




## Article

# An Analysis of the Entrepreneurial University in the Faculties of Education in Spain: Self-Perception among Deans

Jessica Paños-Castro <sup>1,\*</sup> , Leire Markuerkiaga <sup>2</sup>  and María José Bezanilla <sup>1</sup> 

<sup>1</sup> Department of Education, Faculty of Education and Sports, University of Deusto, 48007 Bilbao, Spain; marijose.bezanilla@deusto.es

<sup>2</sup> Department of Mechanics and Industrial Production, Higher Polytechnic School, Mondragon University, 20500 Arrasate, Spain; lmarkuerkiaga@mondragon.edu

\* Correspondence: jessicapanos@deusto.es; Tel.: +34-94-413-90-03

**Abstract:** Universities have increasingly incorporated a third mission into their strategic planning. In addition to teaching and research, they have emphasised the training of entrepreneurs. However, there is still a lot of work to be done, as this process is facing resistance. The Entrepreneurial University covers all disciplines, including faculties of education. However, it has been shown that entrepreneurship tends to be more related to the faculties of economics and engineering, with a lesser presence in the faculties of education for various reasons: they consider entrepreneurship to be alien to their teaching role, there is a lack of entrepreneurial culture, and the objective of the Entrepreneurial University is unknown. The aim of this study is to analyse the level of entrepreneurship in Spanish faculties and schools of education. Nineteen deans and heads of education faculties in Spain took part in the survey, and a mixed analysis has been done. The results indicated a sufficient level of entrepreneurship; the dimensions related to active methodologies, and mission and strategy were the most developed, whereas entrepreneurship funding and entrepreneurship training for faculty employees were the least developed areas. Some deans noted that entrepreneurship was alien to their professional performance, although courses and good practices for the development of entrepreneurial initiative are gradually being implemented.

**Keywords:** entrepreneurial university; entrepreneurship; faculties of education; self-perception; triple helix; third mission; teacher training; COVID-19



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## 1. Introduction

Spain has been going through a serious and long economic crisis since 2008 and has a high rate of youth unemployment [1]. That is why, in recent years, the need to develop the entrepreneurial culture and entrepreneurial competence in all stages of the educational system has been emphasized in order to face employment; contribute to the growth and integral development of the human person; and have a competitive advantage in the market [2–4]. In this sense, in Spain, from the Organic Law on the Quality of Education (Law 10/2002) to the current educational legislation, Organic Law 3/2020, entrepreneurial competence has been contemplated. Education in Spain is a hybrid between a conservatism approach (it promotes cultural and social values of traditional societies and gives importance to religion) and modernist (adapted to the demands of the 21st century with values such as creativity and entrepreneurship) [5]. In education, the need is even greater since, currently, Law 14/2013 of September 27 on support for entrepreneurs and their internationalization points out the need to develop entrepreneurship in the initial teacher training, and to promote university entrepreneurship initiatives to bring young university students closer to the business world [1,6].

Universities also have an important role to play in raising awareness and developing and promoting entrepreneurship, both among students and among teaching and research staff [7,8]. Ultimately, higher education institutions are proactive subjects in regional

development, economic growth, technology transfer, innovation promotion, and social development [9]. Until recently, there has been a lack of coordination between the spheres of industry and academia; universities have even been considered non-entrepreneurial institutions due to their hierarchical structure, lack of entrepreneurial talent, the need for immediate results, and the excessive conservatism of the corporate culture, among others [10]. Etzkowitz et al. [11] pointed out that the concept of the Entrepreneurial University in many countries is causing an invisible revolution due to some exogenous (environmental factors that are difficult to control) and endogenous (system factors that are easier to control) factors. These are related to internal transformations within universities such as organisational changes, funding cuts, bottom-up structures, and economic and political crises, among others.

The mission of the Entrepreneurial University focuses on the tripartite cooperation between teaching, research, and entrepreneurship [9]. The Entrepreneurial University is also known as the third mission or triple helix model, since a third role is added to those of teaching and research. This role involves economic and social development, which should occur without the need to weaken teaching and research [12]. In other words, the University–Government–Industry triple helix model should establish synergies with the others. Universities produce knowledge and technologies for industrial application; government acts as a public entrepreneur; and industry provides capital, management skills, and a network of relationships [13]. According to Corti and Riviezzo [14], in the near future, there will be universities with incubators adjacent to classrooms and laboratories. However, it is undeniable that the three missions have not been given the same weight in all universities [11,15,16].

The response to entrepreneurship is different in each university and is determined by contextual factors, including whether the university is public or private, its organisational culture, the country's government policies, and the need to seek funding [17]. The literature indicates that the Entrepreneurial University has not developed to the same extent across universities, whether they are public or private. This depends on each university's ecosystem, background and tradition, size, and entrepreneurial culture [18]. Brătucu et al. [19] argued that the entrepreneurial university is not homogeneous in all countries, as differences exist between European universities, which advocate the teaching mission, and American universities, which tend to favour research. As Pinheiro and Stensaker [20], and Salati, Brandão, Leite, and Rucker [21] stated, universities in Europe have traditionally been seen to react poorly to demand. Following Martínez, García, and Duarte [22], public universities have a higher number of lecturers and professors focused on research than private universities, and, therefore, have greater availability for entrepreneurial actions. According to Martínez, García, and Duarte [22], teaching staff in public universities are more oriented towards academic careers and scholarly outputs. Private universities, in contrast, show higher levels of interaction with the market environment and have stronger infrastructures to support entrepreneurship. However, in general terms, universities do not usually fulfil the third mission due to the requirements related to research production output indicators for measuring their teaching performance (number of papers and book chapters published, and seminars attended). Consequently, there is low cooperation and articulation between higher education institutions and businesses [23].

García-Aracil et al. [24] and Etzkowitz and Zhou [25] noted that the Entrepreneurial University is a contradiction in terms. In other words, an Entrepreneurial University can mean three things. Firstly, that the university itself, as an organisation, is entrepreneurial. Secondly, that members of the university (academic and non-academic staff and students) become entrepreneurs in some way, and thirdly, that the interaction of the university with the environment (region) follows entrepreneurial patterns [24].

In 2006, the European Commission identified entrepreneurial competence as one of the eight key competences necessary for a knowledge society [26]. In 2018, the same entity again indicated the importance of promoting entrepreneurial skills at all educational levels, as well as favouring internships in companies and visits by entrepreneurs [27]. Thus,

entrepreneurial education is an intra-disciplinary concept intrinsic to the development of all students [28,29]. Entrepreneurship education is not limited only to the creation of new companies and jobs [30], but it can have different objectives such as awareness and motivation; train students in terms of starting and managing a business, not necessarily an entrepreneurial but a socially responsible one; intrapreneurship in the organization; and develop entrepreneurial skills to identify and take advantage of opportunities [30]. In this sense, there are three types of entrepreneurial education: education 'about' entrepreneurship, education 'for' entrepreneurship, and education 'in' entrepreneurship [31]. Lourenço, Taylor and Taylor [29] and Martina and Lucub [30] indicate the need to develop interdisciplinary programs of joint entrepreneurship between different faculties since, sometimes, non-business studies students tend to have very interesting ideas, but they lack knowledge in sales and marketing.

The Order ECI/3857/2007 of Spain [32] establishes a minimum of 12 competencies of the future teacher such as innovation, teamwork, and adaptation to change. Thus, the Ministry of Education of Spain regulates a total of 210 ECTS credits, leaving 30 to 60 ECTS at the disposal of universities to assign the competences they consider appropriate and establish their own specialization itineraries or qualifying mentions. However, the development of entrepreneurial competence in the faculties of education in Spain is scarce.

Currently, university degrees are not a guarantee for incorporation into the world of work [33], so entrepreneurial teachers who are prepared for these challenges of a changing world are required. It is clear that some efforts must be made to improve the initial education of university teachers [34,35] and this requires more entrepreneurial education faculties.

The objective of this research paper is to analyse the level of entrepreneurship in the different faculties and schools of education in Spain. This paper is structured as follows: Section 2 emphasizes the importance of entrepreneurship in faculties and areas of education and the impact of COVID-19 on entrepreneurship. Section 3 details the research objectives, instrument, and procedure. The next section discusses the results, and in the last section, conclusions, limitations, and future research lines are presented.

## 2. Literature Review

The Entrepreneurial University encompasses all disciplines, areas, and spheres of the institution [10,36]. In practice, any university has the potential to help industrial development, regardless of its level and mission [25]. However, entrepreneurship is sometimes associated with economics and engineering faculties [25,37–39] and less with the humanities, as academics in these disciplines tend to consider entrepreneurship to be alien to them [40]. In this line, Niras consultant [28] indicates that 'an important message is that there is a challenge at most HEIs in Europe to integrate entrepreneurship education at other faculties than the technical and business faculties' (p. 102).

One of the studies carried out by Sam and van der Sijde [12] found that the arts and social sciences disciplines do not have a strong predisposition towards engaging in entrepreneurship mainly due to a lack of entrepreneurial role models within the university, a lack of an entrepreneurial culture, and a shortage of academic promotion incentives. Furthermore, the participants in the study said that they did not know what the term Entrepreneurial University refers to [12]. As Orozco, Aristizabal, and Villaveces [41] pointed out, not all teaching staff are convinced that engaging in entrepreneurship is valuable for their performance and that of their students. Furthermore, lecturers and professors in social science disciplines tend to be the most reluctant [41].

Traditionally, participants in entrepreneurship programmes have generally been students from business disciplines; while programmes are often interdisciplinary, faculty and student participation from the arts and sciences has tended to be minimal [36]. Research carried out by Hannon [42] highlighted that business schools and faculties are the main areas offering entrepreneurial activities within the curriculum (63.5%), and to a much lesser extent, engineering faculties (8.81%) and art and design faculties (8.47%).

University curricula do not include sufficient entrepreneurship education, courses, and programmes [43,44]. Although the European Commission [45] invited Member States to ensure that entrepreneurship competences would be integrated into curricula at all levels of education by the end of 2015, there is little provision of entrepreneurship programmes in formal education [45].

Creating an Entrepreneurial University requires many years of cultural changes in organisations [12] and infrastructures; the implementation of flexible innovation policies [19]; the incorporation of entrepreneurship into the curricula of the different university degrees with the aim of promoting entrepreneurship among students and academics [17]; and joint work between faculties, departments, and other structures to create synergies and links, and break down boundaries and traditional silos [46,47].

Marzocchi, Kitagawa, and Sánchez-Barrioluengo [48] argued that it is vital to have entrepreneurial teaching staff in all disciplines, as they become role models and play an important part in students' teaching-learning process. To this end, initial teacher training is essential: 'Every student, teacher and existing teacher should benefit from at least one experience of training on the key topics and methods related to entrepreneurial learning and entrepreneurship education during their career' [49] (p. 7). Along similar lines, the Council of the European Union [50] included increasing creativity, innovation, and entrepreneurship at all levels of education and training among its strategic objectives.

The salience of entrepreneurship is such that the Spanish Government [51] has engaged in a commitment to promote an entrepreneurial nation with measures and goals to be achieved by 2030. The 50 measures adopted by the Spanish government notably include number 44, 'University and Entrepreneurship': 'Spanish universities (both public and private) must play a key role in helping people learn entrepreneurial skills and promoting entrepreneurship' (p. 123). The Spanish Government [51] recommends promoting a compulsory university subject on entrepreneurship in all undergraduate degrees to support students to acquire entrepreneurial skills such as leadership, creativity, and marketing; creating entrepreneurship centres; promoting an entrepreneurial culture within universities; creating university spin-offs; and the use of active methodologies such as learning by doing and through practice, among others. Along the same lines, Paños-Castro [52] argues that the development of entrepreneurial competence requires active and participatory methodologies so that students can experience first-hand the skills needed to be entrepreneurs.

The current pandemic, COVID-19, has brought with it the closure of many companies. It is precisely for this reason that self-employment and entrepreneurship will favour economic recovery and job creation [53]. Universities are considered to be the formative force of any culture and prepare students to face any unknown scenario that may arise in the future [54]. Thus, there is a need to adapt curricula to the economic demands of the future [55], to develop the competence to lose the fear of entrepreneurship [56], and to use entrepreneurial strategies and policies to reactivate economic growth [57].

Unfortunately, universities during the COVID-19 pandemic have faced major challenges in developing the third mission such as fewer financial funds, fewer internationally mobile students (due to the closure of land borders), and employing more traditional methodologies [58]. However, they have also had opportunities such as employing educational innovation, employing new teaching-learning methodologies [59] and offer solutions through new relationship models with the productive fabric [60].

### 3. Method

#### 3.1. Objectives and Hypotheses

The general objective of this research is to analyse the level of entrepreneurship (means that the university provides to facilitate the entrepreneurship) in the different faculties and schools of education in Spain based on deans' self-perceptions.

There were two specific objectives: to examine whether there are significant differences by Autonomous Region and type of university (public or private), and to analyse the level of entrepreneurship before and after the COVID-19 pandemic.

This study examines the following research hypotheses:

**Hypothesis 1 (H1).** *Entrepreneurship levels in Spanish faculties and schools of education are low.*

**Hypothesis 2 (H2).** *There are significant differences in entrepreneurship levels across the various Autonomous Regions.*

**Hypothesis 3 (H3).** *There are significant differences in levels of entrepreneurship based on the type of faculty/school (public/private).*

**Hypothesis 4 (H4).** *The ‘active methodologies’ dimension obtains the highest average when considering the type of education faculty.*

**Hypothesis 5 (H5).** *When a university has a faculty of economics, the level of entrepreneurship in the faculties and schools of education is higher.*

**Hypothesis 6 (H6).** *COVID-19 has not had a significant impact on the Entrepreneurial University dimensions of the faculties of education.*

### 3.2. Instrument

Although the emerging literature on the Entrepreneurial University model has highlighted several of the new characteristics that universities should have, there has so far been little empirical work on these characteristics, the regional variations that can be expected, and the impact of these changes on university performance [61]. Several frameworks, models, and tools are available for evaluating the Entrepreneurial University, including as EC-OECD, HEInnovate, or MultiU-rank, among others [62], but these are directed at the university level and not at the faculty level.

This study has used the model and instrument for measuring the evaluation of the Entrepreneurial University that was initially validated by Markuerkiaga, Igartua, and Errasti [63]. It was subsequently adapted for all the faculties and again validated by Errasti, Bezanilla, García-Olalla, Auzmendi, and Paños [64]. Given that the language used in the model was highly technical to be used in the educational field, both the language and any other aspects considered relevant by experts in educational research were adapted as necessary. For this purpose, a trial was set up with six expert methodologists and sociologists of education with more than 20 years of experience. Two rounds were held until consensus was reached. In the first round, the experts made their contributions independently; in the second round they were provided with a summary for them to make any changes they deemed fit. These experts noted the following points: levels should be removed and only the ends of a 0-to-10-point Likert scale should be included for the descriptors; the term teaching-learning should be used instead of only teaching; staff on restricted contracts should also be considered, in addition to associate professors for dimension 5; and ‘university’ should be replaced by ‘faculty’. The resulting version of the model consisted of 14 dimensions, with a total of 44 items on a scale of 0 to 10. It was mandatory to answer all questions. In addition, participants could add qualitative comments for each dimension (see Table 1).

**Table 1.** Dimensions and variables in the questionnaire.

Dimensions	Variables
Legal and administrative context	Legislation Financing Public infrastructures
Organisational context	Financing Technology Innovation Technological maturity R & D budget
Entrepreneurship funding	Funding for entrepreneurship teaching/learning Funding for research into entrepreneurship Entrepreneurship funding
Training in entrepreneurship for Faculty staff	Training in entrepreneurship Knowledge transfer Creation of university spin-outs
Inclusion of professionals from businesses and organisations in the development and delivery of the curriculum	Participation in the main governing body of the faculty Participation in development and delivery Professionals occasionally invited as guest speakers
Mission and strategy	Presence in the mission Objectives related to knowledge transfer Objectives related to the development of social commitment
Policies and procedures	Related to knowledge transfer Related to university-business or organisation collaboration Related to the creation of spin-outs
Support from the management team	Support for entrepreneurship Revenue for entrepreneurship Presence on the agenda
Organisational design	Link between teaching and research Decentralised decision-making Bottom-up structure Financial autonomy
Training and research in entrepreneurship	Entrepreneurial skills in the curriculum Specific programmes on entrepreneurship Research
Extracurricular training in entrepreneurship	Entrepreneurship awareness Identification of opportunities Business plan development Launch of spin-outs
Active methodologies	Use of active methodologies Placements with entrepreneurs Design and development of innovative educational resources
Internationalisation	Joint degrees Research Revenue Mobility
Other data relating to the faculty and/or university	Office for the Transfer of Research Results Entrepreneurship Centre Incubator University-affiliated Technology Park Courses and workshops Training provision

Regarding the validity of the questionnaire, Fleiss's Kappa [65] was used to indicate the degree of agreement between three or more raters to assess inter-rater reliability and showed that there was a good level of agreement (0.63). The Cronbach's Alpha coefficient for measuring internal consistency indicated that reliability was high (0.95). Furthermore, there were no negative corrected item-total correlations, and when removing the item, Cronbach's alpha had little to no increase (only 0.01).

### 3.3. Participants and Procedure

Once the model had been adapted, the next step was to obtain the approval of the Research Ethics Committee of the University of Deusto to evidence that the study complies with the Organic Law 15/1999, of December 13, on the Protection of Personal Data [66]. A pilot survey was then undertaken with three researchers to test that the online questionnaire was clearly understood, without ambiguity, and working well. After confirming that it was well, finally, the questionnaire was sent through the Qualtrics platform in two different periods. Firstly, from March 2020 to May 2020 (the data requested were related to the academic year prior to COVID-19, that is, 2018–2019); and secondly, from January 2021 to March 2021 (data corresponded to the academic year when the COVID-19 pandemic started, that is, 2019–2020). In both cases, three reminders were provided, two via the Qualtrics platform and one by telephone.

The questionnaire was addressed to deans and directors of faculties and schools of education in Spain, as they had an overview of the faculty as a whole. The sample was obtained by first accessing the Registry of Universities, Institutions and Degrees of the Spanish Ministry of Education (known by its initials in Spanish as the RUCT) [67], which lists all universities and official academic degrees in Spain.

A total of 19 deans of faculties of education participated in the first period (see Table 2), whereas a total of 40 (the 19 from the first period and 21 new participants) took part during the second period.

**Table 2.** Research population and sample pre COVID.

		Population	Absolute Frequency of Participation	Relative Frequency of Participation
Type	Public	50	11	22%
	Private	38	8	21.05%
	TOTAL	88	19	21.59%
Autonomous Region	Basque Country	6	1	16.6%
	Madrid	13	3	23.07%
	Catalonia	9	2	22.22%
	Valencia	6	1	16.6%
	Murcia	2	0	0%
	Castille and Leon	10	2	20%
	Galicia	6	0	0%
	Andalusia	17	7	41.17%
	Cantabria	2	0	0%
	Castille and La Mancha	3	0	0%
	Extremadura	3	0	0%
	Canary Islands	4	1	25%
	La Rioja	2	1	50%
	Navarre	2	1	50%
	Asturias	1	0	0%
	Aragon	3	0	0%
	Balearic Islands	1	0	0%
	TOTAL	88	19	21.59%

As shown in Table 3, 57.5% of public universities and 42.5% of private universities in Spain participated in the survey. By Autonomous Region, 100% of universities participated in Cantabria and Asturias, and there was high participation in Catalonia and Andalusia.

**Table 3.** Research population and sample post COVID.

		Population	Absolute Frequency of Participation	Relative Frequency of Participation
Type	Public	50	23	46%
	Private	38	17	44.73%
	TOTAL	88	40	45.45%
Autonomous Region	Basque Country	6	2	33.33%
	Madrid	13	6	46.15%
	Catalonia	9	6	66.66%
	Valencia	6	3	50%
	Murcia	2	0	0%
	Castille and Leon	10	5	50%
	Galicia	6	1	16.6%
	Andalusia	17	10	58.82%
	Cantabria	2	2	100%
	Castille and La Mancha	3	0	0%
	Extremadura	3	1	33.33%
	Canary Islands	4	1	25%
	La Rioja	2	1	50%
	Navarre	2	1	50%
	Asturias	1	1	100%
	Aragon	3	0	0%
	Balearic Islands	1	0	0%
	TOTAL	88	40	45.45%

#### 4. Results

SPSS (version 27) was used for the data analysis. An analysis of the descriptive and non-experimental data is presented below to answer the hypotheses of Section 3.1.

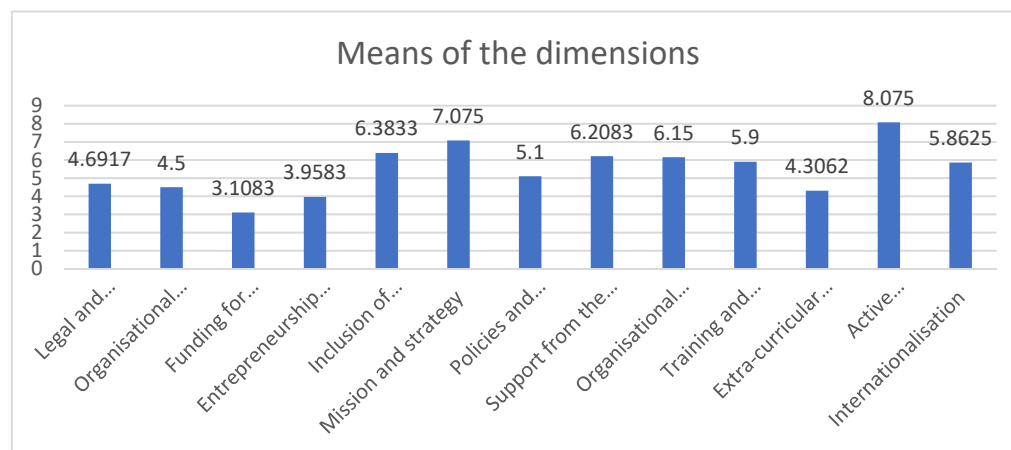
As shown in Table 4, the first hypothesis, namely, that the level of entrepreneurship in Spanish faculties and schools of education was low (taking into account Errasti, Bezanilla, García-Olalla, Auzmendi, and Paños's scoring scale [64]) obtained an overall average of 5.4 when considering all the different aspects analysed. It was, therefore, rejected.

**Table 4.** Descriptive statistics of the level of entrepreneurship of faculties and schools of education in Spain.

	N	Minimum	Maximum	Mean	Std. Deviation
Total	40	1.57	8.14	5.4148	1.57249
Valid n (listwise)	40				

As can be seen in Figure 1, the most developed aspects were active methodologies (8.07), and mission and strategy (7.07). Noteworthy were also the dimensions of inclusion of professionals from businesses and organisations in the development and delivery of

the curriculum (6.38), support from the management team (6.2), and organisational design (6.15). In contrast, the least developed areas were funding for entrepreneurship (3.1) and entrepreneurship training for faculty employees (3.95).



**Figure 1.** Means of the dimensions.

According to the perception of the participating deans, the most developed items for the development of the Entrepreneurial University were the use of active methodologies (8.87), objectives related to the development of social commitment (8.55), and the design and development of innovative educational resources (8.37). The least developed were entrepreneurship funding (1.98), policies and procedures related to the launching of spin-outs (2.72), and the creation of spin-outs (2.77).

The second and third hypotheses related to whether there were significant differences by Autonomous Region, and type of faculty/school (public/private). A *t*-test for independent samples was performed to compare means by type of faculty/school. Levene's test for equality of variances indicated a significance level below 0.05 in dimension 12. Therefore, it can be concluded that there were significant differences only in the 'active methodologies' dimension. This difference was greater for private universities.

An ANOVA analysis of variance was carried out to find differences by Autonomous Region, given that the populations were independent and normally distributed. Levene's statistic allowed for the hypothesis of equality of population variances to be tested. Taking into account the significance level of 0.05, it can be concluded that there were significant differences by Autonomous Region for Dimension 6 ('mission and strategy') and Dimension 12 ('active methodologies'), with the Autonomous Regions of Navarre, Valencia, and Madrid being particularly outstanding in 'active methodologies', and the Basque Country, Asturias, and Navarre in 'mission and strategy'.

The fourth hypothesis was confirmed, as the 'active methodologies' dimension obtained the highest average when considering the type of education faculty. The means for both dimensions were the highest; specifically, before the COVID-19 pandemic, the mean of the deans' perception was 8.3509, and during the pandemic it was 8.0750.

The fifth hypothesis posed was that when a university has areas of knowledge such as economics, the Entrepreneurial University is developed further. An ANOVA was performed for this analysis. Given that the *p*-value was greater than 0.05, the hypothesis of equality of means was accepted. The hypothesis was rejected, and it was concluded that there were no significant differences when economics is included among the areas of knowledge of a university in terms of whether the level of development of the Entrepreneurial University would be higher or lower.

The last hypothesis, namely, that the COVID-19 pandemic has not had a significant impact on the dimensions of the Entrepreneurial University of faculties of education was confirmed, since the means were practically identical (5.5203 before COVID-19 and 5.4148 during COVID-19). However, there were significant differences in the legal and

administrative context (gets worse during the pandemic), entrepreneurship training for faculty staff (gets worse during the pandemic), and inclusion of professionals from businesses/organisations in the development and delivery of the curriculum (improve during the pandemic).

As noted in the section focused on the instrument used, each section in the questionnaire included the option of adding qualitative responses. The average participation in each of the dimensions was seven qualitative comments.

In Dimension 1, concerning the legal and administrative context, two deans stated that there was hardly any support available at their private universities. However, two other participants reported that they received internal support from public projects and from the governments of their Autonomous Regions. However, as affirmed by Participant 18, 'it is promoted to a greater extent among students. Considering the workload that the teaching and research staff already have, adding entrepreneurship to it, for example, developing a spin-out, is overwhelming'. In Section 2, organisational context, five deans said that they were unaware of the organisational and business context close to their faculty; one of the participants considered that 'because it is a faculty that teaches education and psychology, many of these issues do not apply' (Participant 35). Only one dean provided some examples of businesses that promote entrepreneurship in their area.

In Dimension 3, entrepreneurship funding, all the respondents reported that funds to foster entrepreneurship were centralised at the university level and not by faculty: 'The faculty has no direct powers on these matters' (Participant 12), 'All aspects related to capital and funds to promote entrepreneurship are actually dealt with and promoted by the University, rather than by the faculties' (Participant 6).

Regarding the training offered by the faculty to its staff for the promotion of entrepreneurial initiatives in the areas of knowledge transfer, creation of spin-outs, and entrepreneurial education, five deans mentioned that these issues were managed at the university level, and not at the faculty level: 'Training for these issues is centralised through other university bodies' (Participant 21), 'These are initiatives that are carried out by the vice-chancellor's office and the Foundation' (Participant 25). However, two deans pointed out that this type of education was not included in the mission of their faculty, as it was in the areas of humanities and education: 'This is a faculty focused on the humanities' (Participant 31); 'because it is a faculty that teaches education and psychology, many of these issues do not apply' (Participant 35).

In the next dimension, they had to provide their perception on the inclusion of experts from the business world and/or practising professionals in the development and delivery of the curriculum. Seven deans believed that guest speakers from the business world are essential and regularly delivered talks to students in Master's and more advanced years of the degrees; they gave lectures or workshops as part of different subjects, or of extracurricular programmes. In contrast, two deans were uncertain as to how practising professionals and other agents from business organisations could participate in the main university governing body, given that its structure was stipulated in the university's articles of association.

Next, in the section related to the mission and strategy of how entrepreneurship was envisaged in the faculty, three deans highlighted the importance of social commitment: 'As it is a faculty of education, social commitment is one of our principles and rules of operation' (Participant 8). One dean also held that entrepreneurship is a transversal competence in the curricula. However, three deans were reticent to accept that entrepreneurship should be part of their mission and strategy, as they believed that in a faculty where Education and Humanities are taught many of these issues did not apply.

In Section 7 of the questionnaire, they were asked to report on whether there were policies and procedures related to knowledge transfer, faculty-business collaboration, and the creation of spin-outs. As in previous dimensions, seven deans noted that these issues were managed at the university level, the Entrepreneurship Unit and/or the vice-

chancellor's office. Similarly, two deans argued that given their area of knowledge, these issues did not apply to their faculty.

The participating deans recognised the importance of entrepreneurship: 'As a dean I recognise the importance of entrepreneurship and we are working on including it as a strategic axis in the degrees, activities, etc. But nothing has been defined for the moment. We only have one transversal subject that is common to the whole university, which is called "Entrepreneurship". However, entrepreneurship initiatives are generally operated university-wide' (Participant 3).

Subsequently, participants were asked to analyse the extent to which their faculty has an organisational design that facilitates entrepreneurial activity. Five deans mentioned that they did not have autonomy to seek revenues in their departments, but this does not mean that it is not common practice.

Regarding training and research in entrepreneurship, three deans reported that there had been a consolidation of entrepreneurial competences in the curriculum and in the lines of research over the past three years. According to them, some subjects related to entrepreneurship are gradually being included in the curriculum of education degrees: 'In the Early Childhood Education Degree we have a subject called "Entrepreneurship". In the Master's degree in Techno-pedagogical Design, the subject of Practical Application and Professional Initiation includes competences aimed at entrepreneurship' (Participant 3). However, students have not always welcomed these initiatives as expected: 'There has not always been the desired response from students; there is a need to work on creating a culture of entrepreneurship' (Participant 33); 'unfortunately, it is not as welcomed by students as it should be, although these events are more highly valued by Tourism Management degree students' (Participant 7).

Faculties of Education are increasingly developing extracurricular education in entrepreneurship to raise awareness among students and promote the acquisition of skills that enhance their employability. However, these initiatives are only sporadic, and 'there is still no real culture of entrepreneurship'. This should be further promoted, as 'impact is very low, and students do not seem to be interested' (Participant 3).

The use of active methodologies varied from degree to degree, although the deans generally noted that Service and Solidarity Learning, and Project-, Problem-, and Challenge-Based Learning were all used. For four institutions educational innovation was a strength of their faculty and they attached importance to the use of innovative educational resources, especially after COVID-19.

Finally, the deans explained that internationalisation programmes such as Erasmus and SICUE were promoted, although participation was higher among students than among professors. In addition, joint projects were carried out with universities from other countries, especially with Portugal, Finland, and Latin America.

## 5. Discussion and Conclusions

It has been more than 30 years since the term Entrepreneurial University was coined [68]. However, as the results show, the level of the Entrepreneurship University in faculties and schools of education in Spain is poorly developed. There is still a long way to go for it to be fully implemented. Above all, there is a need to provide funding and grants for entrepreneurship, and to promote training in entrepreneurship for faculty staff. The training in active methodologies and the use of innovative educational resources in education faculties is remarkable and has a long track record. These results are very similar to those obtained in the study carried out by Errasti et al. [64], using the same instrument, where faculties in Spain were found to be particularly advanced in internationalisation, use of active methodologies, mission and strategy, and support from the management team. However, the legal and administrative context, funding for entrepreneurship, and training of entrepreneurs were not sufficiently developed.

It can also be concluded that there are hardly any significant differences by type of faculty/school or Autonomous Region, nor when there is a faculty of economics and

engineering on the same campus. It is also evident that COVID-19 has had little impact on the development of the Entrepreneurial University.

In line with Orozco, Aristizabal, and Villaveces [41], some deans argued that the third mission entails more work for lecturers and professors. Thus, there is a need to strike a balance between teaching, research, and entrepreneurship, and to be aware that developing the third mission does not mean replacing the traditional university missions of teaching and research [28]. It was also noted that certain dimensions of the Entrepreneurial University are not organised and operated at the faculty level but university wide. This is the case for funding, the promotion of entrepreneurial initiatives, and policies and procedures.

Some deans also held that entrepreneurship is alien to their faculty and not sufficiently integrated in teacher training faculties. Following Stamatović and Zlatić [69], individual and optional courses are generally offered at faculties of education, although most faculties do not provide any form of entrepreneurship education. Perhaps the university community should first understand that entrepreneurship is not simply learning how to manage a business, but also involves developing a set of transversal competences applicable to all areas of personal and working life, including creativity, leadership, innovation, teamwork, and communication, among others. Although entrepreneurship had its origins in economic theory, 'the concept of entrepreneurship has evolved over time' [70] (p. 184) and not only entails educating 'for' entrepreneurship, but also educating 'through' entrepreneurship as the most effective way to inculcate the attitudes and behaviours that lead to entrepreneurial action [71]. In other words, there are two perspectives on entrepreneurship: one more linked to finance and marketing, and the other with a broader view of problem solving and the ability to take advantage of opportunities [62]. Hardiel, Highfield, and Lee [72] provided evidence that entrepreneurship education provides students with the opportunity to find meaning in their learning and develop competences that would help them throughout their lives.

Currently, there is an economic recession generated by the COVID-19 crisis. In this context, entrepreneurs are needed to generate income and become agents of social change [71]. According to the Spanish Entrepreneurship Observatory [73], recovery will demand more entrepreneurs with organisational and innovative skills, as well as new synergies between the entrepreneurial, corporate, and academic ecosystems, promoting more spin-ins and spin-outs. Consequently, 'in the Entrepreneurial Universities model, greater involvement in the role of policy proponents is needed, and their participation as co-promoters in strategic regional projects' [73] (p. 50).

According to GHK [74], there is a need to foster an organisational ecosystem and an entrepreneurial culture in universities. Moreover, future teachers cannot encourage entrepreneurial attitudes among their students if they do not believe in them and if they are not convinced of their benefits. As held by GHK [74], there are no examples of good entrepreneurship practice in Spanish faculties of education. In Finland, for example, all teacher training institutions have implemented elective entrepreneurship education in their education programmes and in Oulu University Department of Teacher Training, Turku University Department of Teacher training, and Abo Akademi University Department of Vaasa the entrepreneurship education is compulsory [75]. These authors argued that there are four ways of implementing entrepreneurship education in initial teacher training: through compulsory modules, through optional modules, via extracurricular activities, and by creating an entrepreneurial culture. For this reason, it is suggested to implement curricular and extracurricular courses on non-business entrepreneurship, rethink the initial training of university professors, develop active methodologies and give greater autonomy to the Research and Teaching staff, among others.

The importance of entrepreneurial competences for future teachers is such that it has been included in the White Paper on the Teacher Training Degree [76]. Law 14/2013, of 27 September, on support for entrepreneurs and their internationalisation [1], stressed the need to promote the culture of entrepreneurship in university education. It also highlighted that

teaching staff must have the necessary competences and skills in both initial and lifelong training. As far as university education is concerned, entrepreneurial initiatives and the setting up of business projects should be promoted.

However, the Higher Education Institutions are no longer perceived as the sole and unique entity responsible of the capacities [77]. Joint and coordinated action is required from all educational agents, from both the public and private sectors, and from society in general. In addition, it is also required a clear strategic direction, performant governance, mission, management systems [78], and a Human Resources Management [79].

The limitations of this study lie in the limited sample, for two main reasons. Firstly, because of the work overload caused by COVID-19 in deans' offices, and secondly, due to the change of deans during the academic year, which made it difficult to have direct contact with them. Although the results cannot be extrapolated to all the faculties of education in Spain, due to the heterogeneity of the sample, they provide a preliminary approach to the current situation of Spanish faculties of education regarding entrepreneurship.

Some suggested lines of research for the future could involve finding out the perspective of students and teaching staff on the Entrepreneurial University; the collection of variables in relation to the fourth and fifth helix of universities, namely, the user of innovation and the environment; and to have more specific data on the Entrepreneurial University, and, therefore, not to rely only on self-perceptions.

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