles that aligned with the outlined objective. Following analysis, four key aspects emerged: personal and cultural barriers, entrepreneurial knowledge, government-related obstacles, and misconceptions about entrepreneurship as a career path. The research concludes that entrepreneurship within universities reflects a global acknowledgment of its significance in shaping future innovative leaders.*

**Keywords--** University, Entrepreneurship education, Challenges, Evidence, Innovation.

## I. INTRODUCTION

Countries with higher levels of development share a common objective: to promote better learning among their students, guiding them towards a mindset of intelligent entrepreneurship. This means helping them develop creatively. The entrepreneurial attitude is highly desirable among university students, and their interest in entrepreneurship education and research stems from the fact that they are at a stage of defining their life projects. The university plays a significant role in nurturing this attitude, providing the necessary knowledge and tools for students to successfully realize their entrepreneurial ideas [1], [2]. The university's business-oriented approach towards students fosters the development of future entrepreneurial minds that will contribute to the country's economic growth. Therefore, universities must foster entrepreneurship among students and academics to address societal and business needs, cultivating skills for both the professional world and business creation [3]–[5].

By introducing the concepts of innovation and creativity as primary drivers of entrepreneurship, students can cultivate innovative thinking that can lead to the creation of novel

businesses or projects within the professional sphere. Students will be capable of transforming needs into opportunities [6].

However, it has been observed that individuals with a stronger inclination towards the business world tend to choose technological or business-related fields [7]. Misuse of these approaches can lead to disorders that hinder the entrepreneurial process [8]. Therefore, a greater alignment of the social economy with entrepreneurial initiatives stemming from the university ecosystem will contribute positively to a smarter and values-driven economy. This is a crucial path towards building a more competitive and sustainable economy [9].

The fundamental role of the university is to create an environment where students can develop their skills, address problems from various perspectives, and find creative solutions. This prepares students to confront the challenges that come their way. To foster an entrepreneurial culture, students need to develop attitudes, motivation, creativity, leadership, decision-making, and critical thinking skills, alongside knowledge of finance and marketing [10], [11].

To achieve this purpose, providing learning spaces is crucial. One valuable resource is the gallery of entrepreneurial and innovative projects. When students have the opportunity to learn about successful entrepreneurship and projects, their creativity and interest in generating their own initiatives are sparked [12]. However, the success or failure of a project is not solely the responsibility of the student or entrepreneur; it also depends on the current social and economic contexts [13]. After reviewing the literature, researchers have concluded that entrepreneurs identify opportunities and confront market risks [14], [15].

Entrepreneurship mobilizes resources, generates employment, revitalizes geographical areas, and requires a deeper understanding of the factors influencing entrepreneurship [16].

There are studies on entrepreneurship that seek to understand individual or group motivations, characteristics, and behaviors of entrepreneurs. To comprehend people's attitudes towards starting a business, it's essential to grasp the concept of entrepreneurship or the process it entails. This can be based on the Theory of Planned Behavior proposed by Ajzen. This theory aims to predict behavior by considering internal and external factors [17], [18].

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The university nurtures the entrepreneurial spirit by providing a conducive environment, but addressing the outcomes and challenges encountered across all disciplines and the necessity of a practical approach for comprehensive education is essential [19], [20].

Given the above, it is necessary to systematize scientific evidence concerning the outcomes and challenges of entrepreneurship education in university classrooms.

## II. METHOD

The terms "entrepreneurship" and "university" were conceptually analyzed to conduct a search for words or synonyms that would facilitate broadening the search scope. In Table I, the employed words and their respective synonyms are presented.

We searched documents in Spanish. Subsequently, numerous attempts were made to formulate a search equation that would yield the highest number of articles relevant to the outlined objective.

This approach could also be replicated in different contexts and/or databases. It is noteworthy that these words are the result of multiple search attempts, ultimately culminating in the formation of an "equation" designed to be used by other researchers in the future. This, in turn, will contribute to the expansion of knowledge in the field.

TABLE I

SYNONYMS OF THE TERMS "ENTREPRENEURSHIP" AND "UNIVERSITY" IN SPANISH

Entrepreneurship	University
Emprendimiento	
Emprendedurismo	Universidad
Programa emprendedor	Universitario
Formación emprendedora	

The search equation was formulated using the synonyms of "Emprendimiento" (Entrepreneurship) and "Universidad" (University). The Boolean operators AND and OR were used, resulting in the following structure: (Emprendimiento OR Emprendedurismo OR Programa emprendedor OR Formación emprendedora) AND (universidad OR universitario).

Furthermore, as described in Table II, inclusion and exclusion criteria were established to address the guiding question. Articles from the period 2013 to 2023 were selected.

Articles that have open access for downloading, undergo peer review, cover a range of disciplines, and pertain to university-level content were included. Monographs, editorials, essays, literature reviews, systematic reviews, conferences, and pre-publications were excluded.

The numerical depiction in the table illustrates the quantity of selected articles. Subsequently, in Figure 1, the count of eligible articles is detailed, totaling 20. Despite using the search equation, 108 articles that did not match the criteria for higher education were filtered out.

TABLE II

SYNONYMS OF THE TERMS "ENTREPRENEURSHIP" AND "UNIVERSITY" IN SPANISH

Database	Identification - Initial Search	Year (2013-2023)	Eligibility - Peer-reviewed only / Full text available / Multidisciplinary	Inclusion - Higher education / Editor restrictions / Articles	Proposed Objectives
SciELO	312	276	166	16	7
Scopus	4	4	2	2	2
Web of Science	8 540	7310	3936	180	11
Total	8 856	7 590	4 104	198	20

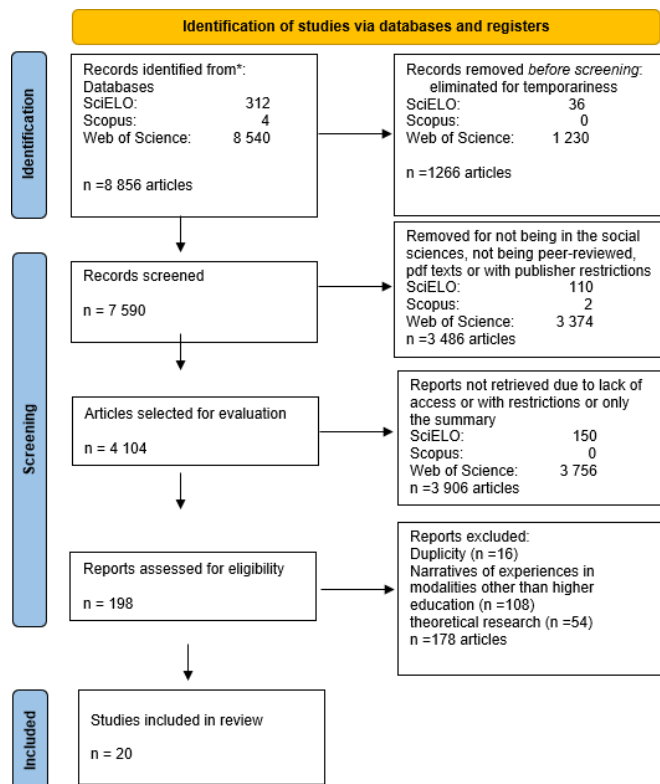


Fig. 1 PRISMA chart.

## III. RESULTS

Research conducted on entrepreneurship within the university context has taken place in Spain, Chile, Mexico, Colombia, Peru, Ecuador, Argentina, Brazil, Costa Rica, Panama, and Uruguay. The analyzed period spans from 2013 to 2023. Investigations have taken place across various schools or faculties, dispelling the misconception that entrepreneurship should only be taught or developed within

business-related schools. This research is significant in comprehending the challenges and opportunities faced by the university education system in nurturing future entrepreneurs across a range of professional disciplines. This can be seen in Table III.

TABLE III  
CITATION, AUTHOR, YEAR, COUNTRY, INCORPORATION OF THE CURRICULUM, AND FACULTY OR SCHOOL OF THE SELECTED ARTICLES

Citation, Author, Year	Country	Incorporates the curriculum	Faculty or School
[21] Álvarez García, 2013	Spain	Yes	Communication Sciences
[22] Jiménez Marín et al., 2014	Spain	Yes	Communication and Social Sciences
[23] Paniagua Rojano et al., 2014	Spain	Yes	Journalism
[24] Castillo-Vergara & Álvarez-Marín, 2016	Chile	Yes	Engineering, Social Sciences, Economics, Information and Telecommunication Technologies, Hospitality, Tourism, and Food, Design and Communication, and Sciences
[7] Bretones & Radrigán, 2018	Spain and Chile	Yes	Business, Engineering, and Others
[25] Álvares Flores et al., 2019	Mexico	Yes	Communication, Commerce, Tourism, and Fisheries Engineering
[26] Maldonado-Sada et al., 2019	Mexico	Yes	Interdisciplinary
[27] Sandoval Caraveo et al., 2020	Mexico	Yes	Engineering and Architecture
[28] Zambrano Vargas et al., 2020	Colombia	Yes	Business Administration
[29] Borda-Rivera & Ortega-Paredes, 2021	Peru	Yes	Social Sciences
[30] Álvarez Gavilanes et al., 2021	Ecuador	Yes	Systems Engineering
[31] Leiva et al., 2021	Argentina, Brasil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Panamá, and Uruguay	Yes	Interdisciplinary
[32] Lafuente-González & Leiva, 2022	Costa Rica	Yes	Business Administration
[33] Romero-Parra et al., 2022	Peru	Yes	Business Administration and Human Resources
[34] Mamani et al., 2022	Peru	Yes	Engineering, Architecture, Industrial Relations, Physic
[35] Cruz Cardoso et al., 2022	Mexico	Yes	Business Administration
[36] Valenzuela-Keller et al., 2022	Chile	Yes	Economics and Administration
[37] Silva-Peralta et al., 2022	Argentina	Yes	Architecture, Urban Planning and Design, Agricultural Sciences, Health Sciences and Social Work, Economic and Social Sciences, Exact and Natural Sciences, Law, Humanities, Engineering, Psychology, and the School of Medicine

[38] Valencia-Arias et al., 2022	Colombia	Yes	Psychology, Business Administration, Social Work, Public Accounting, Philosophy, Technology in Financial Services, Management, Computer Engineering, Marketing, Technology in Software Development
[39] Peña Hita et al., 2023	Spain	Yes	Education

Table 4 displays the findings and challenges encountered in each investigation.

The first discovery is associated with Entrepreneurship Education. In this regard, students value entrepreneurial experience, yet lack knowledge of economics or financial literacy. It's not just about knowledge; entrepreneurial mindset also plays a role, impacting the decisions of each student.

The second highlighted finding revolves around students' perceptions of the concept of Entrepreneurship, entrepreneurial skills, and attitudes. Despite having a positive perception, it is not the choice for the majority.

TABLE IV  
CITATION, AUTHOR, YEAR, RESULTS AND DIFFICULTIES OF THE SELECTED ARTICLES

Citation, Author, Year	Results	Difficulties
[21] Álvarez García, 2013	Development of objectives and real projects addressing the institution's own needs where teaching takes place, acting as the client.	Technophobias, technophilias, and excessive student participation.
[22] Jiménez Marín et al., 2014	Entrepreneurs voice complaints regarding financial challenges and lack of reliable information sources.	The politicization of institutions, the passive profile of non-entrepreneurs, or even uncertainty and fear of risk.
[23] Paniagua Rojano et al., 2014	The majority of students hold a positive view of the experience and would consider the possibility of self-employment and creating a journalistic company. However, they admit lacking knowledge in economics and business.	Legal form, name, project dissemination, budgets, and contacts.
[24] Castillo-Vergara & Álvarez-Marín, 2016	Marked differences exist between academics and students in aspects of university entrepreneurship, infrastructure, and skills.	Slow process in creating and operating a company and government policies that hinder new ventures.
[7] Bretones & Radrigán, 2018	The University's support in the business creation process carries significant importance.	Greater prevalence of individual business creation in men than in women.
[25] Álvares Flores et al., 2019	The Lean Startup Mx methodology positively influenced students' entrepreneurial spirit in creating a business model.	Lack of economic resources and business knowledge, along with psychological factors for entrepreneurship. Lastly, fear of bureaucracy.
[26] Maldonado-Sada et al., 2019	Economic valorization of research through a highly qualified personnel-based company.	Limited understanding of entrepreneurship among researchers.
[27] Sandoval Caraveo et al., 2020	Mechanical and Electronic Engineering students aged 23 and 24 demonstrate greater entrepreneurial capabilities.	Half of the students lack entrepreneurial capacity.
[28] Zambrano Vargas et al., 2020	University education provides limited entrepreneurial training, particularly for administration students.	Clear policies to encourage entrepreneurial education are absent.
[29] Borda-Rivera & Ortega-Paredes, 2021	A significant increase in knowledge production and the initiation of research networks with companies and government.	Cultural barriers exist that slow down the dynamics between university, industry, and government.
[30] Álvarez Gavilanes et al., 2021	Entrepreneurship course students exhibit higher motivation for entrepreneurial activities.	Constant self-improvement of faculty is essential, along with methodological training in information technologies.

[31] Leiva et al., 2021	Entrepreneurial initiative courses should raise students' awareness of emotional, social, and cognitive competencies for business success.	Data do not allow for a deep exploration of the relationship between entrepreneurship courses and entrepreneurial intentions.
[32] Lafuente-González & Leiva, 2022	The significance of entrepreneurial planning to develop practical and strategic abilities.	Older students with written business plans and active financing search perceive a shorter time to create their company, compared to less experienced ones who feel university programs prolong the entrepreneurial process.
[33] Romero-Parra et al., 2022	The entrepreneurial profile positively corresponds with the entrepreneurial vision of Business Science faculty students.	20% of respondents have an irrelevant profile, and 25% possess a low entrepreneurial vision to be in the Business Sciences faculty.
[34] Mamani et al., 2022	Entrepreneurial education, featuring entrepreneur experiences, aims to foster a culture of entrepreneurship within university classrooms in the medium term.	Greater impetus must be given to the entrepreneurial university.
[35] Cruz Cardoso et al., 2022	Educational institutions, whether private or public, should encourage entrepreneurial intentions through more practical learning units and content.	Despite continuous preparation, business administration students lack sufficient emotional intelligence and discipline, factors that hinder entrepreneurship.
[36] Valenzuela-Keller et al., 2022	Entrepreneurial education and mindset influence entrepreneurial intentions.	Entrepreneurship programs should be incorporated, focusing on entrepreneurial mindset.
[37] Silva-Peralta et al., 2022	There arises a need for universities to develop relevant content.	Current strategies link entrepreneurship with commercial aspects, deviating from its focus as a personal quality.
[38] Valencia-Arias et al., 2022	Attitudes, perceived and current behavior control, and entrepreneurial behavior influence students' entrepreneurial intentions.	Analyzing both actual behavior control and perceived behavior control is necessary.
[39] Peña Hita et al., 2023	Students hold a favourable view of entrepreneurs. However, entrepreneurship and self-employment aren't considered the predominant choice.	Entrepreneurship is not prioritized as a career path upon completing university education.

#### IV. DISCUSSION AND CONCLUSION

The results are grouped according to the set objectives. The first objective aimed to systematize scientific evidence describing the outcomes and challenges of entrepreneurship education in university classrooms. After gathering information and conducting the respective analysis, the results are categorized into four axes:

The first axis describes personal and cultural barriers, encompassing fear of technology and emotional intelligence management in non-entrepreneurial students. It is undeniable that the misuse of technologies can lead to disturbances among users [8].

The second axis is related to entrepreneurial knowledge. The lack of entrepreneurship programs and university education in entrepreneurial mindset is highlighted. The university should enhance entrepreneurship throughout students' education by providing business knowledge, regardless of their chosen field [3], [4], [10], [11].

The third axis pertains to governmental obstacles. Students are aware of the slow process involved in establishing businesses and the uncertainty of achieving success. Additionally, they recognize that policies can hinder new entrepreneurial endeavors [13], [15].

Lastly, the fourth axis revolves around the misconception of entrepreneurship as a career path. Often, students associate entrepreneurship with commercial aspects rather than personal qualities that university students develop. Positive associations with entrepreneurship are also gender-related, indicating that male students are more involved in entrepreneurial ventures than female students [19], [20].

Entrepreneurship in universities reflects a global acknowledgment of its significance in shaping future innovative leaders. Across various faculties and schools, the focus is on adapting education to promote business skills, creativity, and adaptability, as well as addressing challenges like resource shortages, commercial orientations, and misconceptions about entrepreneurship. Research in this field provides a valuable foundation for universities to design effective strategies that foster an entrepreneurial mindset among students, preparing them to confront the changing challenges of the workforce and contribute to the socio-economic development of their communities and nations.

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