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A University Training Programme for Acquiring Entrepreneurial and Transversal Employability Skills: A Students' Assessment

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Abstract: The objective of this paper is to analyze students' assessments of the attainment of skills acquired by university graduates enrolled in a Training Programme (TP) to develop entrepreneurial skills and transversal employability competencies. Both of which are vital for the success of today's societies and play an important role in the sustainable development agenda. The TP was a twelve-week programme with six modules combining entrepreneurship training and traditional teaching methods. There were nine editions and 148 students worked in teams preparing business plans to present to consultants and potential investors. The Focal Group method was used to identify competencies and a survey was designed to identify the level to which skills were attained. The results suggest that the students attained both types of skills, acquiring a higher level of proficiency in entrepreneurial skills and those transversal competencies most connected to entrepreneurship. Additionally, different levels of attainment of entrepreneurial skills were found in different groups. We provide new evidence that TPs, as compulsory subjects in the core curriculum of degree programmes, will help accomplish both objectives: the acquisition of entrepreneurial skills and generic university educational competencies. The overall outcome of this research highlights the value added by the TPs.

Keywords: sustainable development agenda; higher education; employability competencies; entrepreneurial skills training

1. Introduction

The development of entrepreneurship educational and the employability skills is a relevant factor in achieving the Sustainable Development Goal 4 (SDG4) of the 2030 Agenda of the United Nations (UN) General Assembly. SDG4 aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" and defines SDG4's Target 4.4 as "[to] substantially increase the number of youth and adults who have relevant skills for employment, decent jobs and entrepreneurship" [1-2]. In ESDG 4, UNESCO recommends that education for sustainable development should be included in all formal education curricula: primary, secondary and higher education and that the learner should be able to "recognize the importance of their own skills for improving their life, in particular for employment and entrepreneurship" [3]. In relation to employability competencies, international organizations consider the hard ones, technical and analytical, that allow the worker to perform the mechanical aspects of the job; and the soft ones, or transversal skills, that are defined as intangible personal qualities required to be effective in the work place, these skills cut across jobs and sectors [4-7]. The World Economic Forum (WEF) points out that skills such as creativity, originality, initiative, critical thinking, flexibility, complex problem-solving, emotional intelligence and leadership will likewise retain or increase their value in an international labour market [8]. The European Union (EU), since the implementation of the Bologna European Credit Transfer and Accumulation System and Tunning project, has fostered changes in the approach to learning in Universities in order to improve the acquisition of generic and transversal competencies,

likewise the EU recommends enhancing creativity and innovation, including entrepreneurship at all levels of education and training [9-11]. Therefore, the development of education for sustainability requires encouraging entrepreneurial skills and transversal competencies in Universities.

Entrepreneurship is considered a key element for innovation and economic and social development [12-14]. The current consensus considers entrepreneurship to be a discipline with certain skills and abilities that can be learned [15-17] and the EU has stated that the greatest impact on entrepreneurship education is achieved in higher levels of education [18]. However, the teaching of entrepreneurship is not yet sufficiently integrated into higher education institutions' curricula and the NIRAS survey showed that half the European students in advanced education did not have access to an education in entrepreneurship as curricular or non-curricular activities [19-20]. Therefore, universities can play an important role both, in the curricula offered [21], as well as their entrepreneurship education programmes [22].

Many methods are used to provide training in entrepreneurship: business plans, interviews with entrepreneurs, information on entrepreneurship as a professional career option, case studies and activities designed to develop entrepreneurial skills, etc. [23-24]. Universities and business schools currently offer entrepreneurship programmes based on teaching methods that identify opportunities, estimate the resources required, indicate how to acquire them, and start up a new business [25-26]. However, a consensus does not exist on how to provide education on entrepreneurship, for example using training methods versus traditional teaching methods. [27] found that the relationship between entrepreneurship outcomes and entrepreneurship education is more academically-focused than training-focused; on the other hand, [19,28] suggest that traditional teaching methods tend to be ineffective in entrepreneurship learning. The lack of consensus on how to teach entrepreneurship is quite likely related to the low awareness until now of the objectives of entrepreneurship training [29].

The literature evaluates efficiency in terms of entrepreneurial intention, entrepreneurial activity, the acquired skills, etc. However, there is evidence of the positive effects on a broad range of inputs. The EU revised 51 examples of measuring the impact of entrepreneurship training (classes, courses, programmes and modules) on the objectives of the activity. They concluded that the impact was well evidenced by entrepreneurial learning results (i.e. change of knowledge, skills and attitude), the level of interest in entrepreneurship, entrepreneurial intention and student and staff motivation [19]. The general impression is that entrepreneurial education does work; some meta-analysis research in this field has shown small positive effects of education in entrepreneurship on entrepreneurial intention [27,30] or on the intention to start a business [22], but there is no consensus on how to assess its effectiveness. [30] suggest other improved criteria such as entrepreneurial skills or performance. A survey by Raposo and Paço concluded that there is a positive link between entrepreneurial education and entrepreneurial activity [31]; [32] confirms the effects on Spanish students' skills and the intention to create a business; [33] showed evidence of positive effects in several countries, pointing out that it is more effective in entrepreneurship-hostile institutional environments; and [16] and [34] showed the positive effects of entrepreneurship programmes on the improvement of some skills. However, some authors find non-significant effects or negative effects. [35] found a mix of effects with high satisfaction and better learning efficacy, but the entrepreneurial intentions of students were not improved and [36] even claimed that the effects of a programme on the intention to become an entrepreneur were negative.

There is evidence that a large variety of skills play an essential role in the process of becoming an entrepreneur [37, 38], and some authors agree that entrepreneurial education should focus on the development of skills, attitudes and practical training [39, 40]. [29] afforded a general framework for teaching entrepreneurship based on an active, practical approach. However, no comprehensive set of entrepreneurial skills has yet emerged from the literature; [21] analyze the skills included in their own survey that compares the situation of young European higher education graduates and [34] provide a core set of 13 entrepreneurial skills employing a Delphi methodology. According to the psychological literature, [39] established a set of 7 entrepreneur skills; five of them were selected by [41], as frequently associated with entrepreneurs in both theoretical and empirical research. A similar set of skills was previously used in the Caird test of enterprising tendency [42]. [43] defined 7

entrepreneurial skills, which have been used by other authors [44], and that were found to be predictive of business ownership.

Regarding transversal employability skills, higher education institutions (HEIs) must ensure that students are prepared to handle and solve complex problems in an environment of uncertainty [45], producing employable graduates that contribute to economic growth and sustainable development [46]. Some studies analyse the integration between higher education and job skills and the positive effects that it entails [47, 48]. The European Commission [49] explains the connection between sustainable growth, education and the labour market [50]: it is necessary to improve the performance of education systems to facilitate the entry of young people into the labour market; the acquisition of new skills that empower people and empower their job training and the best adaptation between labour supply and demand. The Phoenix report of Future Work Skills H2020 [51] proposes the following skills as a basis for achieving success in the workplace: creating meaning, social intelligence, original and adaptive thought, trans-cultural competence, literacy in new means of communication, transdisciplinary to understand concepts through multiple disciplines, developing a way of thinking in order to attain the desired results, cognitive load management, virtual collaboration as a member of a virtual team, computational thinking for transferring large quantities of data into abstract concepts and to understand data-based reasoning [52]. These skills should be acquired by university students for successful use in a real work context [49].

In most studies of the international literature, some skills assessment techniques are gathered, such as the standardized competence assessment procedure [53], the CAT (Competency Assessment Tool) [54], the CBT (competencies-based training systems) [55] and the sustainable employability assessment tool [56], among others. The problem is that these tools only address some competencies, or only focus on the analysis of certain types of degree studies [7], not being replicable to others. Some authors also analyze another series of specific competencies that contribute to students entering the labour market successfully facing their first job, from the employer's point of view [57].

Considering the acquisition of transversal employability competencies incorporated in the curricular subjects there are not many evaluations from the point of view of the students. Generally, undergraduate students use some self-assessment technique to measure competencies [58] such as the self-perceived employability scale (SPE) [59, 60], however, there are investigations that emphasize the need for an objective measurement of their level of employability [58].

The TP designed by University Rey Juan Carlos in collaboration with Obra Social La Caixa (the Foundation of Caixa Bank, the third Spanish bank in the activity ranking) combines training in entrepreneurship and traditional teaching methods for degree students in order to develop entrepreneurial skills and employability transversal competencies. The purpose of this paper is to evaluate the effectiveness of the TP in terms of generic and entrepreneurial skills acquired jointly, taking into account the assessment made by the university students who carried out the TP. This research makes a contribution to the literature in two ways; via the students' assessment of the jointly acquired competencies and to the extent that the programme increases the university generic transversal competencies simultaneously with entrepreneurial ones, universities will have more incentive to include Training Programmes to develop entrepreneurial skills and transversal employability competencies in their degree curricula.

2. Materials and Methods

2.1. The Research Background

The TP was 12 weeks long, comprising six modules, with undergraduates from a variety of degrees (Business, Marketing, Tourism, Economics, Law, Advertising, Audiovisual Studies, History, Journalism and Engineering) and was as close as possible to a real word situation, including entrepreneur and investor meetings. The students developed a business plan in teams that were set up at the beginning using group dynamics and according to their own business ideas. The teams worked under the supervision of a lecturer or consultant. The traditional “learning by doing” from

the Entrepreneur Education Programmes was combined with traditional teaching, such as market analysis, marketing and financial plans, etc. according to [61]. There was a final assessment by a panel of professors and consultants of a business opportunity project, considering originality and viability. The best project in each edition received a prize and was presented to potential investors.

The TP started in 2013 with 130 students who performed an initial TP assessment (modules, teachers and consultants). In 2014 and 2015, 9 editions took place with 211 students (only 65% of the applicants were admitted). The student success rate was also very high; 70% completing projects that were positively assessed by the experts.

2.2. *Methods and Sample*

At the end of the programme, the students were asked to assess the level of competencies acquired, both entrepreneurial skills and generic transversal competencies.

- Relevant skills

A preliminary focus group of seven academic entrepreneurship experts was set up to consider the relevant transversal o generic skills. Firstly, they selected skills that could be acquired by the students enrolled in the TP from the list of generic skills [9], grouped into three sections: instrumental, interpersonal and systemic. Secondly, the participants discussed the skills that a member had included in the previous stage. This discussion concluded with an agreed generic skill list to be acquired (to a certain extent) from the TP. Table 1 show the skills included in the students' survey.

Table 1. Generic skills [9]

Panel a) Instrumental Skills
C1 Capacity of analysis and synthesis.
C2 Capacity of organization and planning.
C4 Grounding in basic knowledge of the profession.
C5 Oral and written communication in the student's native language.
C8 Information management skills (ability to retrieve and analyze information from different sources).
C9 Problem-solving.
C10 Decision-making.
Panel b) Interpersonal Skills
C12 Teamwork
Panel c) Systemic Skills
C19 Capacity to apply knowledge in practice.
C21 Capacity to learn.
C23 Capacity to generate new ideas (creativity).
C26 Ability to work autonomously.
C27 Project design and management.
C28 Initiative and entrepreneurial spirit.
C30 Will to succeed.

Secondly, the experts were provided with three lists of common entrepreneurial skills which are shown in Table 2 [39, 41, 43]. The focus group agreed that the entrepreneurial skills of [45] were the most closely linked to the TP. These potentially acquirable skills were included in the survey.

Table 2. Set of entrepreneurial skills

	Dada et al. [41]	Kirby [39]	Wagener et al.[43]
Need for achievement (E1)	X	X	
Desire for autonomy (E2)	X	X	X
Creativity and opportunism (E3)	X	X	X
Risk-taking ability (E4)	X	X	X
Locus of control (E5)	X	X	
Deviation		X	
Intuition		X	
Tolerance of ambiguity			X
Self-efficacy			X
Market orientation			X
Leadership qualities			X

Note: the entrepreneurial skills included in the questionnaire appear in bold.

- Questionnaire

An anonymous questionnaire was divided into three parts. The first included personal student data: gender, age, course, degree, average academic grade, whether or not the student had practical experience working in a company, entrepreneurial experience or family members that were entrepreneurs.

The second and third part of the questionnaire required the students to assess the degree of acquisition (i.e. how much they had improved) on a Likert scale from 1 to 6 (1 represented minimum acquisition and 6 maximum acquisition) of each generic skill (second) and entrepreneurial skills (third) after the TP.

- Population

The population included the students that participated successfully in the nine editions; they were interviewed after the evaluation of their projects. Notice that our population had a selection bias; however, it did not affect the results of the study, as the students whose entrepreneurship preference or ability was high would probably enrol in entrepreneurship programmes [62]. The population was comprised of 148 students. A total of 107 valid questionnaires were obtained, which gives us a response rate of 72.3%. The margin of error was 95% the confidence was ±0.05.

3. Results

3.1. The Sample

Of the 107 students, 55.66% were male and 44.34% female. The distribution of the average academic grades was: 40.6% pass, 58.5% good and 0.9% outstanding. 68.87% of the students had experience in the labour market (internship or work) and 64.15% had been in direct contact with entrepreneurship

through a family member or had direct experience. As far as age is concerned, 16.98% of the sample were students over the age of 25 and 83.02% were 25 or younger.

Table 3. Descriptive statistics of the acquisition of generic instrumental skills from the TP							
	C1	**C2**	**C4**	**C5**	**C8**	**C9**	**C10**
Panel a) Descriptive statistics							
Average	4.133	4.429	4.308	3.388	3.905	4.267	4.457
Median	4	5	4	3	4	4	5
Standard deviation	1.066	0.929	1.080	1.567	1.312	1.171	1.118
Panel b) Average equality test according to student gender							
Men	4.051	4.305	4.259	3.439	4.017	4.271	4.492
Women	4.239	4.587	4.370	3.326	3.761	4.261	4.413
T statistic (p-value)	(0.372)	(0.123)	(0.605)	(0.719)	(0.323)	(0.965)	(0.723)
Panel c) Average equality test according to student age							
Students over 25	4	4.111	4.333	3.647	4.111	4.056	4.389
Students under 25	4.161	4.494	4.302	3.337	3.862	4.310	4.471
T statistic (p-value)	(0.592)	(0.112)	(0.912)	(0.459)	(0.466)	(0.403)	(0.778)
Panel d) Average equality test according to overall student grade							
Good/outstanding	4.095	4.476	4.238	3.365	3.889	4.286	4.508
Pass	4.190	4.357	4.415	3.425	3.929	4.238	4.381
T statistic (p-value)	(0.656)	(0.523)	(0.418)	(0.851)	(0.880)	(0.839)	(0.571)
Panel e) Average equality test according to previous experience in the labour market or not							
Yes	4.123	4.384	4.417	3.380	3.862	4.274	4.466
No	4.156	4.531	4.063	3.406	4.000	4.250	4.438
T statistic (p-value)	(0.885)	(0.456)	(0.123)	(0.938)	(0.625)	(0.924)	(0.906)
Panel f) Average equality test according to previous student contact with entrepreneurship or not							
Yes	4.134	4.433	4.288	3.194	3.925	4.313	4.537
No	4.132	4.421	4.342	3.750	3.868	4.184	4.316
T statistic (p-value)	(0.990)	(0.951)	(0.807)	(0.086)	(0.832)	(0.589)	(0.332)

Note: Acquisition of skill on a Likert scale from 1 (minimum) to 6 (maximum acquisition). The p-value of the t-statistic was used to test the hypothesis of equality of average acquisition of the skill in both groups. * indicates rejection of the null hypothesis.

3.2. Generic Instrumental skills

Table 3 shows the descriptive statistics of the students' assessment of the degree of acquisition of each generic instrumental skill. The average acquisition of each of these skills appears to be different and the equality of the averages was therefore tested. The ANOVA statistic rejected the hypothesis that the average acquisition was the same in all instrumental skills. Therefore, we can conclude that the average acquisition was statistically different.

The skills considered by the students as the least acquired from the TP were "oral and written communication in the student's native language" (C5) and "Information management skills (ability

to retrieve and analyze information from different sources)" (C8). It was observed that skill C5 was clearly lower than the others, indicating that the TP did not strengthen the skill. As a Likert scale from 1 to 6 was used for assessment in the questionnaire, the rating achieved by skill C5 of 3.39 was very low. In addition, there was discrepancy amongst the students (the dispersion is 1.57). This result surprised the professors involved in the TP. Given that the students gave a presentation of their project before a panel of experts at the end of the TP, they expected a higher assessment. C8 was also poorly rated in comparison to the other skills. Although the final project required the ability to retrieve and analyze information from different sources, students did not perceive a special contribution to achieving this skill. It is likely that they compared the acquisition of the skill during the TP with modules in their own degrees.

On the other hand, the instrumental skills that were most highly acquired from the TP, in the opinion of students, were "Decision-making" (C10) and "Capacity for organization and planning" (C2). These skills, with average scores of 4.46 and 4.43 respectively indicate that they were acquired substantially in the TP. This result is in line with [21], who detected that "leadership" and "taking responsibility and decisions" are the two skills acquired by entrepreneurs after graduation that enable a distinction between entrepreneurs and other graduates. Additionally, [21] found that the most required skills in entrepreneurship (according to their entrepreneur's survey) were "working independently", "taking responsibility and decisions" and "problem-solving ability". These authors consider that C10 can be considered as an entrepreneurial skill, which justifies its high assessment after the TP. For the same reason, the high rating achieved by the "problem solving" skill (C9) in the TP can be justified, which holds third place in the list of required competencies according to [21]. Along the same lines, the "capacity for organization and planning" (C2) was also highly achieved. [21] showed that "planning, coordinating and organizing" is a highly relevant competence for entrepreneurs, however for the self-employed it is not so important.

Table 3 also shows the average degree of acquisition of each skill as rated by the students, according to different criteria: gender (Panel b), age (c), academic grade (d), experience in the labour market (e) and prior experience in entrepreneurship (f). We also included a statistic (with its p-value) to test the equality of the averages of the groups of students classified according to each of these criteria. In no case was the hypothesis of average equality rejected, which means that the average acquisition of the skill in the TP did not vary when the students were classified according to the different criteria.

3.3. Generic interpersonal and systemic skills

Table 4 shows the descriptive statistics of the acquisition of generic interpersonal and systemic skills from the TP. As in the previous section, the ANOVA statistic rejects the null hypothesis that the average acquisition is the same in all systemic skills (C19, C21, C27 and C28), thus indicating that the average acquisition was statistically different.

Table 4. Descriptive statistics of the acquisition of generic interpersonal and systemic skills from the TP						
	C12	**C19**	**C21**	**C27**	**C28**	**C30**
Panel a) Descriptive statistics						
Average	4.663	4.443	4.533	4.528	5.009	4.906
Median	5	5	5	5	5	5
Standard deviation	1.359	0.947	1.127	1.148	1.028	1.183
Panel b) Average equality test according to student gender						
Men	4.579	4.475	4.517	4.525	5.017	5.000
Women	4.773	4.404	4.553	4.532	5.000	4.787
T statistic (p-value)	(0.480)	(0.706)	(0.872)	(0.977)	(0.933)	(0.390)
Panel c) Average equality test according to student age						
Students over 25	4	4.611	4.889	4.333	5.167	4.889
Students under 25	4.788	4.409	4.460	4.568	4.977	4.960
T statistic (p-value)	(0.033)*	(0.412)	(0.142)	(0.432)	(0.479)	(0.861)
Panel d) Average equality test according to overall student grade						
Good/outstanding	4.825	4.444	4.540	4.460	4.968	4.973
Pass	4.395	4.442	4.524	4.628	5.070	4.758
T statistic (p-value)	(0.123)	(0.989)	(0.944)	(0.463)	(0.620)	(0.389)
Panel e) Average equality test according to previous experience in the labour market or not						
Yes	4.662	4.425	4.507	4.479	5.014	4.971
No	4.667	4.485	4.594	4.636	5.000	4.789
T statistic (p-value)	(0.987)	(0.764)	(0.718)	(0.517)	(0.950)	(0.453)
Panel f) Average equality test according to previous student contact with entrepreneurship or not						
Yes	4.667	4.471	4.478	4.544	5.103	5.278
No	4.571	4.395	4.632	4.500	4.842	4.830
T statistic (p-value)	(0.974)	(0.695)	(0.504)	(0.851)	(0.212)	(0.144)

Note: See note in Table 3.

Firstly, it is important to point out that the average acquisition of interpersonal and systemic skills was higher than instrumental skills. This result was expected, given the rapid consensus obtained in focal group techniques that these skills were potentially acquirable.

Secondly, as expected, the systemic skill of "initiative and entrepreneurial spirit" (C28) obtained a high average assessment, indicating that the TP substantially contributed to acquiring this skill. In addition, it was the generic skill that reached the highest degree of acquisition according to the students. Given the close link between skill C28 and the overall objective of the TP, this result was expected. It is followed by the "will to succeed" (C30), which obtained a high average assessment, thus indicating that the TP substantially contributed to achieving the skill. It should be observed that certain authors [63] consider C30 to be an entrepreneurial skill. The meta-analysis of [66] finds that "achievement motivation" was significantly correlated with both the choice of an entrepreneurial career and entrepreneurial performance.

Thirdly, the remaining (interpersonal and systemic) skills in Table 4 show very similar averages. The ANOVA statistic does not reject the null hypothesis that the average acquisition is the same in skills C12, C19, C21 and C27, thus indicating that their average assessment was statistically equal. Therefore, according to the students, the TP contributed equally to achieving "teamwork" skills, the "capacity for applying knowledge in practice" and the "capacity to learn".

Finally, a test was carried out to determine the existence of differences in terms of average acquisition of skills when the students were classified according to gender, age, overall academic grade and whether they had previous experience in the labour market or entrepreneurship. The empirical evidence showed that there were no differences in any of the interpersonal and systemic skills (as in instrumental skills), except for interpersonal skill C12. Panel c) shows that the t-statistic rejects the hypothesis of average equality of the "teamwork" skill (C12) in students over the age of 25, in relation to those under 25, which indicates that the students under 25 perceived higher acquisition of this skill after taking part in the TP.

3.4. Entrepreneurial skills

Table 5 analyzes the acquisition of entrepreneurial skills defined by [41]. Panel a) shows that the average acquisition of entrepreneurial skills, in the opinion of the students, was around 4.5 out of 6. The ANOVA statistic shows that the average acquisition of these skills was statistically different. Nevertheless, when we exclude the "risk-taking ability" skill (E4), the ANOVA statistic indicates, according to the students, that the acquisition of the skills "need for achievement" (E1), "desire for autonomy" (E2), "creativity and opportunism" (E3) and "locus of control" (E5) resulting from the TP was statistically equal. The skill "risk-taking ability", which was attained to a lesser extent in the TP is one of the skills identified by [45] as those that set entrepreneurs apart from small business owners in the hospitality industry (in addition to independence, ambiguity tolerance and leadership).

Table 5. Descriptive statistics of the acquisition of entrepreneurial skills from the TP					
	E1	**E2**	**E3**	**E4**	**E5**
Panel a) Descriptive statistics					
Average	4.610	4.462	4.619	4.212	4.429
Median	5	5	5	4	4
Standard deviation	1.114	1.034	1.113	1.030	1.099
Panel b) Average equality test according to student gender					
Men	4.729	4.576	4.712	4.345	4.610
Women	4.457	4.319	4.500	4.043	4.196
T statistic (p-value)	(0.216)	(0.205)	(0.335)	(0.139)	(0.055)*
Panel c) Average equality test according to student age					
Students over 25	4.889	4.889	4.833	4.611	4.778
Students under 25	4.552	4.375	4.575	4.128	4.356
T statistic (p-value)	(0.244)	(0.054)*	(0.372)	(0.070)*	(0.140)
Panel d) Average equality test according to overall student grade					
Good or outstanding	4.492	4.365	4.540	4.048	4.317
Pass	4.786	4.605	4.738	4.463	4.595
T statistic (p-value)	(0.187)	(0.244)	(0.373)	(0.044)*	(0.206)
Panel e) Average equality test according to previous experience in the labour market or not					
Yes	4.644	4.534	4.685	4.139	4.397
No	4.531	4.303	4.469	4.375	4.500
T statistic (p-value)	(0.636)	(0.289)	(0.362)	(0.283)	(0.662)
Panel f) Average equality test according to previous student contact with entrepreneurship or not					
Yes	4.597	4.485	4.532	4.299	4.612
No	4.632	4.421	4.684	4.054	4.105
T statistic (p-value)	(0.879)	(0.761)	(0.654)	(0.249)	(0.023)*

Note: See note in Table 3.

Notice that in spite of the objective of the TP, the acquisition of these skills linked to entrepreneurship was similar to interpersonal and systemic skills. In fact, if we eliminate skills E4 (lowest score in entrepreneurial skills) and C28 (the highest rated systemic skill), the ANOVA test indicates that the assessment of the rest (C12, C19, C21, C27, E1, E2, E3 and E5) was statistically equal.

Table 5 also shows the average acquisition of each of these skills when classified by students. In this case, unlike what occurred with the generic skills, the average levels of acquisition of entrepreneurial skills were shown to be statistically different for certain classifications of students. In particular, the t-statistic rejects the hypothesis of equality of the average acquisition of skill E4 by students with a pass grade in relation to those with a good or outstanding grade. This indicates that students with a pass grade consider that the TP contributed more to acquiring "risk-taking ability" than students with a higher grade (Panel d). It can also be observed in Panel c) that students over the age of 25 perceived a higher average acquisition of this skill after taking part in the TP. It is important to recall that this is the skill that, according to the general opinion, was least achieved by the TP. It is

therefore an entrepreneurial skill with a lower acquisition, on which the opinions of acquisition differ according to the classification.

The same result was observed in skill (E2) "desire of autonomy" in relation to student age (Panel c). Again, the students over the age of 25 had higher levels of average acquisition of E2 after taking part in the TP, as indicated by the t statistic.

Additionally, men showed a higher average acquisition of "locus of control" (E5) after taking part in the TP than women (Panel b), and students with previous contact with entrepreneurship (either directly or indirectly) had higher levels of average acquisition of E5 than those with contact with entrepreneurship for the first time in the TP.

Our results (except for the "locus of control" skill) are in line with [30] who found a non-significant different relationship between entrepreneurship education and entrepreneurial intention, in relation to gender or a entrepreneurial family background and with [64] who found that students' age and their general level of entrepreneurship-related knowledge influence the gaps in knowledge and competencies.

3.5. Reliability analysis

Finally, the objective was to check whether the assessment of the acquisition of skills by the students was reliable. We therefore studied whether successive assessments (throughout the survey) made by the students of the acquisition of skills coincided. The analysis was carried out on two specific skills, given that there are two that are generic and entrepreneurial at same time and were included in the questionnaire in their respective sections. Generic skill C23 coincided with the E3 entrepreneurial skill; and skill C26 with skill E2. [9] include them in their list of generic skills that should be the result of an educational process and [45] include them in the set of an entrepreneur's basic skills (Tables 1 and 2).

The students therefore assessed the same skill in two different sections of the survey with their respective names. Given that they are actually the same skill, if the assessment was reliable, the degree of correlation would be high. We therefore calculated two Pearson coefficients. The correlation coefficient between skills C23 and E3 was 0.7. For skills C26 and E2, the coefficient was also 0.7. This result shows a high degree of reliability in the assessment of the acquisition of skills by the students.

4. Discussion and Conclusion

The Sustainable Development Agenda considers that education should enhance the development of relevant skills for employment and entrepreneurship, especially at higher levels of education. Therefore HEIs have a relevant role to play in forming employable graduates who are capable of resolving complex problems in an uncertain environment and contribute to economic growth and sustainable development. This study analyzes the acquisition of entrepreneurial skills and employability transversal competencies (university graduates) resulting from a TP, which was designed as an entrepreneurship education programme with the purpose of providing students with entrepreneurial skills, [39, 41, 43] and specific skills referred to in the literature as transversal or generic [4-11]. The students enrolled in the programme acquired both competencies within the framework of this programme, which ended with the preparation of business plans in groups under the supervision of a lecturer or consultant. The best projects received a prize and were presented to

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potential investors. At the end of the course, the students assessed their acquisition of skills by means of a questionnaire designed according to the Focal Group method.

The most relevant conclusions are: firstly, generic instrumental skills are acquired to a lesser degree than generic interpersonal and systemic skills. This result is most likely due to these skills being developed through many subjects in their respective degrees. Therefore, they perceived a lower acquisition from the TP in relative terms. In the group of generic instrumental skills, those that showed the highest degree of acquisition ("decision-making" and "capacity for organization and planning") could be defined as both generic and entrepreneurial skills, given that other authors conclude that they are required skills of entrepreneurs [21].

Secondly, the evidence shows that the acquisition of certain interpersonal and systemic generic skills is similar to that of entrepreneurial skills. Note that there are four skills in education that the literature defines as generic systemic skills, whereas they are defined as entrepreneurial skills in entrepreneurship literature. In fact, two skills were included simultaneously in both groups (generic and entrepreneurial skills) in the questionnaire and the duplicated assessment provided an indication of the reliability of the answers.

Thirdly, only entrepreneurial skills were acquired at different levels by different groups of students. Specifically, i) students with good or outstanding grades perceived lower acquisition of "risk-taking ability"; ii) students over the age of 25 perceived a higher degree of risk-taking ability" and "desire for autonomy"; iii) men showed a higher degree of acquisition of "locus of control" than women; and iv) students that had previous contact with entrepreneurship achieved a higher degree of acquisition of "locus of control" than those that came into contact with entrepreneurship for the first time in the TP. Note that acquiring these skills was the main objective of the students enrolled in the TP, since these abilities are not provided in the compulsory subjects in university degrees. In addition, certain factors, such as aversion to risk and student age could be behind the different perceptions of "risk-taking ability" by students over and under the age of 25. The fact that students that had contact with entrepreneurship prior to the TP perceived a higher average acquisition of the locus of control skill (ability to control results) could be because their previous level in this skill was higher than that of their colleagues.

Overall, this work provides new evidence for the positive effects of entrepreneurship education in a university programme combining training and traditional teaching methods and evaluates the program efficiency in terms of the acquisition of skills. The results are important, as this is the first investigation to analyze the efficiency of a TP from a dual perspective: the acquisition of entrepreneurial skills and generic transversal employability competencies by university graduates. The evidence shows that students acquire both types of skills simultaneously but at different levels. Our results indicate that some of the generic skills pursued in European University curricula (following the convergence process towards a common European Higher Education Area) may be considered as entrepreneurial skills or skills linked to entrepreneurship.

An important suggestion based on the evidence presented, given that education in entrepreneurship is more successful at a university level (European Commission, 2015) and that European university graduates have low levels of education in entrepreneurship (European Commission, 2008) would be to integrate entrepreneurship programmes into university curricula as compulsory subjects. This would fulfil a dual objective: acquisition of transversal generic competencies that all graduates should have, especially for their employability, and the acquisition

of basic entrepreneurial skills, which could help to generate positive environments aimed at promoting entrepreneurship in the EU.

The employability of graduates has been an important focus of the Bologna Process from the very beginning and continues to be so, as [65] points out. In 2015, the Yerevan Communiqué stated that fostering the employability of graduates during their working lives in quickly changing labour markets is a major goal for European Higher Education, and HEIs should strengthen agreements with companies in order to implement training programs with a good balance between theoretical and practical components, fostering the entrepreneurship skills of students in graduate career development.

Finally, [65] analyses the EHEA median of unemployment rates and shows that the higher the education level, the lower the unemployment. This result is also valid in Spain, but the decrease in the unemployment rate with high education is lower (the decrease is 23% at Graduate and 44% at Master-level, while the EHEA median decreases are 33% and 47% respectively). Maybe we could converge with the EHEA median fostering the entrepreneurship and innovation skills of students via TP in the university.

Funding: The Training Programme for developing employability competencies and entrepreneurial skills received funding from Obra Social La Caixa.

Acknowledgements: The authors want to thank the enrolled students for their collaboration in the training programme and in this study.

Conflicts of Interest: The authors declare no conflict of interest.

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