

International entrepreneurship: an approach for entrepreneurial skill development

Skill
development

Maria José Sousa

ISCTE-Instituto Universitario de Lisboa, Lisbon, Portugal

Ana Moreira

ISPA, Lisboa, Portugal;

*APPsyCI—Applied Psychology Research Center Capabilities & Inclusion,
ISPA—Instituto Universitário, Lisbon, Portugal and
Faculdade de Ciências e Tecnologia, Universidade Europeia, Lisboa, Portugal*

João Leão

ISCTE-Instituto Universitario de Lisboa, Lisbon, Portugal

Miguel Sousa

Department of Economics, University of Essex, Colchester, UK

Paolo Pietro Biancone

Department of Management, University of Turin, Turin, Italy, and

Federico Lanzalonga

*Department of Management, University of Turin, Turin, Italy and
Społeczna Akademia Nauk - University of Social Science, Łódź, Poland*

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Abstract

Purpose – The research aims to investigate the changing skills required for international entrepreneurship (IE) and the awareness of these skills among students and professionals in four European countries. The study intends to investigate students' and professionals' perceptions of entrepreneurial skills and the potential for educational programs to improve their awareness of these skills.

Design/methodology/approach – This quantitative cross-sectional analysis uses an online questionnaire to collect data from 75 university students and 75 entrepreneurs in four European countries. Several tests validate the data, and Cronbach's alpha succeeded in measuring internal consistency. The results showed differences in the perception of skills between students and entrepreneurs.

Findings – Entrepreneurs had developed all competencies except access to finance, while students had lower perceptions of their skills, except for collaboration. Students needed to improve significantly in access to finance, business planning, financial skills, knowledge of the labour market and digital marketing. Practitioners only required significant improvement in access to finance and digital marketing.

Practical implications – Education programs should fit the needs of different groups: a broader program for students and more specific courses on access to finance and digital marketing for practitioners.

Originality/value – The present research's original feature highlights the need to monitor and adapt to the constantly changing skills for IE and the importance of hard and soft skills. The paper provides insights into the subject's awareness and perceived standard, with reflections for policymakers and practitioners.

Keywords Entrepreneurship skills, Cross-sectional analysis, Education, Entrepreneurial skills awareness

Paper type Research article

1. Introduction

Skills for international entrepreneurship (IE) are constantly evolving, and it is necessary to explore approaches to skill development (Jafari-Sadeghi *et al.*, 2020). Recent exogenous factors have driven significant changes in the international environment (Zahra, 2021). Consequently, the skills required for international entrepreneurs have also changed. As a result, the changing environment has led entrepreneurs to enhance risk management skills,



seek new sources of innovation, utilize creativity tools and understand different market contexts (Wiklund and Shepherd, 2005). Furthermore, having the foresight to recognize opportunities and challenges is crucial in determining quality (Vecchiato and Roveda, 2014).

In summary, entrepreneurship is based on integrating hard and soft skills. Specifically, the cluster of soft skills includes behavioural skills for implementing and managing a company (Rainsbury *et al.*, 2002). Therefore, it is impossible to consider soft skills secondary to technical, business, financial, or marketing knowledge (Marin-Zapata *et al.*, 2022). Emphasizing interpersonal management and leadership skills that ensure project success is critical for international market development. Thus, an entrepreneur's skills enable success in business ventures and the identification of new international opportunities (Autio *et al.*, 2000; Nummela *et al.*, 2004). In other words, the international entrepreneur should have qualities and attributes that constitute individual characteristics (Roberts *et al.*, 2005, 2006) and the necessary technical and strategic knowledge and skills (Taylor *et al.*, 2005). Moreover, research and practice related to competencies are typically driven by the aspiration to achieve superior performance and the potential for financial gain or business success (Ryan *et al.*, 2012). Finally, in elaborating on the concept of competencies, some authors (e.g. Weinberger, 2014) have defined competencies as personal and organizational resources that contribute to business benefits in terms of productivity and competitiveness (Bergevoet and Woerkum, 2006).

Existing literature has focused on the competence acquired by educators in developing students' capabilities as business leaders and entrepreneurs (Bergevoet and Woerkum, 2006). Furthermore, competence represents something that a person working in a specific professional area should be able to achieve (Dainty *et al.*, 2003).

To the best of our knowledge, there is a lack of research that highlights the difference in awareness of entrepreneurial competencies between students and professionals who develop entrepreneurial skills. Knowledge and human capital are critical in promoting entrepreneurship (Martin *et al.*, 2013; Unger *et al.*, 2011). Additionally, industry transformations are leading to the development of new skills to enhance knowledge (de Bem Machado *et al.*, 2022; Massaro *et al.*, 2021). To succeed in their entrepreneurial endeavours, individuals must develop the necessary knowledge (Taylor *et al.*, 2005) and possess the qualities and attributes that constitute individual characteristics (Roberts *et al.*, 2005, 2006).

Therefore, the present research aims to answer the following research questions:

RQ1. What are entrepreneurs' perceptions of their skills?

RQ2. What is the potential for educational programs to improve students' awareness of their skills?

Since individuals' perceptions of their skills are crucial to entrepreneurial activity (Birdthistle *et al.*, 2016), the present research aims to measure the entrepreneurial skills awareness of 150 students and professionals from four European countries. The responses will be analysed using statistical techniques for data analysis. The research results will contribute to knowledge in the field of entrepreneurial skill development. First, it will highlight that field experience among entrepreneurs increases awareness of soft entrepreneurial skills. Conversely, students' lack of familiarity with soft skills will underscore the need for appropriate improvement programs (Birdthistle *et al.*, 2016; Boyles, 2012). Second, the results do not aim to measure the skill level but provide information about the subjects' awareness and perceived standards. Third, the research will offer valuable insights for policymakers and practitioners.

The paper is structured as follows: the literature review section follows the introduction; next, the method and results will be presented; finally, the discussion paragraphs and conclusion will provide a critical perspective on the results.

2. Literature review

2.1 Entrepreneurship

In the last few decades, entrepreneurship has become a very dynamic field of research (Wiklund *et al.*, 2011). The study of entrepreneurship has emerged from various approaches based on different academic traditions. This variance has led to diverse research work concerning methodologies and concepts, including differences in the exact meaning of entrepreneurship. According to Stevenson (1983), entrepreneurship can be defined as the process by which new organizations appear and are established. Similarly, entrepreneurship represents the study of the formation of new organizations (Klyver *et al.*, 2008; Spencer *et al.*, 2008; Dobrev and Barnett, 2005). In this approach, entrepreneurship focuses on emerging new firms or small businesses and high-growth firms. According to Shane and Venkataraman (2000), entrepreneurship is a process rather than an event: “The field of entrepreneurship is the scholarly examination of how, by whom and with what effects opportunities to create future goods and services are discovered, evaluated and exploited.” They argue that entrepreneurship does not necessarily require creating a new organization since it can occur within existing organizations. An emerging subfield of entrepreneurship, corporate entrepreneurship (Sharma and Chrisman, 1999) or intrapreneurship (Pinchot, 1985), examines how established organizations continuously search, discover and exploit new opportunities. These definitions of entrepreneurship shift the focus from early research that solely centred on the person who identifies and exploits opportunities towards a consensus that entrepreneurship depends on both options and individuals (Shane, 2012).

Entrepreneurship has proven to have a critical economic function. Indeed, entrepreneurship promotes job creation, innovation, technological progress and economic growth and contributes to developing cities, regions, or countries (Sadraei *et al.*, 2022; Birley, 1985; Zahra, 2005). According to Schumpeter (1942), the entrepreneur was the driving force behind innovation, on which economic development, growth and progress relied.

IE results from two strands of literature: international business research and entrepreneurship research (Rezaei *et al.*, 2020; McDougall and Oviatt, 2000). Initially, IE focused on studying the internationalization of newly established firms or firms that initially internationalize (Oviatt and McDougall, 1997). The definition of IE has since evolved into a broader concept. According to Oviatt and McDougall (2005), IE is discovering, implementing, evaluating and exploiting opportunities across national boundaries to create future goods and services. Although the definition of entrepreneurship builds on Shane and Venkataraman (2000), the concept has been adapted to the international context. IE exploration includes comparing national systems, cultures and entrepreneurial behaviour across national boundaries (Oviatt and McDougall, 2005). According to the authors, the comparison of entrepreneurial behaviour across multiple countries and cultures and thus IE, includes comparative entrepreneurship studies (Oviatt and McDougall, 2005). IE is also related to the entrepreneurship skills literature. According to Jafari Sadeghi *et al.* (2018), an entrepreneur’s education and skills are essential for IE. Moreover, Keupp and Gassmann (2009) argue that IE requires management skills.

Skills and human capital have promoted entrepreneurship (Martin *et al.*, 2013; Unger *et al.*, 2011). Human capital is critical for discovering and creating entrepreneurial opportunities (Jafari-Sadeghi *et al.*, 2021; Alvarez and Barney, 2007) and exploring new opportunities by obtaining financial resources (Bruns *et al.*, 2008).

2.2 Entrepreneurship skills

Regarding the evolution of the concept aligned with skills needs and development, entrepreneurship is a business that emphasizes innovation, risk-taking and competitiveness (Miller, 1983). According to Drucker (1985), innovation is a distinct function of entrepreneurship, whether in an existing business, a public institution, or a new venture started by an entrepreneur. It involves creating new resources capable of

generating wealth or enhancing the potential of existing resources. Reynolds (2004) defines entrepreneurship as identifying opportunities and starting new businesses. It plays a crucial role in economic growth, job creation, market expansion and the development of competencies.

In this context, an entrepreneur's profile is essential for defining a business idea and successfully implementing it. However, it is vital to recognize the possibility of developing entrepreneurial characteristics with the support of educational institutions, which should play a significant role from the early stages of development (Henry *et al.*, 2005; O'Connor, 2013; Paço *et al.*, 2016; Maritz and Brown, 2013, 2017). For instance, innovation can be taught to students at all levels of education, from elementary school to university, as it is critical for researching new market prospects or alternative product or service ideas (Kuratko, 2005; Hindle, 2007; Arasti *et al.*, 2012). Every entrepreneur or prospective entrepreneur needs skills in risk management, identifying new sources of innovation, utilizing creativity tools and understanding different market contexts (Lumpkin and Dess, 2001; Wiklund and Shepherd, 2005).

Entrepreneurship is built upon various skill sets, commonly known as hard and soft skills, which have been extensively studied in the literature. Soft competencies refer to the behavioural competencies an entrepreneur needs to implement and manage a business (Rainsbury *et al.*, 2002). James and James (2004) define soft skills as a person's collection of abilities. Scholars often categorize soft skills into three categories: interpersonal skills, social and personal skills and cognitive skills (Muzio *et al.*, 2007). Soft skills need to be developed to help entrepreneurs manage a successful business, emphasizing interpersonal management practices and leadership skills that ensure project success (Davis, 1993).

Regarding the concept of skills, several authors (Norris, 1991; Ellström, 1997; Mulder, 2000, 2001; Kuhn and Weinberger, 2005; Heckman and Kautz, 2012; Weinberger, 2014; Vasconcelos *et al.*, 2016) describe skills as a resource that benefits both individuals and organizations, leading to advantages in productivity and competitiveness. Vasconcelos *et al.* (2016) argue that the market has shifted from mass manufacturing to customization, focusing on quality, price and speed of delivery. In this context, skill development represents a strategic management tool for navigating the corporate landscape.

Due to these changes, many businesses face challenges such as the emergence of new customer segments, cultural diversity in the global market, market volatility, heightened customer expectations and the impact of the Internet on core business operations. The literature on entrepreneurship emphasizes the significance of both hard/technical skills and soft skills related to leadership, ethical principles, communication and adaptability to different work environments (Bell, 2009; Beckton, 2009; McIntosh, 2008). Entrepreneurship skills can enhance an entrepreneur's capacity for risk-taking, devising viable business strategies and capitalizing on available opportunities (Zepke and Leach, 2010; Syakir, 2009).

The literature review also distinguishes between entrepreneurial skills and personal characteristics crucial for entrepreneurial activity (Athayde, 2009; Birdthistle *et al.*, 2016; Boyles, 2012; Chell and Athayde, 2009; Galloway *et al.*, 2005; Geldhof *et al.*, 2015; Liñán, 2004, 2008; Liñán and Chen, 2009; Oosterbeek *et al.*, 2010). To succeed in entrepreneurial endeavours, individuals need the necessary knowledge and skills (Taylor *et al.*, 2005) and the personal qualities and attributes that constitute individual characteristics (Roberts *et al.*, 2005, 2006). This paper focuses on entrepreneurial skills derived from the literature analysis (Table 1).

The skills identified in Table 1 will be tested in a questionnaire applied to students of entrepreneurship and young entrepreneurs, and the results will be discussed in the following sections of this paper.

Opportunity identification	Athayde (2009),	Skill development
Opportunity creation	Birdthistle <i>et al.</i> (2016),	
Resource acquisition	Boyles (2012),	
Access to finance	Chell and Athayde	
Business planning	(2009),	
Running pilot business	Galloway <i>et al.</i> (2005),	
Technical skills	Geldhof <i>et al.</i> (2015),	
Business skills	Liñán (2004, 2008),	
Financial skills	Liñán and Chen (2009),	
Marketing skills	Oosterbeek <i>et al.</i>	
Management skills	(2010).	
Leadership skills		
Team working skills		
Collaborative skills		
Interpersonal skills		
Communication skills		
Networking skills		
Learning skills		
Problem-solving skills		
Development of new products and services skills		
Self-managed planning skills		
Self-regulation skills (goals selection, goals optimization, goals compensation, loss-based goals selection)		
Creative, critical and strategic thinking skills		
Knowledge of the labor market		
Source(s): Author's elaboration		

Table 1.
Entrepreneurship
skills emerged from the
literature review

3. Methodology

3.1 Procedure

The methodology employed in this study is quantitative, relying on empirical research and utilizing statistical techniques for data analysis (Cobianchi *et al.*, 2021). A questionnaire was designed and implemented using an online platform to facilitate the data collection (Dal Mas *et al.*, 2019). The study adopts a cross-sectional approach, gathering data from a specific sample at a particular time (Dal Mas *et al.*, 2020).

The questionnaire was administered to university students and young entrepreneurs in four European countries: France, Italy, Spain and Portugal. These countries were selected due to their similar economic characteristics, which can shed light on entrepreneurial skill development (Dal Mas and Paoloni, 2020). Including entrepreneurs from various sectors enhances the potential for generalizing the findings. Additionally, the economic challenges these nations face, such as recession and increasing unemployment rates, make exploring knowledge development particularly intriguing (Presch *et al.*, 2020). By comparing students and young entrepreneurs, valuable insights can be gained regarding the most effective approaches for improving skills awareness.

The sample size comprises 75 university students and 75 young entrepreneurs, resulting in 150 responses. The questionnaire comprises two parts: 1) the first part collects general information, including gender, age, level of education, course, city and country; and 2) the second part focuses on entrepreneurial skills, consisting of 27 items.

3.2 Tools

The questionnaire comprised items representing entrepreneurship competencies, such as “networking skills”. These items were classified on a 5-point Likert-type rating scale (from 1 “nothing” to 5 “much”). First, the participants (students and entrepreneurs) had to answer the

question, “Indicate how much you think you have each of them”, related to the 27 entrepreneurship skills. They then answered the question, “indicate how much you think it is necessary to improve each of them whether that you have them or not”, related to the 27 entrepreneurship skills.

Concerning internal consistency, a Cronbach’s alpha of 0.95 was obtained for the answers to the question “indicate how much you think you have each of them” and 0.98 for the answers to the question “indicate how much you think it is necessary to improve each of them whether that you have them or not”. Thus, they present good internal consistency (Hill and Hill, 2002).

3.3 Characterization of the sample

The sample of this study consists of 150 participants, of which 75 are students, and 75 are entrepreneurs. Among the students, 57 (76%) are female, and 18 (24%) are male, with an average age of 27.11 years (SD = 10.14). Regarding educational attainment, 30 (40%) have 12th grade, 22 (29.3%) are attending university, 18 (24%) have a bachelor’s degree and 5 (6.7%) have a master’s degree. Regarding the course, 8 (10.7%) are in the management area, 18 (24%) in the human resources management course, 7 (9.3%) in the hotel management course, 12 (16%) in the marketing and advertising course, 2 (2.7%) in the area of the socio-economic science and 28 (37.3%) in the design area (Table 2).

As for the entrepreneurs, 32 (42.7%) are female, and 43 (57.3%) are male, with an average age of 40.75 years (SD = 9.58). Concerning educational attainment, 10 (13.3%) have 12th grade, 41 (54.7%) have a bachelor’s degree and 24 (32%) have a master’s degree. Regarding the course, 21 (28%) are in management, 7 (9.3%) are human resource managers, 1(1.3%) work in marketing and publicity, 1 (1.3%) work in socio-economic sciences and 45 (60%) in design (Table 2).

3.4 Data analysis procedure

The data were imported into SPSS Statistics 28 software to be processed. The data analyses were conducted with a sample of university students (75) and young entrepreneurs (75). Furthermore, the analysis was also made using the total samples of university students and young entrepreneurs. Regarding the procedure for data analysis, a descriptive analysis was performed, and the total scores and the means for each item were calculated. Moreover, another type of analysis was made to compare the answers given to all items. Several non-parametric Wilcoxon tests were performed to compare the perception of the participants’

Table 2.
Sample descriptive statistics

Variable		Students		Entrepreneurs	
		Frequency	Percentage	Frequency	Percentage
Gender	Female	57	76%	32	42.7%
	Male	18	24%	43	57.3%
Education Level	12th grade	30	40%	10	13.3%
	University Attendance	22	29.3%	0	0%
	Bachelor’s degree	18	24%	41	54.7%
	Master’s Degree	5	6.7%	24	32%
Course	Management	8	10.7%	21	28%
	Human resource management	18	24%	7	9.3%
	Hospitality Management	7	9.3%	0	0%
	Marketing and Publicity	12	16%	1	1.3%
	Socio-Economic Sciences	2	2.7%	1	1.3%
	Design	28	37.3%	45	60%

Source(s): Author’s elaboration

skills with the need to develop them since the items under analysis are ordinal. We then tested for statistically significant differences between students and entrepreneurs regarding the skills they possess and the need to develop them. To this end, several non-parametric Mann-Whitney tests were performed. We also tested the internal consistency for each part of the questions about entrepreneurship skills by calculating Cronbach's alpha.

Skill
development

4. Results

4.1 Descriptive statistics of the variables under study

Initially, descriptive statistics of the variables under study were performed to understand the position of the answers given by the study participants, both students and entrepreneurs.

As can be seen, the answers given by entrepreneurs are all above the central point of this scale (3), except for access to finance (Figure 1). These results indicate that entrepreneurs

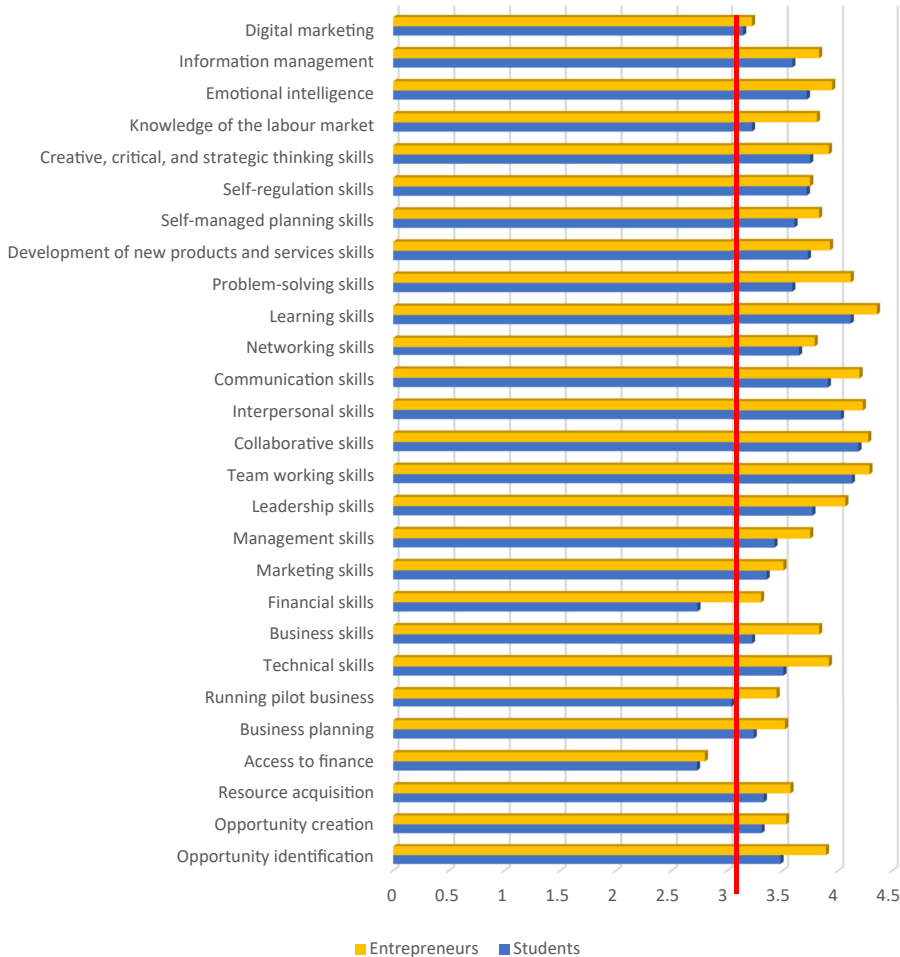


Figure 1.
Descriptive statistics of
the level of skills that
the participants
revealed to possess

Source(s): Authors work through SPSS

consider all other competencies to be sufficiently developed, with learning competencies being the most developed.

As far as students are concerned, the perception of their skills is lower than that of entrepreneurs, with financial skills and access to finance below the midpoint of the scale (3). Collaboration skills are the ones they perceive to have the highest.

When asked to what extent they need to develop some skills, the responses of both students and entrepreneurs are all slightly above the midpoint of the scale (Figure 2). The skill that entrepreneurs feel they most need to develop is access to finance; for students, it is business skills.

Several Wilcoxon tests were performed to test whether there are statistically significant differences between students' and professionals' competencies and those they should develop (Table 3).

It was found that for students, there are statistically significant differences between several competencies. They think they need to improve significantly: access to finance, business

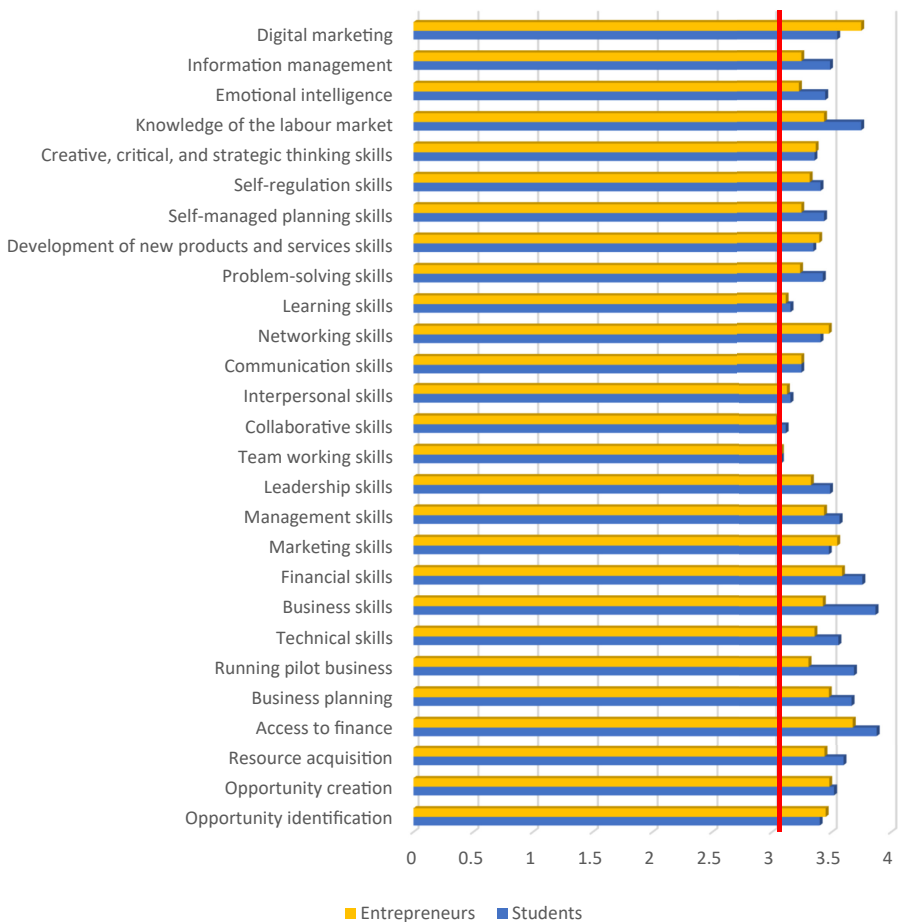


Figure 2.
Descriptive statistics of
skill
development needs

Source(s): Authors work through SPSS

Variable	Students ($N = 75$)					Entrepreneurs ($N = 75$)				
	It is necessary to improve					it is necessary to improve				
	Z	p	Mean	SD		Z	p	Mean	SD	
Opportunity identification	-0.61	0.542	3.5	0.84		-2.87**	0.004	3.9	0.004	3.5
Opportunity creation	1.01	0.314	3.3	0.82		-0.31	0.760	3.5	0.760	3.5
Resource acquisition	1.27	0.203	3.3	0.89		-0.97	0.334	3.6	0.90	3.4
Access to finance	4.83***	<0.001	2.7	0.98		3.93***	<0.001	2.98	1.00	3.7
Business planning	2.34*	0.019	3.2	0.88		-0.30	0.763	3.5	0.91	3.5
Running pilot business	3.72***	<0.001	3.0	0.88		-0.88	0.380	3.5	0.99	3.3
Technical skills	0.20	0.841	3.5	0.76		-3.06**	0.002	3.9	0.82	3.4
Business skills	3.28	0.001	3.2	1.01		-2.18*	0.029	3.8	0.84	3.4
Financial skills	4.53***	<0.001	2.7	1.00		1.23	0.217	3.3	1.00	3.6
Marketing skills	0.53	0.600	3.4	1.04		0.43	0.670	3.5	0.89	3.5
Management skills	0.80	0.427	3.4	0.77		-1.59	0.112	3.7	0.96	3.4
Leadership skills	1.94	0.053	3.8	0.78		-3.26**	0.001	4.1	0.93	3.3
Team working skills	5.29***	<0.001	4.1	0.76		-5.62***	<0.001	4.3	0.73	3.1
Collaborative skills	-5.51***	<0.001	4.2	0.67		-5.93***	<0.001	4.3	0.63	3.0
Interpersonal skills	-4.72***	<0.001	4.0	0.79		-5.17***	<0.001	4.2	0.65	3.1
Communication skills	-3.19**	0.001	3.9	0.92		-4.83***	<0.001	4.2	0.64	3.3
Networking skills	-1.70	0.089	3.7	0.83		-1.63	0.103	3.8	0.87	3.5
Learning skills	-5.14***	<0.001	4.1	0.75		-5.80***	<0.001	4.4	0.58	3.1
Problem-solving skills	-0.93	0.354	3.6	0.74		-4.93***	<0.001	4.1	0.61	3.2
Development of new products and services skills	-2.35*	0.019	3.7	0.74		-2.83**	0.005	3.9	0.81	3.4
Self-managed planning skills	-1.15	0.250	3.6	0.71		-3.35***	<0.001	3.8	0.83	3.3
Self-regulation skills	-1.71	0.088	3.7	0.81		-2.32*	0.020	3.7	0.86	3.3
Creative, critical and strategic thinking skills	-2.16*	0.031	3.7	0.86		-2.81**	0.005	3.9	0.83	3.4
Knowledge of the labor market	2.74**	0.006	3.2	0.83		-2.18*	0.029	3.8	0.80	3.4
Emotional intelligence	-1.85	0.065	3.7	0.88		-3.45***	<0.001	3.9	0.80	3.2
Information management	-0.78	0.434	3.6	0.84		-3.21***	0.001	3.8	0.70	3.3
Digital marketing	1.97*	0.048	3.1	1.02		2.52*	0.012	3.2	0.97	3.7

Note(s): * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Source(s): Authors work through SPSS

Table 3.
Results of the several
Wilcoxon Tests

Skill
development

planning, running the pilot business, financial skills, knowledge of the labour market and digital marketing. On the other hand, as far as the team working skills, collaborative skills, interpersonal skills, communication skills, learning skills, the development of new products and services skills, the creative, critical and strategic thinking skills, students feel they have significantly more skills than they need to improve them.

As far as professionals are concerned, they only think they need to develop access to finance and digital marketing significantly. Regarding opportunity identification, technical skills, business skills, leadership skills, the team working skills, collaborative skills, interpersonal skills, communication skills, learning skills, problem-solving skills, development of new products and services skills, self-managed planning skills, self-regulation skills, creative, critical and strategic thinking skills, the knowledge of the labour market, the emotional intelligence and the information management, professionals consider that they have these skills significantly more developed and do not consider that they have much need to develop them further.

We then tested whether the students' perceptions differed significantly from the entrepreneurs' regarding their skills and the need to develop them. To this end, several Mann-Whitney tests were performed (Table 4).

Students perceive that they have significantly fewer skills for detecting opportunities, running a pilot business, technical skills, business skills, financial skills, management skills, leadership skills, problem-solving skills and knowledge of the labour market than entrepreneurs. Concerning skill development needs, statistically significant differences were found only for running pilot businesses and business skills. Students perceived a greater need for these skills than entrepreneurs.

5. Contributions to policy and for management

We have seen in section 2 of the literature review that entrepreneurship activity is critically important for innovation, the emergence of new firms, employment creation and economic growth, while the literature on Corporate Entrepreneurship suggests that firms that encourage entrepreneurship activities are more innovative and have higher profits and growth (Urbano *et al.*, 2022).

Scholars agree that policies should promote entrepreneurship by addressing market failures resulting from informational asymmetries and externalities (Tuszynski and Stansel, 2018). Informational asymmetries can lead to adverse selection and discourage risk-taking. Positive externalities imply that entrepreneurs do not capture the full benefits of their decisions and hence need more incentives to enhance entrepreneurship.

In recent decades, countries, regions and firms across the world have addressed these market failures putting in place a large set of policies and measures to promote entrepreneurship in areas such as venture capital markets, commercialization, R&D, knowledge, training and skill-upgrading and clustering (Audretsch and Keilbach, 2007).

The literature review shows that education and training in entrepreneurship skills are vital tools to promote entrepreneurship in the economy and encourage more people to become entrepreneurs and start their businesses.

According to Arenius and Minniti (2005), Individuals' perception of their skills is fundamental for entrepreneurial activity. People who perceive themselves as possessing the necessary skills are almost 6.4 times more likely to be nascent entrepreneurs than those who do not believe in having the necessary skills. Confidence in one's skills is crucial to starting a new business (Koellinger *et al.*, 2007).

The findings from our questionnaire indicate that students perceive their skills to be lower than those of entrepreneurs. Moreover, students believe there are significant gaps between the entrepreneurship skills they possess and the skills they should develop across various

Variable	You have			It is necessary to improve			Entrepreneurs
	Z	p	Mean rank	Z	p	Mean rank	
Opportunity identification	3.47***	<0.001	64.21	0.21	0.832	74.77	76.23
Opportunity creation	1.67	0.095	70.03	-0.18	0.855	76.13	74.87
Resource acquisition	1.75	0.081	69.69	-1.08	0.278	79.19	71.81
Access to finance	0.48	0.630	73.88	-1.22	0.224	70.64	71.36
Business planning	1.71	0.087	69.84	-0.97	0.332	78.81	72.19
Running pilot business	2.60***	0.009	66.79	-1.98*	0.047	82.25	68.75
Technical skills	3.29***	<0.001	64.79	-1.02	0.306	79.00	72.00
Business skills	3.81***	<0.001	62.67	-2.45*	0.014	83.81	67.19
Financial skills	3.28***	0.001	64.40	-0.88	0.382	78.47	72.53
Marketing skills	0.81	0.419	72.79	0.40	0.690	74.15	76.85
Management skills	2.35*	0.019	67.69	-0.76	0.450	78.07	72.93
Leadership skills	2.68***	0.007	66.86	-0.72	0.471	77.97	73.03
Team working skills	1.48	0.139	70.88	0.03	0.978	75.41	75.59
Collaborative skills	0.79	0.430	73.05	-0.31	0.759	76.55	74.45
Interpersonal skills	1.52	0.128	70.72	-0.05	0.957	75.69	75.31
Communication skills	1.87	0.061	69.42	0.09	0.929	75.19	75.81
Networking skills	0.97	0.333	72.32	0.60	0.550	73.45	77.55
Learning skills	1.87	0.061	69.58	-0.26	0.793	76.40	74.60
Problem-solving skills	4.51***	<0.001	61.08	-1.02	0.310	78.98	72.02
Development of new products and services skills	1.53	0.127	70.55	0.42	0.677	74.07	76.93
Self-managed planning skills	1.82	0.069	69.69	-1.02	0.309	78.96	72.04
Self-regulation skills	0.09	0.929	75.21	-0.41	0.684	76.89	74.11
Creative, critical and strategic thinking skills	1.04	0.300	72.09	0.19	0.851	74.85	76.15
Knowledge of the labour market	4.29***	<0.001	61.27	-1.61	0.107	80.99	70.01
Emotional intelligence	1.52	0.129	70.51	-1.17	0.243	79.52	71.48
Information management	1.75	0.080	69.84	-1.27	0.205	79.84	71.16
Digital marketing	0.40	0.689	74.14	1.32	0.188	71.01	79.99

Note(s): * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$
Source(s): Authors work through SPSS

Table 4.
Results of the several
Mann–Whitney tests

Skill
development

competencies. In contrast, professionals generally believe they possess the necessary skills they require. However, they acknowledge a more limited set of entrepreneurship skills that they need to develop further, specifically related to access to finance and digital marketing.

Therefore, policies need to consider the specific target audience to promote entrepreneurship skills effectively. For students, policies should incorporate comprehensive education and training programs that cover a wide range of entrepreneurship competencies. Such programs are likely to be in demand among students and will enhance their skills and self-perception of those skills. In the case of professionals, when designing entrepreneurship training programs, firms and government agencies must acknowledge that the target audience already perceives themselves as possessing most of the necessary entrepreneurship competencies. Therefore, the training programs should be more focused and tailored to their specific needs, addressing a more limited set of competencies. Our survey suggests that professionals should prioritize the development of competencies related to access to finance and digital marketing. Our analyses and the related literature review focus on developing entrepreneurship skills. There is growing consensus on its importance in promoting entrepreneurship activity, innovation and economic development. Across the globe, many policies encourage people to become entrepreneurs, including various skills training and mentoring services (Hellmann and Thiele, 2019). Policies to promote entrepreneurship skills can include integrating entrepreneurship into the education system in order to develop entrepreneurial skills and entrepreneurship culture in the long run (Bosma *et al.*, 2022) or more specific training programs tailored to specific groups that encourage more people to identify and explore new opportunism and start their own business, as in the US, variety of training programs for entrepreneurs offered by the Small Business Administration (SBA).

6. Discussion and conclusions

The present research results significantly extend knowledge of the approach to entrepreneurial skill development. The sample under observation reveals suitable diversity in the population's features. Consequently, the findings can be assumed generalizable to increase knowledge in IE (Alqahtani *et al.*, 2022). Although entrepreneurship is defined as identifying opportunities and starting new businesses (Reynolds *et al.*, 2004), entrepreneurial characteristics can be developed through educational institutions (Henry *et al.*, 2005). For this reason, studying characteristics and attitudes in two clusters allows us to understand the evolutionary process of several skills. Traditionally, entrepreneurial skills are conceived as soft or hard (Leroux and Lafleur, 1995). Regardless of the relevant literature, soft skills represent the roster of interpersonal, social and cognitive skills developed to help entrepreneurs run a successful business as interpersonal management practices and leadership skills (Weber *et al.*, 2009).

In this sense, the results show that entrepreneurs' field experience increases awareness of soft entrepreneurial skills. Therefore, this phenomenon is ascribed to traditional support for the topic in the literature. The first argues that higher education should teach students the three soft skills needed to become successful entrepreneurs (Tem *et al.*, 2020). Therefore, a lack of familiarity with soft skills highlights a need for appropriate programs to enhance problem-solving, creative, critical and strategic thinking skills, emotional intelligence and information management (Birdthistle *et al.*, 2016; Boyles, 2012). The second motivation stems from the assumption that the results are derived from self-assessments. Therefore, they do not measure skill level through a test but measure the observed subject's awareness of having or needing to implement. Soft entrepreneurial skills are most easily acquired through growth in the field. The results emphasize the importance of considering skills testing as a critical determinant in increasing skills and awareness (Schulz, 2008). A more balanced relationship

between students can be observed from the perceived higher collaboration skills. Hence, working in teams is a skill that can be developed in the educational pathway and ensures effective results in the early stages of careers (Bridgstock, 2009).

On the other hand, access to finance, business planning, pilot business management, financial skills, labour market knowledge and digital marketing are skills that students need to improve. Although educational programs should provide hard skills for students (Patacsil and Tablatin, 2017), more awareness is necessary to highlight the gap between what educators deliver and what students learn. Therefore, hard skills alone in the educational process cannot be considered accomplished but require practical deepening to achieve consciousness (Nonaka and Johansson, 1985). However, access to finance and digital marketing skills professionals need to improve. The results highlight a gap in these hard skills to be considered in developing school-level educational strategies and strengthening professional skills.

7. Limitations and future research

The limitations of this research study should be addressed. Firstly, a small sample size was chosen for this research (Secinaro *et al.*, 2022). Future studies may examine a more extensive and diverse sample to generalize and extrapolate the findings to different circumstances.

Another drawback is the inability to collect additional data using qualitative techniques, such as interviews, to fully cross-validate the list of skills perceived by entrepreneurs and students. Consequently, only quantitative data could be collected.

Future empirical research is needed to determine the significance and scope of the identified gaps. Additionally, an intriguing study area would involve identifying and examining the skill development processes employed by businesses and universities. This research could contribute to developing a model of entrepreneurial capabilities that can be implemented in higher education, aligning curricula more effectively with market demands. Furthermore, there is potential for developing a typology of skills that facilitates the construction of an educational content framework for skill development, representing a related avenue for future research.

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Corresponding author

Federico Lanzalonga can be contacted at: federico.lanzalonga@unito.it

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