
The role of higher education in fostering youth entrepreneurship: A case study of third-year undergraduate students majoring in entrepreneurship at the University of Boumerdes

Rola szkolnictwa wyższego we wspieraniu przedsiębiorczości młodzieży – studium przypadku studentów trzeciego roku studiów licencjackich na kierunku przedsiębiorczość na Uniwersytecie w Boumerdes

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Abstract:

Research objectives and hypothesis/research questions

This study investigates the extent to which Algerian universities contribute to developing entrepreneurial culture among graduating students. The central research question asks: to what degree has the University of Boumerdes succeeded in guiding students toward the creation of micro-enterprises through the development of entrepreneurial culture? The primary objective is to evaluate whether the university

fulfills the conditions of an "entrepreneurial university" by equipping students with the values, skills, and mindset necessary for independent venture creation. The study hypothesizes that the university actively encourages students to establish their own projects by fostering entrepreneurial culture throughout their academic studies.

Research methods

A descriptive-analytical approach was adopted for the theoretical framework. Empirically, a case study was conducted on 54 third-year undergraduate students majoring in Entrepreneurship at the University of Boumerdes, selected because their program is directly tied to the research subject and because they are approaching labor market entry. Data were collected through structured interviews scored on a three-point Likert scale. Instrument reliability was confirmed via Cronbach's alpha ($\alpha = 0.812$). Descriptive statistics and a one-sample T-test were applied using SPSS to test the research hypothesis.

Main results

The T-test results with calculated values ranging from 3.165 to 7.269, all exceeding the critical threshold of 1.671 at the 5% significance level led to rejection of the null hypothesis. Students recognized the positive role of professors in transmitting entrepreneurial awareness through course content and seminars, and acknowledged the "Entrepreneurship House" as a structural commitment by senior management. However, significant shortcomings were identified: inadequate classroom infrastructure, the absence of practical field-based training, and a lack of formal partnerships with public and private sector institutions. The overall finding is that the university's contribution to entrepreneurial culture remains predominantly theoretical rather than applied.

Implications for theory and practice

Theoretically, this study contributes to the literature on entrepreneurial universities in developing economies by highlighting the gap between institutional intent and actual student outcomes. It reinforces the view that entrepreneurial education cannot be reduced to curriculum content alone but must be embedded in a broader ecosystem involving infrastructure, mentorship, and industry collaboration. Practically, the findings call on Algerian universities to update program content, introduce entrepreneurship courses across all disciplines, strengthen university-business partnerships, and invest in the practical training necessary to translate academic knowledge into entrepreneurial action. These steps are essential for reducing graduate unemployment and supporting Algeria's broader economic diversification objectives.

Keywords:

university, entrepreneurship, entrepreneurial education, entrepreneurial culture, Boumerdes

Abstrakt:

Cel badań i hipotezy/pytania badawcze

Badanie analizuje, w jakim stopniu uniwersytety w Algierii przyczyniają się do rozwoju kultury przedsiębiorczości wśród absolwentów. Główne pytanie badawcze brzmi: w jakim stopniu Uniwersytet w Boumerdes odniósł sukces w kierowaniu studentów do tworzenia mikroprzedsiębiorstw przez rozwój kultury przedsiębiorczości? Głównym celem jest ocena, czy uczelnia spełnia warunki „uniwersytetu przedsiębiorczego”, wyposażając studentów w wartości, umiejętności i sposób myślenia niezbędne do samodzielnego podejmowania przedsięwzięć. Badanie zakłada, że uniwersytet aktywnie zachęca studentów do zakładania własnych projektów, promując kulturę przedsiębiorczości przez cały okres studiów.

Metody badawcze

Dla ram teoretycznych zastosowano podejście opisowo-analityczne. Empirycznie przeprowadzono studium przypadku na 54 studentach trzeciego roku studiów licencjackich na kierunku przedsiębiorczość na Uniwersytecie w Boumerdes, wybranych ze względu na bezpośrednie powiązanie ich kierunku studiów z tematyką programu badawczego oraz zbliżającego się momentu wejścia na rynek pracy. Dane zostały zebrane przez ustrukturyzowane wywiady oceniane na trzypunktowej skali Likerta. Niezawodność instrumentów została potwierdzona za pomocą alfa Cronbacha ($\alpha = 0,812$). Zastosowano statystykę opisową oraz test T z jednej próby za pomocą SPSS do testowania hipotezy badawczej.

Główne wyniki

Wyniki testu T, obliczone w zakresie od 3,165 do 7,269, wszystkie przekraczające krytyczny próg 1,671 przy poziomie istotności 5%, doprowadziły do odrzucenia hipotezy zerowej. Studenci doceniali pozytywną rolę profesorów w przekazywaniu świadomości przedsiębiorczej przez treści kursów i seminaria oraz uznali

„Entrepreneurship House” za strukturalne zobowiązanie kadry zarządzającej. Jednak zidentyfikowano istotne niedociągnięcia: niewystarczającą infrastrukturę klasową, brak praktycznych szkoleń terenowych oraz brak formalnych partnerstw z instytucjami sektora publicznego i prywatnego. Ogólne ustalenie jest takie, że wkład uczelni w kulturę przedsiębiorczości pozostaje przede wszystkim teoretyczny, a nie praktyczny.

Implikacje dla teorii i praktyki

Teoretycznie badanie przyczynia się do rozwoju literatury dotyczącej przedsiębiorczych uniwersytetów w gospodarkach rozwijających się, podkreślając różnicę między intencjami instytucjonalnymi a rzeczywistymi wynikami studenckimi. Wzmacnia pogląd, że edukacja przedsiębiorcza nie może być sprowadzona wyłącznie do treści programowej, lecz musi być osadzona w szerszym ekosystemie obejmującym infrastrukturę, mentoring oraz współpracę z przemysłem. W praktyce wyniki wzywają algierskie uniwersytety do aktualizacji treści programów, wprowadzenia kursów przedsiębiorczości we wszystkich dziedzinach, wzmocnienia partnerstw między uniwersyteciem a biznesem oraz inwestycji w praktyczne szkolenia niezbędne do przekładania wiedzy akademickiej na działania przedsiębiorcze. Te kroki są niezbędne do zmniejszenia bezrobocia wśród absolwentów oraz do wspierania szerszych celów dywersyfikacji gospodarczej Algierii.

Słowa kluczowe:

uniwersytet, przedsiębiorczość, edukacja przedsiębiorczości, kultura przedsiębiorczości, Boumerdes

Introduction

The world today is witnessing immense movement and developments in various fields, thanks to the rapid flow of scientific and informational advancements. Science has become a decisive tool for countries to achieve their progress, prosperity, and to reach the stage of a knowledge-based economy reliant on information and communication technologies. In addition, the economies of these countries have increasingly focused on human capital, to achieve economic development, especially in light of the trend in modern theories to emphasize the centrality of the individual, who is seen as both the main driver and the goal of the development process. In this context, the higher education system has concentrated on the individual (the student), with universities, through scientific research and research centers, playing an important role in driving the national economy forward. Furthermore, countries have begun to allocate significant budgets to fund scientific research and support academic projects, due to their great importance in enhancing efficiency, effectiveness, and improving processes, in addition to their role in various areas, including political, economic, and social spheres. And from this context, the present research paper emerged to address the following problem: To what extent has the university succeeded in guiding students toward the creation of micro-enterprises through the development of entrepreneurial culture? And for the purpose of answering this problem, we formulated the following hypothesis: The university seeks to encourage students to establish their own projects by fostering their entrepreneurial culture.

Research importance

The importance of this study lies in instilling a spirit of initiative, activating outstanding capabilities, and uncovering innovative skills, while increasing the likelihood of shaping creative ideas that contribute to the creation of emerging business ventures. These ventures aim to cultivate leadership, enhance the success rates of knowledge-oriented enterprises, generate wealth, promote capital accumulation, and reduce unemployment. Furthermore, they contribute to the production of goods and services with the goal of serving both society and the national economy, driven by young entrepreneurs and creative students.

Research objectives

To enable university students to prepare and develop business plans for their future projects through prior exposure to market data. It also aims to empower students to rely on themselves when conducting research and studies on competitors, as well as to familiarize themselves with legal procedures and tax system issues. This prior knowledge forms a conceptual understanding of how to initiate and manage a project and make informed decisions. Through the acquisition of managerial, organizational, commercial, and technical skills, students are equipped for effective execution. Accordingly, the entrepreneurial university aims to prepare student-entrepreneurs capable of succeeding in launching their own ventures.

1. Methodology

It is necessary to keep pace with developments in science and knowledge, to monitor the emergence of new specializations, and to ensure that higher education curricula and programs are comprehensive. This includes recognizing the unity of knowledge and the interrelationships among the natural, social, and human sciences.

To answer the research problem, a case study was conducted on students majoring in Entrepreneurship at the University of Bumerdes, as they are approaching graduation and integration into the labor market. The sample consists of 54 individuals because the number of students registered in the entrepreneurship major is only 54. The objective was to assess the extent to which entrepreneurial culture has been instilled in them from their first year at university. A set of statistical tools, including the arithmetic mean and the T-test, was employed to test the validity of the hypothesis using the statistical software SPSS.

- I. The conceptual framework of the university: The University is considered one of the institutions of education and socialization in society, and it represents the highest level of the educational hierarchy. It has been defined as follows:

1. Definition of the university: The word “university” is derived from the Latin word “universitas,” which means a union or an assembly that includes the most influential families in the political sphere of the city for the purpose of exercising authority. It is an institution of higher education and scientific research that grants academic degrees in various fields and specializations. It offers both undergraduate education and postgraduate studies.
It is a miniature society in which professors and students engage in debates and discussions together in order to develop and discover ideas characterized by difficulty, complexity, and originality. These ideas and studies are considered the heritage of humanity, which the university is entrusted to preserve, transmit to future generations, and continuously update (Methkour, 2000, p. 25).
2. Characteristics of the university: The university is distinguished by a set of characteristics, which are represented in the following points:
 - a) Diversity: each university endeavors to be unique in its type and services and seeks distinction based on specific criteria such as (Elkhatib, 2006, p. 32):
 - The differences in the social and cultural backgrounds of students who enter university education, as well as the diversity in their inclinations and interests.
 - The multiplicity and variety of professions that emerge in society, which require training students to acquire them.
 - The emphasis on quality of life and the individual’s free choice of lifestyle within society.
 - b) Multiplicity of choices: Modern university education emphasizes specialized and elective subjects, allowing students to explore their interests (Ezzahi, 2013, p. 98).
 - c) An appropriate or adapted curriculum: The modern educational strategy emphasizes the necessity of continuously developing curricula in order to overcome the traditional divisions between disciplines, without compromising methodological rigor or scientific depth (Touiba, 2005, p. 60).
 - d) Teaching and evaluation: Accordingly, the task of teaching involves teaching students how to think not simply how to memorize knowledge and course materials without understanding or applying them in real life. It also involves teaching them self-reliance, a sense of responsibility, principled behavior, and lifelong learning (Ezzahi, 2013, p. 100).
3. Objectives and functions of the university:
Its primary mission is to acquire, teach, develop, and disseminate knowledge in a way that serves the individual and society, as well as the

state in general. The university is a driving force behind fostering the development of the nation's resources and contributing to its intellectual, scientific, economic, social, and cultural progress. In this context, the university aims to achieve the following objectives (Akel, 2009, pp. 182-183):

- Providing and disseminating knowledge: This is achieved through education and instruction, by equipping students with various sciences, skills, and forms of knowledge (Sanada, 2011, p. 45).
- The university contributes through its educational and advisory role, by participating in the provision of social services, fostering socialization and awareness, supporting social orientations, and promoting community values.
- The university assists the student in selecting the most effective methods for developing knowledge and the most suitable means to achieve the expected outcomes. These objectives also contribute to shaping the student's orientations, activities, and efforts, in addition to guiding the process of preparing human capital in accordance with the needs and requirements of society (Khalil, 2021).

II. Definition of entrepreneurship: Entrepreneurship is the activity focused on creating a project or new ventures that offer something innovative, or the creation and innovation of a distinctive economic or administrative activity through efficiently managing resources with exceptional competence and bearing the associated risks, all contributing to maximizing the value of the resulting outputs (Alnidawy, 2013, p. 4).

1. According to William B. Gartner, entrepreneurship is defined as the stages that lead to the creation of a new organization. From this perspective, entrepreneurship is a series of stages that lead to establishing an institution, meaning the activities through which the entrepreneur mobilizes and assembles resources to exploit an opportunity and materializes it into a structured project (Salami, 2008, p. 43).
2. Definition of culture: R. Redfield defines culture as: "A set of concepts and perceptions agreed upon or conventionally established within a society, reflected in art, thought, and forms of activity, and transmitted through inheritance across generations, thereby endowing groups with distinctive traits and characteristics" (Sayed, 2003, p. 8).
3. Definition of entrepreneurial culture: It is defined as a set of traits and behaviors that reflect initiative and determination in starting and pursuing what one intends to do or accomplish seriously and persistently until completion. In this context, project culture becomes a distinct type of culture, as it aims at generating innovation and change – it is also a culture of creation and construction (Engidaw, 2021, p. 4).

Entrepreneurial culture can also be defined as follows: The entrepreneur, as a social agent, embodies a range of behaviors, particularly social behaviors which may manifest both individually and collectively. These collective behavioral patterns of the entrepreneur are reflected in the culture of entrepreneurship, which is a culture based on (Toulouse, 1999, pp. 1-7):

- Valuing business activities;
 - Valuing individual and collective initiative;
 - Valuing perseverance and determination;
 - Accepting life between security and risk;
 - Managing the tension between stability and change.
4. Elements of entrepreneurial culture: To better understand the concept of entrepreneurial culture, it is essential to highlight its key components, primarily a set of professional values embodied by the entrepreneur, who is characterized by specific abilities, namely (Thabet, Morsi, 2013, p. 149):
- The need for achievement: It drives entrepreneurs to pursue excellence, take responsibility, and seek constant innovation. They evaluate their performance against high, often unconventional, standards.
 - Self-confidence: It enables entrepreneurs to rely on their abilities, think critically, and make effective decisions. It empowers them to face challenges, solve problems, and build successful ventures.
 - Future vision: It involves optimism and the belief in achieving success and higher profitability over time.
 - Sacrifice and perseverance: Entrepreneurs value perseverance and sacrifice, believing success comes through patience, hard work, and long-term dedication.
 - Desire for independence: The desire for independence drives entrepreneurs to pursue self-reliance and create autonomous ventures, favoring freedom over working under others.
- III. The university's contributions to the development of entrepreneurial culture among students: Before explaining the university's role in developing entrepreneurial culture among students, it is important to highlight a new concept, which is:
1. University as an entrepreneurial institution: Entrepreneurial education and academic programs grew significantly in the mid and early 1980s. The number of universities offering entrepreneurship courses increased to over 250, offering various measures in this field. While entrepreneurship was initially seen as a promising academic area, by the early 1980s (Arabeche, Soudani, Brahmi et al., 2022, pp. 2-3) with the massive developments in the available body of scientific

knowledge, it became evident that entrepreneurship had firmly established itself as a legitimate academic discipline at all levels. It operates with an entrepreneurial mindset focused on fostering an entrepreneurial culture to contribute to economic development by creating innovative projects. This goes beyond the traditional teaching function by seeking funding for scientific research and patents (Bouhdjar, 2020, p 213).

2. Requirements of the entrepreneurial university: In order for the concept of the entrepreneurial university to materialize in reality, a set of requirements must be met:
 - a) Entrepreneurial education: It is a series of activities aimed at enabling students to comprehend, understand, and develop their knowledge, skills, and values. This allows them to acquire the ability to analyze problems creatively by identifying, defining, and analyzing them to find suitable solutions (Saadi, 2018, p. 3). This type of education requires a true partnership among government bodies, private organizations, and supporting entities from the private sector, such as:
 - Infrastructure: This involves providing suitable classrooms equipped with the necessary tools.
 - Providing human resources: By hiring qualified professors who have the ability to apply advanced strategies and training methods in entrepreneurship and use information technology appropriately to serve this process, with the aim of changing mindsets and behaviors among learners.
 - Providing a supportive environment for entrepreneurial education: By implementing the steps to execute the programs of this type of education, along with its plans and objectives, with the full support of all concerned parties from the top of the hierarchy to the bottom.
 - Adaptation: These requirements make adaptation a legitimate demand to respond to the challenges and pressures imposed by the globalized nature of this era.
 - Benefiting from global experiences: Leveraging and building upon global experiences and using them in the educational and pedagogical context (Hamli, Houhou, 2019, p. 6).
 - b) Entrepreneurial education programs: Entrepreneurial education is sustainable, building skills progressively from primary school to university. Early education shapes motivation and opportunity awareness, which can be strengthened through dedicated entrepreneurship courses integrated into various curricula (Bouhdjar,

2020, p. 184). It is essential to include a set of key elements within the content of entrepreneurial education programs, namely:

- Environmental component: Any entrepreneurial curriculum must be capable of fostering awareness of the surrounding environment.
 - Economic component: It should equip participants to understand the nature of economic communities within their environment and the new rules that emerge from interactions within these communities.
 - Entrepreneurs component: It is essential to facilitate meetings between entrepreneurs and students within their local environment, allowing learners to benefit from their insights and advice.
 - Project component: This represents the core and essence of any entrepreneurial education program.
 - Entrepexity component: This refers to the necessity for the five components of this model to integrate and interact with one another in order to eliminate ambiguity surrounding the practice of entrepreneurship.
- c) Activation of seminars and study days: Clarifying the practical side of entrepreneurial education is crucial. Seminars and hands-on experiences help students innovate, develop business ideas, and move toward project implementation with university support (Saadi, 2018, p. 5).

2. Comparative evidence from developing and transition economies

The challenges documented at Boumerdes are not exceptional within the broader literature on entrepreneurship education in developing economies. A growing body of comparative research has examined analogous contexts across the MENA region, sub-Saharan Africa, and transition economies, yielding findings that both confirm and contextualise the present study's results.

Three cross-cutting patterns emerge from Table 1. First, the theory-practice gap is a near-universal finding in developing economy contexts: institutions succeed in transmitting declarative entrepreneurial knowledge but consistently fall short in developing procedural competencies – the capacity to act entrepreneurially, not merely to understand entrepreneurship conceptually. Second, university-industry partnerships are identified in every comparative study as the primary mechanism by which this gap is bridged; their absence is consistently associated with weak entrepreneurial outcomes. Third, faculty quality and engagement represent the most scalable near-term lever available

to institutions in resource-constrained settings – a finding that gives particular significance to the strong faculty score at Boumerdes (Item 3, $M = 3.36$), which represents the institution's most readily developable asset.

Table 1. Selected comparative studies on entrepreneurial university development in emerging economies

Study	Country/context	Key finding	Parallel with Boumerdes
Hattab (2014)	Egypt – 10 universities	Entrepreneurship education significantly raises entrepreneurial intention, but practical exposure mediates the relationship; without field-based components, classroom instruction has limited behavioural impact.	Confirms that theoretical instruction alone (as at Boumerdes) is insufficient; practical training (Item 8, $M = 1.33$) is the critical missing link.
Engidaw (2021)	Ethiopia – Woldia University	Socio-cultural determinants of entrepreneurial culture are strong, but institutional support structures (infrastructure, partnerships) moderate whether individual entrepreneurial orientation is converted into action.	Supports the finding that faculty-driven culture (Item 3, $M = 3.36$) cannot substitute for institutional enablers — infrastructure and partnerships are conversion mechanisms.
Guerrero, Urbano (2012)	Spain – 10 universities	Entrepreneurial university development is non-linear; institutions may achieve high scores on academic entrepreneurship while remaining weak on commercial entrepreneurship. Faculty quality and institutional incentives are key differentiators.	Suggests Boumerdes represents an 'academic entrepreneurship' phase and has not yet transitioned to 'commercial entrepreneurship' requiring market-facing activities.

Source: own elaboration

3. The OECD guiding framework for entrepreneurial universities

The Organisation for Economic Co-operation and Development (OECD, 2012) Advanced Clark's model by proposing a self-assessment framework comprising eight interconnected dimensions: leadership and governance; organizational capacity; entrepreneurship teaching and learning; pathways for entrepreneurs; university-business and university-external relationships; the entrepreneurial university and the international dimension; knowledge exchange and collaboration; and the measurement of impact. Critically, the OECD framework emphasizes that the measurement

of entrepreneurial outcomes – not merely their delivery – is a hallmark of mature entrepreneurial universities.

The absence of such measurement at Boumerdes is itself a finding. The present study is, to the authors' knowledge, the first systematic empirical assessment of entrepreneurial culture development at this institution. The OECD (2012) framework suggests that without baseline measurement, institutional improvement is unlikely to be deliberate or sustained. Establishing a periodic student-level assessment of entrepreneurial attitudes, self-efficacy, and intentions – modelled on validated instruments such as the Entrepreneurial Intention Questionnaire (Liñán, Chen, 2009) or the GUESSS international student survey – would provide the feedback loop the institution currently lacks.

A complementary theoretical lens is provided by Etzkowitz and Leydesdorff's (2000) Triple Helix model, which conceptualizes innovation and entrepreneurial activity as emerging from the dynamic interaction of three institutional spheres: university, industry, and government. In mature Triple Helix systems – exemplified by Silicon Valley (Stanford/industry/US federal government), Cambridge (UK), and Oulu (Finland) – these three spheres develop overlapping roles: universities engage in commercialization, firms invest in research, and government agencies function as facilitators rather than controllers (Etzkowitz, 2008).

4. A case study of entrepreneurship students at the University of Boumerdes

Sample and research tools

We relied on a set of main tools, including personal interviews with the study sample, which consisted of 54 students from the University of Boumerdes. They are third-year undergraduate students majoring in Entrepreneurship. A three-point scale (1, 2, 3) was used, representing agreement, disagreement, or a neutral position regarding the interview questions. The reason for targeting this specific sample, and not students from other specializations, lies in the content of their academic program, which is directly related to the subject of this research.

Analysis of interview responses

Before starting to transcribe and analyze the responses of the sample members, we found it appropriate to first establish the credibility of the interview items. After interviewing 54 students, we obtained the following:

Table 2. Credibility of the interview questions using Cronbach's alpha scale

Number of Participants	Cronbach's alpha
54	0.812

Source: own elaboration

From Table 2, it is clear that the research results can be generalized, as the value of Cronbach's alpha was 0.812, indicating the reliability of the research instrument.

Transcribing the interview responses

The interview questions consisted of eight main themes, each containing a set of statements that allowed for revealing the extent to which the concept of the entrepreneurial university aligns with what the University of Boumerdes offers to its students. This was done by comparing the theoretical framework to the actual reality.

Table 3. Results of transcribing the responses of entrepreneurship students regarding the entrepreneurial university theme

Theoretical concept	Theoretical dimension	Item	Interview indicator (measurement item)	Mean	Overall trend
Entrepreneurial university requirements	Institutional leadership & governance	1	Presence of a guiding core responsible for entrepreneurship at the senior management level.	2.01	Agree
	Physical infrastructure	2	Availability of infrastructure, including modern classrooms and equipment.	1.05	Disagree
	University-industry partnerships	4	The university works on providing support from both the public and private sectors.	0.19	Disagree
Entrepreneurial education programs	Environmental & economic awareness	5	Providing an overview of the environment and economic reality to facilitate adaptation to circumstances and capitalize on opportunities.	2.89	Agree
	Curriculum content & risk culture	6	The content of the courses guides students towards an entrepreneurial culture and encourages them to take risks.	2.65	Agree

cont. tab. 3

Theoretical concept	Theoretical dimension	Item	Interview indicator (measurement item)	Mean	Overall trend
Entrepreneurial education programs	Seminars & experiential learning	7	Organizing seminars and conferences to provide students with the necessary scientific knowledge for developing the entrepreneurial personality.	2.33	Agree
	Practical & managerial skills training	8	Training and teaching students the technical and managerial skills to run a small enterprise.	1.33	Agree
Entrepreneurial culture transmission	Faculty role & pedagogical influence	3	Professors encouraging students to engage in entrepreneurial life.	3.36	Agree

Source: own elaboration

Discussion of the questionnaire results

The arithmetic means in Table 3 ranged between 2.89 and 0.19. Third-year undergraduate students majoring in Entrepreneurship expressed their agreement with most of the interview question themes. However, in Themes 2 and 4, they expressed dissatisfaction due to the lack of internet access and electronic devices in the classrooms, which are essential for supporting their academic learning in certain courses. This was reflected in an arithmetic mean of 1.05.

The same applies to Theme 4, where the arithmetic mean reached 0.19. This is due to the absence of the university's role in undertaking cooperation and partnership initiatives with the public and private sectors, which are essential to facilitating internships, practical training, and exposure to real-world applications, and thereby helping students understand how to translate academic entrepreneurship knowledge into practice. This is with the exception of the financial support and funding provided by support agencies.

As for Themes 1 and 8, their arithmetic means were 2.01 and 1.33, respectively, reflecting a moderate level of agreement regarding the presence of a guiding nucleus at the senior management level, represented, in their view, by the Entrepreneurship House. Regarding the process of training and teaching them the technical and managerial skills required to manage their own projects, they considered the Entrepreneurship House to be responsible for this task.

As for Themes 3, 5, 6, and 7, the arithmetic means were, respectively, 3.36, 2.89, 2.65, and 2.33. Through their responses, students confirmed that professors play a role in raising their awareness and instilling the spirit and culture of entrepreneurship. This is achieved by presenting an overview of the economic reality, competition, and the surrounding market through explanations and the teaching of course content. In

addition, they affirmed the role of seminars and scientific conferences in providing them with information and statistics about pioneering experiences in the field of entrepreneurship, thereby contributing to the development of an entrepreneurial mindset in their personalities.

Items 3, 5, 6, 7, 8 are mapped to the nearest EC element they approximate, but each coverage note explains why the match is incomplete. For example, item 6 (course content encouraging risk-taking) is a proxy for *Need for Achievement*, but it measures the curriculum, not whether the student personally developed that drive.

Items 1, 2, 4 are cleanly separated into an “Enabler Conditions” block. These directly measure entrepreneurial university requirements, which are a *prerequisite* for EC but not EC itself.

Sacrifice & Perseverance and *Desire for Independence* are theorized in Section II.4 but have zero empirical coverage. The table flags these explicitly and suggests concrete new items you could add to the discussion or to a revised instrument.

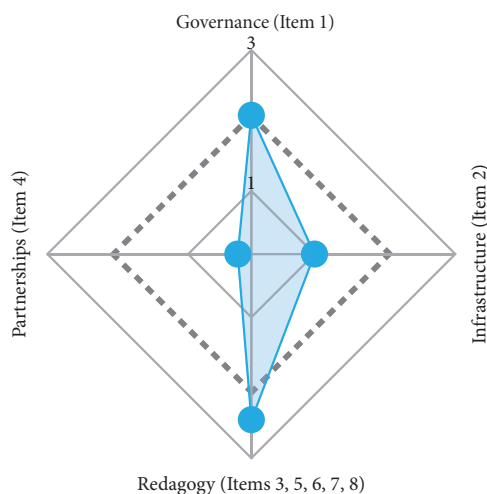


Fig. 1. EU model pillar radar – Boumerdes profile [Pillar scores are weighted averages of constituent item means, normalised to a 0-3 scale. Dashed line = minimum EU model threshold (2.00)]

Source: own elaboration

Testing the research hypothesis

H_0 : The university fosters entrepreneurial culture among students from the beginning of their academic studies.

H_1 : The university educates students without attempting to cultivate an entrepreneurial culture in them.

To test this hypothesis, a one-sample T-test was employed. According to the decision rule, the null hypothesis (H_0) is accepted, and the alternative hypothesis

(H_1) is rejected if the calculated t -value is less than the critical t -value from the table; conversely, the null hypothesis is rejected if the calculated t -value exceeds the critical value.

Table 4. Results of the one-sample T-test

One-sample test						
(Constant) Entrepreneurial culture	Test value					
	T	ddl	Sig. (Two- -Tailed)	Mean Diffe- rence	95% Confi- dence Inte- rval for the Difference	
					Lo- wer	Up- per
– Support from university management.	5.667	50	.000	.32850	.2527	.4625
– Availability of infrastructure at the university.	3.245	50	.001	.55863	.1409	.3543
– Role of university professors.	5.251	50	.000	.68096	.1273	.5260
– Collaboration between public and private sectors.	3.216	50	.002	.10903	.1098	.3207
– Content of study courses.	5.438	50	.000	.17362	.2662	.3476
– Organization of entrepreneurial conferences.	3.633	50	.002	.24589	.2896	.4213
– Providing information on the surrounding environment.	7.269	50	.000	.45698	.1398	.3879
– Student training and equipping them with the skills required to manage their own projects.	3.165	50	.002	.23896	.1659	.4089

Source: own elaboration

The statistical results presented in Table 4 indicate that the university's role in fostering entrepreneurial culture among graduating students requires greater effort. The calculated T -values across the various dimensions ranged from 7.269 (the highest) to 3.165 (the lowest), while the critical T -value (These values were obtained based on the statistical tables for the one-sample t -test, using $(n-1)$ degrees of freedom and a 5% significance level) was 1.671 lower than all corresponding calculated values. This leads to the rejection of the null hypothesis and the acceptance of the alternative hypothesis at a significance level of 0.000, which is below the 0.05 threshold. The alternative hypothesis is as follows: The university encourages students to start their own projects by fostering an entrepreneurial culture among them.

Discussion

Based on the above, the following conclusions can be drawn:

- The establishment of the “Entrepreneurship House” at the University of Boumerdes, staffed by a team of specialized faculty members providing guidance, counseling, and support, reflects the upper administration’s commitment to fostering an entrepreneurial culture among students.
- The introduction of an entrepreneurship major within the Department of Management Sciences at the undergraduate level also reflects an attempt to foster entrepreneurial culture through the curriculum and its content.
- Students lack the managerial, technical, and scientific skills necessary to run their own projects, due to the academic nature of their education and the absence of practical, field-based training.
- Infrastructure plays an active role in keeping pace with developments in the field of entrepreneurship.
- Professors play a significant role in fostering entrepreneurial culture by selecting appropriate teaching methods and tools to equip students with the skills necessary for developing an entrepreneurial mindset.
- The content of the academic courses can also contribute to the development of entrepreneurial culture among university students.
- There is a conflict between the traditional role of the university and the objectives of the entrepreneurial university, as the vision remains unclear and has yet to be translated into successful real-world initiatives.
- Students expressed that despite the potential role of all stakeholders in promoting entrepreneurial culture, the lack of individual-level incentives and encouragement limits its effectiveness.
- The scarcity of agreements with public and private sector institutions isolates students from developments in the external environment and the business world, resulting in a lack of real-life examples that could clarify the image of the entrepreneur and the requirements of entrepreneurial culture, such as creativity, risk-taking, and self-confidence.
- The University of Boumerdes partially satisfies the EU model’s governance requirement. Institutional intent exists and is recognized by students but has not been translated into an operational entrepreneurial support system. The gap between the stated mandate of the Entrepreneurship House and its perceived impact on students represents the primary governance challenge.
- The University of Boumerdes does not meet the EU model’s infrastructure requirement. This represents a structural failure, not a pedagogical one — no investment in faculty training or curriculum redesign can fully compensate for the absence of the material conditions necessary to deliver entrepreneurial education.

- The pedagogical pillar is the University of Boumerdes's most developed contribution to entrepreneurial culture, but it remains predominantly theoretical. Faculty engagement is the institution's primary asset, while the near-absence of practical skills training represents the most significant internal gap within this pillar. Addressing this gap requires a deliberate shift from transmissive to experiential pedagogy.

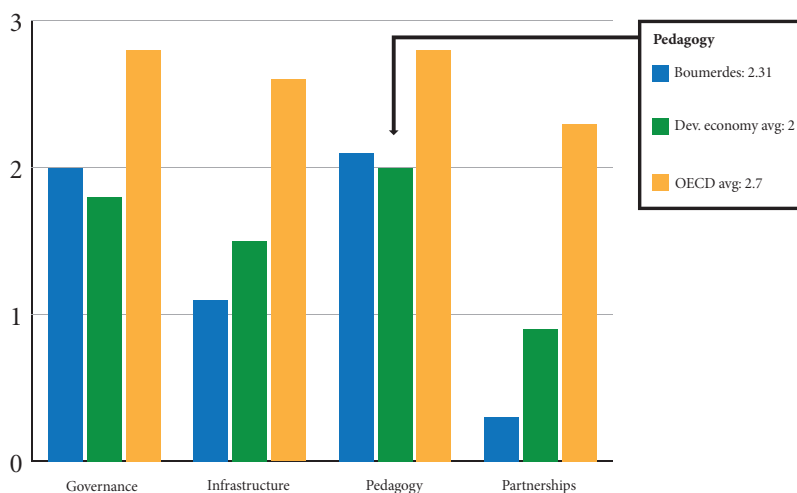


Fig. 2. Comparative pillar scores – international context

Source: Developed-economy and developing-economy averages are estimated from OECD (2012), and Guerrero and Urbano (2012) findings, rescaled to a 0-3 comparable range. Illustrative.

- Clarifying the features of institutions, businesses, and the world of finance and commerce, and how to integrate into the job market.
- Providing students with knowledge and practical applications on entrepreneurial competencies and the challenges entrepreneurs face when starting a business.
- Facilitating the transition from academic life to professional life.
- Connecting entrepreneurs with successful businesses in the field of commerce to transfer techniques and problem-solving methods, as financial and material support alone is not sufficient according to students' perspectives.
- Providing support, guidance, encouragement, and simulating the growth of a business.
- Activating teaching techniques by professors to meet students' needs for skills and methods that foster entrepreneurial culture in their personality.
- Modifying and updating program content and courses to instill an entrepreneurial culture in students.

- Removing obstacles and barriers that prevent creative and innovative students from implementing their entrepreneurial projects.
- Equipping lecture halls and classrooms with the necessary infrastructure to provide students with all the information related to the business climate, including legislation, laws, and the tax system, etc.
- Teaching entrepreneurial strategies and developing the skills of university graduates, which helps them take the risk of entering the business world and managing their own projects.
- Entrepreneurial culture includes education through various stages, where it is considered a key factor in developing entrepreneurship and enhancing the skills and traits associated with it.
- Introducing an entrepreneurship course in all disciplines with the aim of cultivating entrepreneurial culture among graduates across various fields and areas.

Conclusions

It is clear from the above that the future of entrepreneurship practice in many countries around the world is moving toward education and its activation by governments, universities, and research and development centers. This includes giving special attention to introducing scientific and academic courses in entrepreneurship, offering training programs, increasing scientific research in the field, and making it an integral part of the strategic and policy frameworks for future societies of all types.

Three limitations of the study are acknowledged. First, the sample is restricted to one cohort at one institution; replication across multiple Algerian universities using a validated instrument would allow more generalizable conclusions. Second, the three-point Likert scale limits measurement precision; future studies should employ the GUESSS instrument or an equivalent validated measure to enable international comparison. Third, the study measures student perceptions of institutional activities rather than direct outcomes – entrepreneurial intention, self-efficacy, or venture creation rates; longitudinal tracking of graduating cohorts would provide stronger evidence of the relationship between institutional inputs and entrepreneurial outcomes.

Despite these limitations, the study makes a substantive empirical and practical contribution to the growing body of scholarship on entrepreneurial universities in North Africa and the MENA region – a context that has been significantly under-represented in the international literature relative to its economic and demographic significance. Algeria's stated policy objective of reducing graduate unemployment through innovation-led growth depends critically on the capacity of its universities to develop entrepreneurial orientation among students before they enter the labour

market. This study provides both a diagnostic baseline and a theoretically grounded implementation roadmap for that transition.

In conclusion, it can be said that the educational approach to entrepreneurial behavior is based on the assumption that teaching entrepreneurship, along with the presence of educational and training programs in universities, institutes, and training centers in any society, leads to the development of an entrepreneurial orientation among students at a stage prior to employment and job searching. This, in turn, influences their future ambitions, strengthens them, and stimulates their motivation to work, achieve, and take the initiative to create entrepreneurial projects.

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