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A REVIEW OF ENTREPRENEURSHIP EDUCATION RESEARCH AND PRACTICE

UNA REVISIÓN DE LA INVESTIGACIÓN Y LA PRÁCTICA DE LA EDUCACIÓN EMPRENDEDORA

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ABSTRACT

Entrepreneurship has increasingly captured policymaker's attention due to the need to promote economic development and job creation. Among the drivers of entrepreneurship, entrepreneurial education is of particular significance. This paper reviews entrepreneurship education from a research and practice perspective. Firstly, a discussion is held as to whether entrepreneurial talent is born or bred. Secondly, the different approaches to entrepreneurship education are revised, specifying their distinctive characteristics. This is followed by a review of research on the potential of entrepreneurship education to awaken individuals' entrepreneurial intentions. Finally, a series of practical considerations aimed at improving entrepreneurship education programs are proposed. Ultimately, this paper contextualizes entrepreneurship education, advocating its relevance in the promotion of entrepreneurial activity.

KEYWORDS

entrepreneurship education, entrepreneurial skills, entrepreneurial competencies, entrepreneurial intentions, entrepreneurship

RESUMEN

El emprendimiento ha acaparado cada vez más la atención del legislador debido a la necesidad de promover el desarrollo económico y la creación de empleo. Entre los factores que impulsan el emprendimiento, la educación emprendedora reviste especial importancia. Este artículo aborda la educación emprendedora desde la perspectiva de la investigación y la práctica. En primer lugar, se discute si el talento emprendedor nace o se cultiva. En segundo lugar, se revisan los diferentes enfoques de la educación emprendedora, especificando sus características distintivas. A continuación, se examina la investigación en torno al potencial de la educación emprendedora a la hora de despertar las intenciones emprendedoras de los individuos. Por último, se proponen una serie de consideraciones prácticas destinadas a mejorar los programas de educación emprendedora. En última instancia, este artículo contextualiza la educación emprendedora, defendiendo su relevancia en la promoción de la actividad emprendedora.

PALABRAS CLAVE

educación emprendedora, habilidades emprendedoras, competencias emprendedoras, intenciones emprendedoras, emprendimiento

INTRODUCTION

In a world beset by major economic, social and environmental challenges, entrepreneurship has been positioning itself at a rapid pace as a major force for economic development (Stam & Van Stel, 2011). This is why countries have been developing numerous policies to promote entrepreneurship across the globe (Von Graevenitz, Harhoff, & Weber, 2010). In this quest for actions encouraging entrepreneurship, a popular belief that entrepreneurs are born and not made stands in the collective imagination. Research seems to agree that a number of

psychological factors characterize an entrepreneur. According to López-Núñez et al. (2020), potential entrepreneurs share an extraverted, conscientious, open, emotionally intelligent, self-confident and tolerant to ambiguity psychological profile. Despite such inherent psychological predisposition to entrepreneurship, the institutional, social capital and human capital aspects, among others, have emerged as important pillars in the construction of a favorable climate for entrepreneurship to flourish. Indeed, many authors have identified a series of institutional, social and human aspects as key factors in the decision of individuals to become entrepreneurs (for example, see Bauernschuster, Falck, & Heblich, 2010; Qin & Kong, 2021; Sendra-Pons et al., 2021; Sendra-Pons, Comeig, & Mas-Tur, 2022).

According to North's (1990, 2010) institutional theory, there are a series of formal institutions, e.g. regulation or procedures, and informal institutions, e.g. culture or values, that define the "rules of the game" governing the promotion of entrepreneurship. This stream of research has explored in depth how formal and informal institutions constrain or promote business creation (Alvarez & Urbano, 2011; Aparicio, Urbano, & Audretsch, 2016). On the other hand, social capital theory, either from Bourdieu's (1986) or Coleman's (1990) viewpoint, refer to the "resources (…) linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (Bourdieu, 1986, p. 248) and "different entities (…) facilitat[ing] certain actions of individuals who are within the structure" (Coleman, 1990, p. 302). Finally, human capital theory advocates that individuals with higher levels of skills, knowledge, work experience, and other competencies result in superior performance —business or entrepreneurial performance—, than those with lower levels (Martin, McNally, & Kay, 2013; Ployhart & Moliterno, 2011). Human capital theory has been used extensively in entrepreneurship research, most notably in the last two decades, and has contributed to unraveling the significance of prior knowledge in entrepreneurial success (Ardichvili, Cardozo, & Ray, 2003; Marvel, Davis, & Sproul, 2016; Shane, 2000).

This editorial reviews the contribution of education, as a component of human capital, in promoting entrepreneurship. According to the 2021/2022 Global Entrepreneurship Monitor (GEM) report, "a graduate is more likely to be starting or running a new business in 77% of the participating economies" (GEM, 2022, p. 68). Formal entrepreneurship education, mainly delivered by universities and other higher education institutions, can thus be regarded as pivotal to enhancing entrepreneur's competencies through human capital development (Debarliev et al., 2022; Hahn et al., 2019; Martin, McNally, & Kay, 2013). The 2020-21 edition of the Global University Entrepreneurial Spirit Student's Survey (GUESSS) for Spain highlights how entrepreneurship education in universities is important to awaken entrepreneurial intentions. Data shows that around a fourth of the surveyed students have enrolled in a course on entrepreneurship ever, a number that rises to 36.7% for students prone to entrepreneurship and 39.9% for students who are already entrepreneurs (Ruiz-Navarro et al., 2021). However, data from the international GUESSS report show that only 6.8% of the respondents is attending a specific entrepreneurship program —11.8% of the direct intentionals, 12.3% of the nascent entrepreneurs (Sieger et al., 2021).

The paper is organized as follows: firstly, the discussion revolves around whether entrepreneurs are born or bred; secondly, entrepreneurship education and its different forms are conceptualized; thirdly, previous literature studying the

relationship between entrepreneurship education and entrepreneurial intention is reviewed; and, lastly, a series of practical guidelines for the design and implementation of entrepreneurship education programs is offered.

BORN OR BRED ENTREPRENEURS

The answer to whether entrepreneurs are born or bred has been widely debated in scientific research. To quote Scott Shane, Professor of Economics at Case Western Reserve University's Weatherhead School of Management, as he writes in his book "Born Entrepreneurs, Born Leaders: How your genes affect your work life" the answer is clear: "Research shows that part of the difference in the propensity to become an entrepreneur comes from our DNA" (Shane, 2010, p. 149). In fact, Shane (2010) notes that genetics, beyond age, income or race, explains about 40% of the variation in the tendency to own a business (37%) as well as the variation in the number of initiated businesses (42%).

Although it is not a matter of biologic determinism, i.e. human behavior is determined by their genes, the truth is that there seems to be an innate component in the likelihood of becoming an entrepreneur (Shane & Nicolaou, 2013; White et al., 2006, 2007). However, even though significant progress has been made in the study of why people become entrepreneurs, bringing together economics and psychology in multidisciplinary research, there are still questions remaining unanswered. The fact that empirical evidence has shown that genes could help explain what makes an individual be an entrepreneur has garnered both interest and skepticism. However, finding associations between entrepreneurship and genetic variants (i) would expand the knowledge linked to entrepreneurial behavior, (ii) could provide empirical support for constructs that to date have been self-reported, (iii) could ease interventions based on genetic predisposition, and (iv) could use data on genes to improve empirical models, allowing for a stronger statistical inference (Rietveld, Slob, & Thurik, 2021).

According to Hyytinen, Ilmakunnas, & Toivanen (2013) the influence of genetics on one's decision to become an entrepreneur is based on four aspects: (i) the genetic profile of a given individual affects the chemical mechanisms occurring in her/his brain, increasing her/his predisposition to engage in entrepreneurship by influencing, for example, risk perception; (ii) genetics help develop personality traits and, consequently, shape entrepreneurial propensity; (iii) genetics impact the ease of responding to environmental stimuli; and (iv) a number of genetic factors are behind an individual's self-selection into entrepreneurially oriented environments. Thus, the genetic contribution on areas such as risk taking, personality traits, or the recognition of business opportunities is relevant in the decision to become an entrepreneur.

However, some authors recognize that genetics is not the only factor behind an individual's decision to become an entrepreneur. For example, Zunino (2022) explains how the influence of genetic factors is reinforced in favorable institutional environments. In the same line, Kuechle (2019) states that the entrepreneurship phenotype depends to a large extent on the environment. Ultimately, despite a growing number of papers relating genetics to entrepreneurship, there is a vast number of other factors with a significant effect on one's decision to become an entrepreneur. This suggests the discussion about entrepreneurs being born or bred is an ongoing debate.

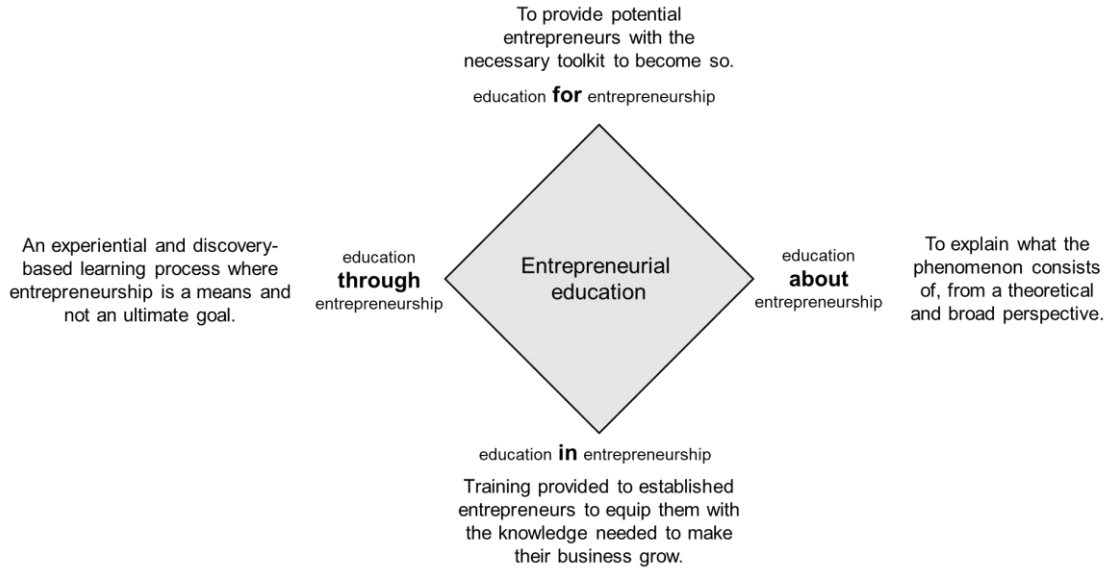
A JOURNEY THROUGH ENTREPRENEURSHIP EDUCATION

Yet in 1985, Peter F. Drucker demystified the claim that entrepreneurs are born and that education was therefore unimportant by asserting: “The entrepreneurial mystique? It’s not magic, it’s not mysterious, and it has nothing to do with the genes. It’s a discipline. And, like any discipline, it can be learned” (Drucker, 1985). In line with Drucker’s claim, entrepreneurship education is taught at most of the universities worldwide (Morris & Liguori, 2016). Entrepreneurship education (also referred as enterprise or entrepreneurial education) can be defined as “content, methods and activities supporting the creation of knowledge, competencies and experiences that make it possible for students to initiate and participate in entrepreneurial value creating processes” (Moberg, Stenberg, & Vestergaard, 2012, p. 14).

However, as explained by Lackéus (2015), a distinction must be made between educating *for*, *about* and *through* entrepreneurship (Gibb, 1999). An earlier categorization by Jamieson (1984) would also include education *in* entrepreneurship. The previously mentioned definition by Mober, Stenberg, & Vestergaard (2012) would best fit education *for* entrepreneurship, i.e., to provide potential entrepreneurs with the necessary toolkit to become so. Indeed, as explained by Henry, Hill, & Leitch (2005), it consists of teaching practical skills and drawing up a business plan. Alternatively, education *about* entrepreneurship would refer to merely explaining what the phenomenon consists of, from a theoretical and broad perspective. Instead, education *through* entrepreneurship would refer to an experiential and discovery-based learning process where entrepreneurship is a means and not an ultimate goal. Finally, education *in* entrepreneurship is related with training provided to established entrepreneurs to equip them with the knowledge needed to make their business grow (Henry, Hill, & Leitch, 2005; Jamieson, 1984).

Education *about*, *for* and *through* entrepreneurship can also be seen from an evolutionary perspective: in the 1980s, education *about* entrepreneurship would dominate; in the 1990s, education *for* entrepreneurship would be introduced; and, by the 2010s, education *through* entrepreneurship would be integrated according to Hägg & Gabrielsson (2019). Education *about* entrepreneurship entails cognitive learning, i.e. the processing of information received in the lectures. Although there are real efforts to move towards more experiential learning, this type of education seems to prevail in higher education. On the other hand, education *for* entrepreneurship implies running a business and learning through repetition. And, education *through* entrepreneurship is rooted on reflection as a pillar to a learning process where knowledge acquisition comes from “involvement learning” (Refai & Higgins, 2017).

Figure 1. Education *for*, *about*, *in*, and *through* entrepreneurship.



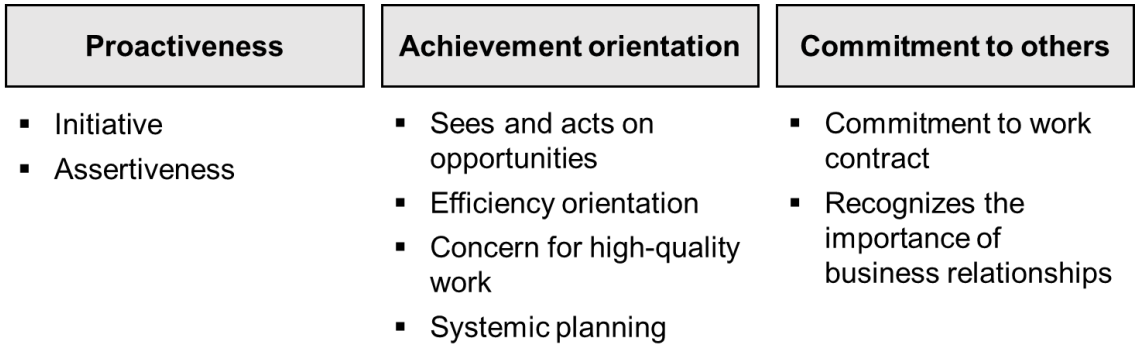
Source: Authors. Based on Jamieson (1984) and Gibb (1999).

ENTREPRENEURIAL SKILLS AND COMPETENCIES

Early work by Hisrich & Peters (1998) found that entrepreneurs require three sets of skills: (i) technical skills, e.g., communication and organization skills, (ii) business management skills, e.g., decision-making and accounting skills, and (iii) personal entrepreneurial skills, e.g. risk taking and innovation. As noted by Bauman & Lucy (2021), there is a need for young entrepreneurs to develop work ethic, communication and social skills, teamwork and courtesy as soft skills. According to Heckman & Kautz (2012), soft skills refer to "personality traits, goals, motivations, and preferences that are valued in the labor market, in school, and in many other domains" (p. 451). On the other side, hard skills are easily measurable abilities that can be cultivated over time. In terms of entrepreneurship education, knowledge on finance, accounting, marketing, economics and talent management, among others, could be regarded as hard skills.

Figure 2 shows a summary by Nieuwenhuizen (2009, p. 3-4) of the main competencies entrepreneurs should have according to McBer & Company (1986) and McClelland (1987). Competencies are grouped in three areas: (i) proactiveness, (ii) achievement orientation, and (iii) commitment to others. Firstly, proactiveness includes initiative, i.e. "[doing] things before being asked", and assertiveness, i.e. "confront[ing] problems with others directly". Secondly, achievement orientation includes seizing opportunities, efficiency, concern for high quality work, and systematic planning, i.e. "[breaking] a large task down into subtasks, or subgoals, anticipat[ing] obstacles, evaluat[ing] alternatives". Finally, commitment to others include both commitment to work contract and business relationships, i.e. being able to use interpersonal relationships as key resources for business development.

Figure 2. Main competencies for entrepreneurs



Source: McBer & Company (1986), McClelland (1987) and Nieuwenhuizen (2009).

In this context, experiential and discovery-based learning, an incremental process to acquire new experiences and social dynamics, seeks to build knowledge through "trial and error" beyond often not effective passive education mimicking "real life" experience scenarios (Higgins & Elliott, 2011; Sullivan, 2000). According to Haase and Lautenschläger (2011), the pedagogical effect on students can be enhanced by experiencing the intuitive dimensions of entrepreneurship and arousing greater motivation. The relevance of learning methodologies such as experiential education is ultimately derived from the need to promote entrepreneurial skills, at all educational levels, in a way that is practical and grounded in real-world experiences (European Commission, 2020).

ENTREPRENEURSHIP EDUCATION AND ENTREPRENEURIAL INTENTION

Some research on entrepreneurship education has focused on identifying its relationship with entrepreneurial intention, i.e., analyzing the process by which having entrepreneurship education would increase the intention of individuals to become entrepreneurs (Portillo, 2018). In this direction, Li & Wu (2019) reported that entrepreneurship education positively affected individuals' entrepreneurial self-efficacy and passion, finding team cooperation to play a moderating role in the relationship between entrepreneurship education and entrepreneurial self-efficacy and passion, respectively. Data were sourced from a survey responded by 221 undergraduate students.

In line with the above, Yang (2014) also found that entrepreneurship education greatly influenced the willingness to become an entrepreneur. A significant effect on generating entrepreneurial motivation and self-efficacy from entrepreneurship education was also reported. Bazkiaei et al. (2020) incorporated the big-five personality traits into the study, performing structural equation modeling (SEM) with survey data from 165 respondents. The role of universities as promoters of entrepreneurship was further supported by confirming that entrepreneurship education and big-five personality traits affect entrepreneurial intention through attitude development. Further delving into these findings, Yousaf et al. (2021) summarized how entrepreneurship education increases entrepreneurial skills among individuals (Bae et al., 2014), facilitating opportunity identification and also reducing risk aversion (Jones & English, 2004).

Alternatively, when creativity is introduced into the study of the relationship between entrepreneurship education and intention, recent research by Paliwal et al. (2022) found that despite there is no significant association between entrepreneurship education and creativity, the association between entrepreneurship education and entrepreneurship motivation and intention is significant. In short, research supporting a positive relationship between entrepreneurship education and entrepreneurial intention, i.e. startup creation, is overwhelming. This suggests the central role of higher education institutions not only in creating awareness of entrepreneurship as a career path but also in equipping students with entrepreneurial skills and knowledge, thus stimulating their entrepreneurial intentions.

However, although research in entrepreneurship education is developing rapidly and has demonstrated potential to foster innovation, recent meta-analyses (Carpenter & Wilson, 2022; De Sousa et al., 2022; Martínez-Gregorio, Badenes-Ribera, & Oliver, 2021) suggest a number of future lines of research needed to address the current limitations of this research area. According to Carpenter & Wilson (2022), research on entrepreneurship education is characterized by (i) the persistence of self-selection bias, (ii) an excessive reliance on surveys as a data collection technique, (iii) a vague reporting of interventions, and (iv) limited experimental progress.

In line with the above, Martínez-Gregorio, Badenes-Ribera, & Oliver (2021) claim that there is a need for (i) representative sampling, (ii) carefully describing interventions, (iii) incorporating validity and reliability tests, (iii) including pre- and post-test descriptive statistics both for intervention and control group, and (iv) exploring the intention-behavior gap. Authors also call for research reporting on the best practices in entrepreneurship education, as well as the most appropriate methodologies.

Finally, De Sousa et al. (2022) point out that research on entrepreneurship education is limited by sample demographics which, given the universal nature of entrepreneurship education, should be widened to provide insights on specific population groups. Authors also note the underuse of pre- and post-intervention measures. They also found the prevalence of the in-person format in the entrepreneurship education being studied, and the need to address online or blended entrepreneurship education in view of the emergence of new digital learning environments. On the other hand, the authors express concern about the low level of quality with respect to ethics and bias in the papers analyzed. Overall, recent meta-analyses (2021, 2022) seem to agree on the need to reconsider sample-related aspects (broadening subject selection criteria and avoiding biases) as well as the importance of adequately describing interventions, thus making it possible to replicate studies and better understand what lies behind particular results.

A CRITICAL VIEW OF TODAY'S ENTREPRENEURSHIP EDUCATION

The design and development of entrepreneurship education is not without its flaws. This section provides a series of practical guidelines that may contribute to a better experience in entrepreneurship education programs. First, *the aims behind entrepreneurship education must be clear*. Throughout this paper it has

become evident that it is not the same, and therefore the same objectives are not pursued, in education *for*, *about*, and *through* entrepreneurship. When designing education programs, academic authorities must define the training's overall objective and the specific milestones to be achieved —whether it is to provide entrepreneurs with the necessary skills for entrepreneurship (*for*), to raise awareness of the phenomenon (*about*) or whether it is more of a learning process with entrepreneurship as a means, and not an ultimate goal (*through*). This is directly related to Bauman and Lucy's (2021) recommendation to offer flexible and customized entrepreneurial training aligned with each training program's objectives. Accordingly, the first consideration is:

Entrepreneurship education must be preceded by an objective-based planning that defines a relevant and tailored content wise learning process.

Second, *although active learning methodologies are widely adopted in entrepreneurship education, they are not always suitable.* In andragogy —i.e. "the art and science of helping adults to learn" (see Knowles, 1980)—, mutuality between educators and learners is crucial. Indeed, several pedagogical models suggest the substitution of the passive acquisition of knowledge by a co-responsible learning process between educator and students in which the professor is a facilitator and not merely a transmitter of knowledge (Carvalho et al., 2020). This pedagogical approach is known as active learning. It involves a series of methodologies aimed at placing students at the heart of the learning process through self-reflection. These methodologies involve, for instance, (i) game-based learning, i.e. the use of games, often digital games, as means of achieving predefined learning goals (Plass, Homer, & Kinzer, 2015; Shaffer et al., 2005); (ii) role playing, i.e. a learning method that uses realistic situations that students must deal with according to a specific role shaping and constraining their action (Moreno-Guerrero et al., 2020); or, (ii) flipped classroom, i.e. a teaching model in which activities that have traditionally been performed in class become home activities while the latter become classroom activities (Akçayır & Akçayır, 2018). However, despite active learning methodologies enjoy widespread popularity among both professors and students, professors should carefully choose a teaching/learning methodology according to the intended purpose. Thus, the second consideration is:

Entrepreneurship education must be methodologically oriented to the intended purpose.

Third, *it is advisable to develop experiential and interactive education programs engaging individuals from different educational backgrounds.* Although, as mentioned earlier, not all types of entrepreneurship education have the same objectives, there is consensus on the benefits of making the learning process experiential. This means keeping a close relationship between what is taught and business reality, regularly bringing entrepreneurs into the classroom to learn not only from their achievements but also from their failures. In this sense, Fellnhofer (2017) found a significantly positive influence of entrepreneurial role models on entrepreneurial intention. Similarly, Abbasianchavari & Moritz (2021) summarize scientific evidence that supports the appropriateness of using role models in

entrepreneurship education as a means of encouraging entrepreneurship. From the foregoing, the third consideration is:

Entrepreneurship education should be experiential and interactive, besides benefiting from bringing together people with diverse educational backgrounds.

Finally, *it is popularly known that what is not measured, cannot be improved*. In a learning process it is fundamental to demonstrate students' progress, not only for the students themselves, whose motivation depends to a degree on the progress they experience, but also for the educational institution, which must be able to monitor performance and implement changes where appropriate. EntreComp is a framework launched in 2016 that educational institutions can adopt to monitor their students' progress in the acquisition of entrepreneurial competencies. This framework assesses three competency areas, i.e., "ideas and opportunities", "resources" and "into to action", which in turn include 15 sub-competencies. This tool incorporates different levels, ranging from basic to expert (Bacigalupo et al., 2016). Ultimately, measuring the impact entrepreneurship education has on students, e.g. through EntreComp, helps to identify potential improvement gaps while tracking progress. Consequently, the fourth consideration is:

The impact of entrepreneurship education on students must be monitored closely, paying particular attention to improvement opportunities.

While all four of the above considerations are of vital importance in improving entrepreneurship education, there are a number of significant issues, e.g. gender, the urban-rural gap, inclusivity or sustainability, that should be considered cross-sectionally when planning successful entrepreneurship education strategies.

CONCLUSIONS

The growing interest in entrepreneurship education due to its proven relevance in the promotion of entrepreneurial activity has led to a series of challenges in terms of both scientific research and practice. As entrepreneurship education becomes a strategic priority for nations seeking to promote economic development and job creation, rethinking its roots is becoming a pressing issue. This editorial aims to provide insights on entrepreneurship education, reviewing the scientific evidence and promoting practical guidelines with which to improve such education.

Among all aspects discussed, two issues stand out: (i) further research is needed on the very specific mechanisms through which entrepreneurship education contributes to the promotion of entrepreneurial activity across countries, in order to support evidence-based decision-making in this domain; (ii) educational institutions should conscientiously plan and design their entrepreneurship training programs, given the different existing approaches, in order to favor an objective-based, content relevant, experiential and interactive learning process by adopting appropriate methodologies and monitoring impact. The latter is central for educational institutions to convey meaningful

entrepreneurial expertise and to move towards a new educational model encouraging entrepreneurial attitudes.

However, this paper's relevance is limited and future research should address systematic literature reviews as well as empirical studies that help better understand the reality of entrepreneurship education, while always striving for the findings' practical implications.

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