

An application of training transfer literature to the analysis of training for entrepreneurship: A conceptual model

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ABSTRACT

Training programmes for entrepreneurship are considered to be a fundamental tool for generating new and better entrepreneurs to energise the business network and regional development. Literature reflects numerous doubts about how to design this type of programme, their effectiveness in generating entrepreneurs, and even the evaluation of the results. Therefore, there is a latent need to generate robust theoretical approaches that allow developing these programmes in a systematic way further that in turn, will lead to increasing their effectiveness. In this research, a theoretical model is proposed that identifies the inputs and outputs of the training transfer applied to the particular context of training programmes for entrepreneurship. The choice of the training transfer literature, as the backbone of the proposed theoretical model, is justified by the need for a behavioural change to take place in trainees that focuses on creating new companies. The proposed model serves as the basis for future empirical studies to maximise the utility of training programmes for entrepreneurship. This paper will be of interest to business schools, universities and educational institutions that provide training programs for entrepreneurship.

1. Introduction

Entrepreneurship plays a vital role in leading today's societies towards a more sustainable future (Belz & Binder, 2017). It is considered as one of the engines behind socio-economic development in advanced and emerging economies (Acs et al., 2018; Ahlstrom et al., 2018; Honjo, 2020; Mensmann & Frese, 2019) and one of the most significant aspects in recent economic history (Dvir et al., 2010). This is because the identification of opportunities inherent in the entrepreneurship process contributes to improving competitiveness, job creation and economic growth (Fritsch, 2008; Huggins et al., 2018; Kuckertz et al., 2020; Ratten & Usmanij, 2020). According to Kuratko (2005), entrepreneurship makes essential contributions to society since it enables the renewal of the economy and becomes the entry mechanism for new business owners.

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Given the close relationship between entrepreneurship and national, regional and local development in thriving economies, governments deploy systems of innovation and promotion of entrepreneurship of both an academic and professional nature (Huggins et al., 2018; Lucas et al., 2018). These systems include a wide variety of resources for the nurturing of new business initiatives (Ahlstrom et al., 2018), such as access to physical spaces and infrastructure (Huggins et al., 2018) or economic and fiscal incentives (Tuszynski & Stansel, 2018). Proof of such are the Hangar 51, HighWay or Start-up Europe programmes, which connect entrepreneurs, start-ups, investors, accelerators, professional networks and universities. Modern societies' interest in entrepreneurship has materialised in supportive policies endowed with hefty budget allocations, above which doubts on their profitability weigh heavy (Clarysse & Bruneel, 2007; Lucas et al., 2018; Martin et al., 2013). Within the entrepreneurship programmes developed at a national and regional level, an essential part to enhance innovative and entrepreneurial capacity is that related to education and training efforts (Anosike, 2018; Fritsch, 2008; Huggins et al., 2018; Liñán, 2008; Matlay, 2008; Mwasalwiba, 2010). The importance of educating and training entrepreneurs lies in that when they are well prepared, have a good knowledge base and the necessary skills, their projects have a higher quality and innovative capacity and, consequently, a more significant impact on the market and the region (Fritsch, 2008). In this sense, entrepreneurs who have received some type of training related to entrepreneurship are more satisfied with their innovative behaviour within their companies (Cruz et al., 2009). However, there is still a lack of deep and consensual understanding of how entrepreneurship education and training efforts contribute to generating more and better entrepreneurs (Martin et al., 2013). To this end, this paper focuses on the analysis of training for entrepreneurship, deployed within institutions such as accelerators or incubators. Thus, it differs from other research focused on education for entrepreneurship, carried out in the university context, specifically, regarding subjects in university undergraduate and graduate programs.

Due to the importance of training for entrepreneurship in national and regional agendas, it is worth studying their suitability in order to obtain maximum performance from these programmes. However, this task is not easy for various reasons: first, it must be borne in mind that entrepreneurship training takes place within specific and idiosyncratic contexts, with particular constraints, which make its success factors distant from those from other training programmes (Anosike, 2018; Kubberød et al., 2018; Mensmann & Frese, 2019). Thus, although they pursue the general objective of facilitating the conditions for trainees to start a company ultimately (Morselli, 2018), they are programmes that are framed, on many occasions, in very particular initiatives at the sector or technological level. Second, entrepreneurship training programmes are carried out at the initiative of institutions such as companies, vocational schools, secondary education institutes, chambers of commerce or economic promotion organisations. These institutions approach entrepreneurship based on their organisational mission, which means that the resources and structure designed to promote entrepreneurship have their own characteristics in each case (Manning, 2018). Lastly, the literature review on entrepreneurship training carried out by various authors reveals significant deficiencies in its rationale, as well as a need to further examine the research in order to build one robust theoretical framework that supports it (e.g. Hägg & Gabrielsson, 2019; Henry et al., 2005a). One of the first issues highlighted is that literature has focused mainly on the context of university education (Cruz et al., 2009; Galvão et al., 2018; Maritz & Brown, 2013). Besides, most of the research on entrepreneurship education and training has not been based on integrated theoretical frameworks but has focused only on partial views of the issue, which leads some authors to believe that the research has been scarcely based on the precedents and, therefore, has not been cumulative (e.g. Fiet, 2001b; Henry et al., 2005a; Mwasalwiba, 2010). Thus, it has been pointed out that there is no clear and widely used model for education and training related to entrepreneurship (e.g. Fiet, 2001b; Hägg & Schölin, 2018; Nabi et al., 2017; Toding & Venesaar, 2018). This situation leads to Hägg and Gabrielsson (2019) to conclude that entrepreneurship education and training suffers from low academic legitimacy. Perhaps this has been because in recent years entrepreneurship education and training has advanced very quickly without due critical review (Hägg & Schölin, 2018). Along these same lines, Nabi et al. (2017) consider that there is a growing demand to evaluate the programmes that promote entrepreneurship, which implies analysing the didactic methodologies and the impacts they produce.

The analysis of programmes for entrepreneurship, developed by accelerators, incubators, science parks, or innovation centres, have received less research attention, even though the motivations and backgrounds of their participants suggest the need for specially adapted training (Maritz & Brown, 2013). In general, it can be stated that training programmes for entrepreneurship (TPfE) pursue the development of entrepreneurial skills, attitudes and intentions within the individual, which allow him/her to generate and implement new business ideas (Al-Awlaqi et al., 2018; Anosike, 2018; Maresch et al., 2016; Mwasalwiba, 2010). Training for entrepreneurship will facilitate potential entrepreneurs to develop their entrepreneurial competence by completing a complex transformation process that requires personalised learning support (Kubberød et al., 2018). These programmes are in line with the entrepreneurship development programmes studied by Bechard and Toulouse (1998), conceptualised as a series of formalised teachings that train those interested in participating in the socio-economic development of their region through business creation projects. As a result of this training process, the entrepreneur can take risks and carry out a creative business project (Manning, 2018). TPfEs are considered non-academic training for adults, which do not lead to obtaining a specific qualification, and which seek to ensure that future entrepreneurs, with different personal, work and training profiles, end up bringing to life their entrepreneurial ideas. This type of training does not present a single approach for all attendees, but there is an essential degree of personalisation based on the pursued project and the profile of the entrepreneur. The results may be different for each attendee, and simple measurement of the knowledge acquired would not reflect the degree to which the programme has contributed to the actual development of the projects. It should be borne in mind that a TPfE is conceptually distanced from a course or subject on entrepreneurship since it has a broader concept, which includes a planned set of complementary activities (Souitaris et al., 2007). In this sense, the analysis of TPfEs is a complex task, since they present high variability in their categorisation, design and execution, and there is no clear consensus on how their efficacy should be evaluated (Henry et al., 2005a; 2005b). However, several authors consider that entrepreneurship training should pay greater attention to the putting into practice of what has been learned (e.g. Garavan & O'Cinneide, 1994). In this line, the attendee's performance becomes a measure of the programme's success (Anosike, 2018), as they should finally be able to start up their project (Garavan &

O' Cinneide, 1994).

For all of the above, it is considered appropriate to analyse training for entrepreneurship from the perspective of the consolidated literature on training transfer, which is part of the discipline of human resource development. This field of literature affects the application and use of the knowledge and skills learned during training in the real working environment of the trainee and studies the elements that contribute to the appearance of significant changes in their performance (Baldwin et al., 2017; Blume et al., 2010). Furthermore, according to Cheng and Ho (2001), this area of study enables cross-advances with other areas of knowledge to take place, which is why they suggest making research efforts that lead to an interdisciplinary understanding of training transfer, which is the approach this study takes. Also, the present study follows the suggestions of several authors (e.g. Baldwin et al., 2017; Blume et al., 2010) who emphasise that research on training transfer should focus more on the consumer of the training programme. This approach would allow a deeper knowledge of the influence of its various inputs (characteristics of the trainee, the trainer, the environment, and so on) on the intended outputs (learning, use of what has been learned, and so on).

To the best of the authors' knowledge, the available literature on training transfer has only superficially addressed entrepreneurship as a study context, and neither has the entrepreneurship literature analysed the issue of transfer in its training programs. Thus, the research objective is to propose a theoretical and integrative model that analyses the inputs and outputs of the training transfer in the context of TPfEs. To do this, training transfer literature is analysed in order to establish which aspects could be applied in the study of TPfEs. In addition, the literature on entrepreneurship, specifically on training in the field of entrepreneurship, is reviewed to identify those elements that can complement the contributions of training transfer literature.

In the following section, the entrepreneurial process is studied as a starting point to contextualise training needs and their analysis. Next, a review of the leading research papers that have consolidated the field of training transfer is made. Then, the inputs related to the trainee, training design, trainer, workplace environment and organisational environment are studied. Later, the training outputs are reviewed, adapting their study to the field of entrepreneurship. The main theoretical contributions of the proposed model are included in the discussion section. Finally, the brief conclusions section highlights certain aspects of the proposed model that could guide future research on the transfer of training in entrepreneurship training programs. Before proceeding with the rest of the document, it must be commented that the participant in the training programmes for entrepreneurship will be referred to interchangeably as "trainee" or "entrepreneur".

2. Training needs in the entrepreneurial process

The nature of entrepreneurship and the entrepreneurial process determine the design of training for entrepreneurship and the desired results. Thus, before analysing training for entrepreneurship from the perspective of training transfer models, it is necessary to explain the entrepreneurial process and its training needs. Entrepreneurship is a process that transforms an idea into a new product (McMullen & Dimov, 2013), a journey in time for the creation of new companies in order to exploit new market opportunities (Hitt et al., 2011). The entrepreneurial process can be considered a sequence of activities occurring over time (Hopp & Sonderegger, 2015), with a beginning and an end, in which actions are carried out to achieve objectives and results (McMullen & Dimov, 2013) and in which abstract ideas become tangible new products and companies (Selden & Fletcher, 2015).

The entrepreneurial process usually tends to be structured in three stages: stage one is for the identification or discovery of the opportunity; stage two to develop the solution and study its feasibility; and stage three for the preparation and presentation of a business plan (Huggins et al., 2018), which can be extended to commercialisation (Marion et al., 2015). Similarly, Hundt and Sternberg (2016) divide the process into three stages: pre-entry or evaluation of the business project; entry or launch of the company; and post-entry or start of operations. In this study, the entrepreneurial process is conceptualised with two states of the individual: entrepreneur and business owner, which evolve throughout the three stages of the project: Idea, Entrepreneurial Project and Company (see Fig. 1).

Thus, the entrepreneurial process begins with an idea derived from the identification of an opportunity that satisfies a need or allows a new use of resources (Belz & Binder, 2017; Hitt et al., 2011; McMullen & Dimov, 2013; Selden & Fletcher, 2015). Based on the idea, the entrepreneur studies the market and develops the product concept (Huggins et al., 2018) and makes the first designs (Marion et al., 2015). The initial idea progresses, and the business concept emerges (Belz & Binder, 2017). Once the entrepreneur has indications that there is business potential, the design must be worked on until completing the details of the project, demonstrating its viability (Huggins et al., 2018); the company is founded, and production begins (Belz & Binder, 2017; Marion et al., 2015). However, the events that marks the end of the entrepreneurial process may be the legal constitution of the new company, the first injection of capital by an investor, the first sales or the first positive cash-flows (Belz & Binder, 2017; Hopp & Sonderegger, 2015; McMullen & Dimov, 2013). Once the company is running, and the business operates regularly, the entrepreneur evolves into the business owner state (Dvir et al., 2010).

Once the entrepreneurial process is presented, it is possible to focus on the training needs that it requires, which differ according to the stage the project is at (Henry et al., 2005a). These training needs shape the main objective of the programme. Several authors

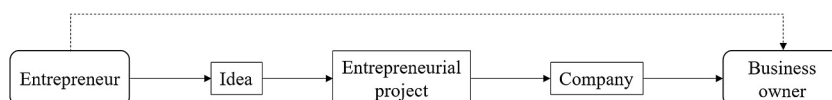


Fig. 1. Entrepreneurial process.

distinguish three types of training needs concerning entrepreneurship. First, training *about* entrepreneurship focused on theoretical content on the importance of creating an own company and an entrepreneurial culture. Second, training *for* entrepreneurship, which focuses on the acquisition of practical skills for the creation of a company. Finally, training *in* entrepreneurship, which highlights the importance of continuous training of the entrepreneurial character of the individual for growth of the existing company (e.g. Anosike, 2018; Henry et al., 2005b; Kirby, 2004; Matlay, 2008; Mwasalwiba, 2010). In this way, attending to the three types of needs described and the moment in which the entrepreneur finds him/herself during the entrepreneurial process, basic training can be identified similar to training about entrepreneurship; specific training which is more linked to training for entrepreneurship and, finally, continuous training, which is related to training in entrepreneurship (see Fig. 2).

It should be borne in mind that information is sought systematically during the entrepreneurial process, in order to integrate it and make the best use of it (McMullen & Dimov, 2013). Thus, knowledge and skills provide the entrepreneur with the necessary capacities to transform information into actions (Hopp & Sonderegger, 2015). From this perspective, in the proposed model, the entrepreneur begins the journey with knowledge acquired from his/her *basic training* and accumulated experience. Subsequently, the need arises to complete the initial training with *specific training* that develops his/her innovative potential and entrepreneurial knowledge, and that allows him/her to carry out an optimal design of the business project. Once the entrepreneurial activity is launched, *continuous training* will allow the entrepreneur to face scenarios that were not contemplated in the design of the business project. In this way, specific training and, later, continuous training, will give rise to entrepreneurial competence, understood as the set of skills and capacities that ensure success in entrepreneurship. This entrepreneurial competence provides the trainee with creativity, valuable communication skills, organisation and project management, action planning and risk-taking, as well as the knowledge necessary to consolidate a new company (Manning, 2018).

The TPfEs are closely linked to incubation and acceleration programmes. Incubation programmes are aimed at projects at an initial stage of development, with an extended duration (up to five years), which mostly combine an ad-hoc training programme with a lower level of tutoring. In turn, acceleration programmes are aimed at projects with a higher level of development that are led by promoter teams rather than by individual founders. Their duration is more adjusted (between 3 and 6 months), and they are normally accessed through a selection process. Furthermore, they combine a structured training programme with a high number of specific mentoring sessions and usually conclude with a final event, demo day or investor day (Cohen et al., 2019; Pauwels et al., 2016; Seet et al., 2018).

Thus, this study focuses on the specific training needs or training for entrepreneurship, whose satisfaction allows the entrepreneur to achieve the competencies and capacities necessary to tackle the development of the business idea until it becomes a viable business project that eventually derives in a business initiative.

3. The training transfer

The training process for entrepreneurship is a complex and interconnected process, in which success but also failure abounds (Gartner & Vesper, 1994). The academic legitimacy of these programmes could benefit from being analysed from the perspective of an appropriate and consolidated theoretical framework, such as the training transfer. To this end, the contributions of some of the most relevant studies that address training transfer antecedents and results are reviewed below.

The origins of studies on training transfer can be found in the studies of NOE (1986) and Baldwin and Ford (1988). However, the latter lay the foundations for the development of the area by generating a conceptual model that has served as a theoretical framework for numerous studies that have tried to validate it totally or partially. For Baldwin and Ford (1988), training transfer requires the generalisation and maintenance of the use of knowledge and skills learned during on-the-job training. Thus, generalisation refers to the integration of new knowledge that the trainee routinely makes in their workplace. The trainee must show the behaviours learned in response to contexts, people and situations that are not identical to those experienced during the training period (Ford & Weissbein, 1997; NOE & Colquitt, 2002). Furthermore, the condition of maintenance affects the dynamic nature of the training transfer, since it requires that the knowledge and skills continue to be used at work and give rise to the desired behaviours in a continued way (Baldwin & Ford, 1988; NOE & Colquitt, 2002). To these two conditions of training transfer, a third one, of adaptability has been added which refers to the degree to which the trainee adapts the received knowledge and skills to new situations or requirements (Ford & Weissbein, 1997; Kozlowski et al., 2001). The difference with generalisation is that it does not refer to the application of solutions or strategies to well-learned and familiar contexts. Due to the novelty of the situation faced, the knowledge and methods of training are not entirely appropriate and, they are used as a basis to generate new approaches and strategies (Ford & Weissbein, 1997). Laker (1990) explores the categorisation of these concepts and presents two dimensions. The first one, of temporal nature, distinguishes between the transfer

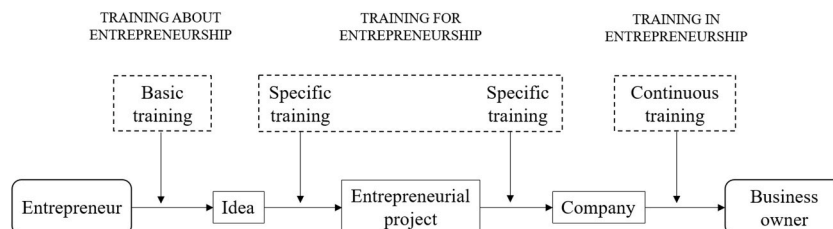


Fig. 2. Training needs in the entrepreneurial process.

initiation and its maintenance. The second one differentiates between a close transfer, that takes place in situations very similar to those of the training environment, and a distant transfer where the application of learning is carried out in very different situations from those in the training process. This same author suggests that commonly technical training programmes pursue a close transfer while a distant transfer is more present in programmes for managerial development and creative problem-solving. Thus, a distant transfer is essential in training aimed at long-term objectives and oriented to the professional future of the trainee, as would be the case of training for entrepreneurship.

On the other hand, the work of [Baldwin and Ford \(1988\)](#) outlines what elements can influence the achievement of the training transfer. They bond these elements into three different groups focused on training design, trainee characteristics and work environment. The training design includes elements related to the content and execution of the programme; the trainee characteristics study his/her personality, skills, knowledge and motivation; and finally, work environment characteristics include the influence of colleagues and superiors support, as well as the job opportunities and the resources available to the trainee to transfer what has been learned to the job. Based on this study, researchers in this area aim to explore further the study of the relationships proposed by [Baldwin and Ford \(1988\)](#), as well as to specify all those elements that make up the groups of variables that participate in the training transfer. Thus, one of the landmarks in this field is the work of [Holton et al. \(1997\)](#), who present an instrument for measuring the transfer climate, whose refinement gives rise to the Learning Transfer System Inventory ([Holton et al., 2000](#)). This instrument includes sixteen factors related to the training transfer. The first group of eleven factors is related to the training programme. It is specified in the following elements: Learner readiness, Motivation to transfer, Positive personal outcomes, Negative personal outcomes, Personal capacity for transfer, Peer Support, Supervisor Support, Supervisor Sanctions, Perceived content validity, Transfer design and Opportunity to use. The second group includes five factors related to general training in the organisation: Transfer effort-performance, Performance-outcomes, Openness to change, Performance self-efficacy and Feedback-performance coaching.

The literature review work carried out by [Cheng and Ho \(2001\)](#) identifies four phases of the transfer process (pretraining motivation, learning, training performance and transfer outcomes). For these phases, nine explanatory variables are identified. Two of these variables, locus of control and self-efficacy, are classified as individual variables. There are four motivational variables: career/job attitudes, organisational commitment, decision/reaction to training and post-training interventions. Within the variables of the environment are included the supports in the organisation (subordinates, colleagues, supervisors and senior management), the culture of continuous learning and task constraints. Finally, three dependent variables are identified: learning, training performance and transfer outcomes.

Later, [Burke and Hutchins \(2007\)](#) review the empirical supports given to the different elements that make up the main categories defined by [Baldwin and Ford \(1988\)](#). Concerning the trainee, they show significant support for issues such as cognitive ability, self-efficacy and motivation prior to training; while for motivation towards learning or transfer, they find little empirical support. The trainee personality also has elements with strong support, as in the case of the negative impact of anxiety or the positive impact of openness to experience; however, they recommend further exploring the study of scrupulousness, extraversion, or locus of control. Finally, there are empirical supports for the influence of the trainee's perception concerning the usefulness of the training, as well as its organisational commitment or degree of career planning. The second category referring to the design and execution of the training is considered that most in need of research for purposes of consolidation. In this sense, some studies confirm that the training transfer increases if there are learning objectives, if the content is perceived relevant to what the trainee has to do in the workplace, if the programmes include adequate practice and feedback, if behaviour modelling is included and if there is error-based training. However, there are many other elements whose empirical evidence needs to be reinforced, such as overlearning, active learning, or self-management strategies. Finally, the third category regarding to the influence of the working environment, the transfer climate, the support of superiors and colleagues and the opportunity of application has received ample support. In contrast, the strategic link between training and organisational objectives or the trainee sense of responsibility in applying what has been learned have yet to be consolidated.

Along the same lines, and subsequently, [Baldwin et al. \(2009\)](#) make a literature review focusing exclusively on the studies that between 1988 and 2008 had cited the seminal work of [Baldwin & Ford, 1988](#). These authors conclude that literature has refined the transfer models. However, they emphasise that the *transfer personalisation* must be addressed, since the trainee is ultimately who personalises the training process in order to adapt it to his/her own needs, transferring some knowledge and skills to his/her job and discarding others. They also highlight, among other issues, the need to observe the process of behavioural change in the trainee as non-linear and that can unfold during a period of adaptation to the new knowledge.

Recently, several authors have underlined the need for studies on training transfer to focus more on the consumer, deepening in the work context experienced by the trainees, both during and after training (e.g. [Baldwin et al., 2017](#); [Ford et al., 2018](#)). This line of research is subsequently followed by [Blume et al. \(2019\)](#), who emphasise that transfer behaviour is not only influenced by the individual and contextual conditions of each training programme but also affected by the results of the transfer attempts made. From this perspective, their study concludes that the training transfer is a dynamic process that feeds back on its development. In addition, [Ford et al. \(2018\)](#) consider that the future research agenda on training transfer has to show more accuracy in identifying the variables that influence it and interventions that enhance it. These authors also consider that future studies should advance in researching the transfer of training in the framework of contemporary training processes and focusing on the authentic contexts in which they occur.

4. Proposed model of training transfer applied to the entrepreneurial process

As previously mentioned, one of the most current lines of research in the study of training transfer affects putting the trainee at the forefront of the analysis, which implies knowing the trainees, the trainers and learning contexts better in each case ([Baldwin et al.,](#)

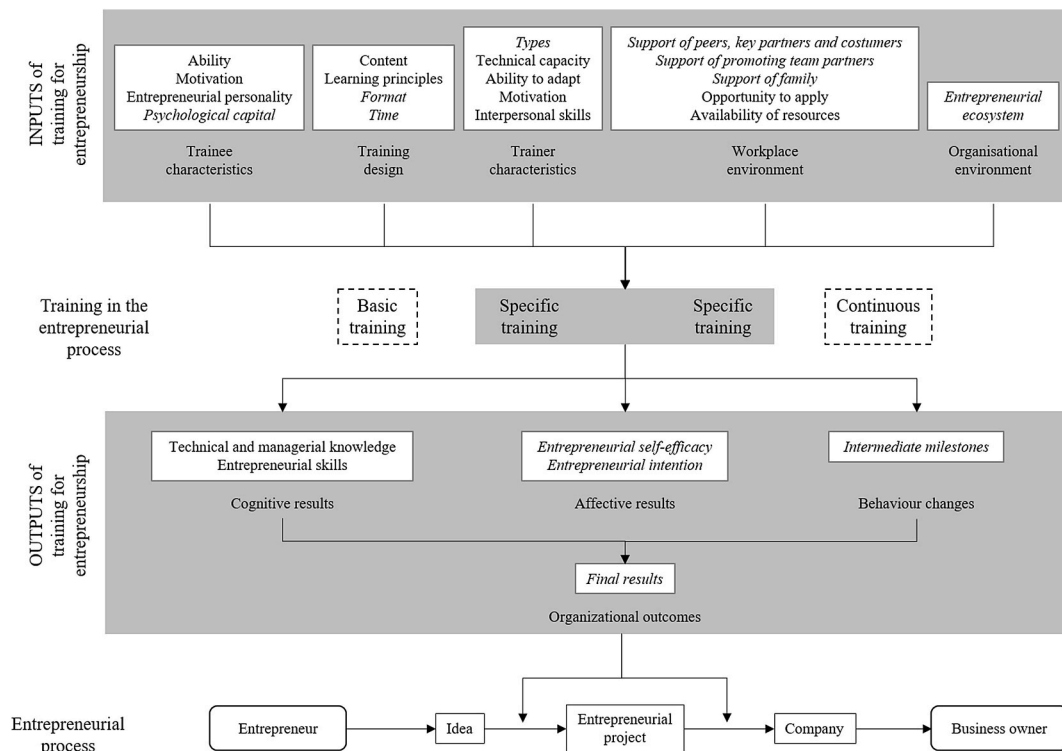
2017). Under this premise, this study analyses the applicability of training transfer models to the context of training for entrepreneurship. This objective involves reviewing the suitability of the training transfer inputs studied so far, adding elements derived from recent literature in this area, as well as others from the literature on training for entrepreneurship. This same scheme is used to study the applicability of well-established training transfer outcomes in order to adapt them to the training environment for entrepreneurship. As a result of this study, an integrative model is proposed in which the entrepreneurial process, the different types of training during this process and the inputs and outputs of the training transfer for entrepreneurship are linked (see Fig. 3).

4.1. Trainee characteristics

The trainee and his/her characteristics are crucial for the success of the training transfer. In this sense, Baldwin et al. (2017, p.24) focus on the trainee by considering the training transfer as “a series of choices that trainees make to discard, maintain, apply, or modify trained knowledge and skills in their work context”. However, much of the training literature has analysed samples integrated by students, which limits the generalisation of their results (Baldwin et al., 2009) to the context of entrepreneurship. Furthermore, studies focused on profiles more similar to the entrepreneur, such as that of self-employed workers, are scarce (Yelon et al., 2004).

On the other hand, within the entrepreneurship training literature, the existence of numerous work motivations to train about, for and in entrepreneurship stands out, including the incorporation of innovative or educational companies (Mwasalwiba, 2010). However, this study intends to provide a theoretical model for the analysis of TPfEs, in which the individuals who join are selected for having the intention of carrying out a more or less developed entrepreneurial idea, they are people determined to create a company or are nascent entrepreneurs. It is for this specific context that the review and analysis detailed below is developed.

Following the statements made by various authors, the trainee characteristics relevant to the training transfer can be grouped into intellectual ability, motivation and personality (e.g. Burke & Hutchins, 2007). Concerning the trainee’s ability, NOE and Colquitt (2002) emphasise the importance of learning ability, defined by general cognitive ability and basic skills. The first refers to the ability to process information actively and can be assimilated to intelligence, while the latter refers to reading, writing and mathematics skills. Also crucial is the trainee’s ability to identify situations, where the knowledge and skills acquired may be useful (Campbell & Kuncel, 2001). In the case of training for entrepreneurship, the beliefs, values and general attitudes of the trainee are considered key to taking action, although their deficiencies in skills, competences and knowledge may delay the entrepreneurial process (Solevsvik, 2013). The knowledge that the entrepreneurs may have before starting the training comes from their previous experience and training (Stuetzer et al., 2013) and can condition their learning process by limiting or enriching it (Fayolle & Gailly, 2008). In this sense, Dvir et al. (2010) study the relationship of the entrepreneur’s previous experience in management, team leadership and business creation with the



In italics: aspects incorporated from the entrepreneurship literature to the study of training transfer.

Fig. 3. Theoretical model proposed.

success of a new business initiative. For their part, [Stuetzer et al. \(2013\)](#) highlight the importance of human capital and having balanced capacities and skills to progress favourably throughout the entrepreneurial process. In this way, individuals with training in engineering, business or economics have higher levels of motivation towards entrepreneurship ([Solesvik, 2013](#)). Also, entrepreneurs with business knowledge gained through education or previous professional experience are better positioned to assimilate and contextualise the learning outcomes that training for entrepreneurship provides ([Maresch et al., 2016](#)). However, concerning the trainee as a potential entrepreneur, many are aware of not having the knowledge and skills in marketing, business management and finance required to control their assets, take risks and start their own companies. For this reason, they join to training programmes that promote the improvement of their personality, attitudes and cognitive profiles ([Solesvik, 2013](#)).

Regarding the *trainee motivation*, there are obvious differences between someone who belongs to a company, in which behaviour is supervised, and an entrepreneur, who self-governs his/her work and has full control of what, when and how it is done ([Yelon et al., 2004](#)). Similarly, and in the context of training, entrepreneurs have the autonomy and control to apply the knowledge learned in training and decide when and how they will use it. Thus, relevant elements identified in literature such as the motivation to learn and to transfer must be carefully extrapolated in the context of TPfEs. Specifically, the analysis of voluntary assistance has generated an interesting debate focused on the business environment, whose utility is scarce in TPfEs, in which the entrepreneur participates voluntarily ([Henry et al., 2005b](#)). However, other issues such as the perceived training relevance, prior self-efficacy, involvement in work or expectations of results, which have been found to affect motivation to learn and transfer, can be adapted in similar terms to training for entrepreneurship. In this way, the perceived training relevance is related to the trainee's own need to know, with his/her expectations about the quality and reputation of the training programme ([Aziz & Ahmad, 2011](#)). Self-efficacy prior to training refers to the trainees' confidence that they can acquire the knowledge and skills ([Chiaburu & Lindsay, 2008](#); [Machin & Fogarty, 2004](#)). Work involvement is considered as the degree to which work is central to the individual and his/her identity, and makes him/her look for ways to be more effective ([Kontoghiorghes, 2004](#)). Finally, results expectations refer to the benefits that the trainee expects from the assistance and use of the training, such as higher income, promotion, and so on ([Chiaburu & Lindsay, 2008](#); [Clarke, 2002](#)). In the context of training for entrepreneurship, the involvement and results expectations are closely linked to the motivations that lead him/her to want to have his/her own company. These motivations can take the form of issues such as the availability of an idea or the identification of a business opportunity ([Belz & Binder, 2017](#); [Hitt et al., 2011](#); [McMullen & Dimov, 2013](#)), changes in work circumstances, professional experiences frustrating or even unemployment situations ([Jayawarna et al., 2011](#); [Lasso et al., 2018](#)). In addition to the previous, [Jayawarna et al. \(2011\)](#) identify other factors that motivate the entrepreneur to start the entrepreneurial process related to social interest, personal motivation and prospects. In a similar line, these authors point out that the motivation towards entrepreneurship of some entrepreneurs is the opportunity to learn and be able to respond to the challenges that entrepreneurship poses. Thus, it stands to reason that the motivations for entrepreneurship could affect their effort and interest in learning and transferring the contents of the TPfE. Given the above, the proposed model suggests adapting the trainee motivation element considering his/her motivation to innovate, in its different variants, as an element that can influence the success of the training process.

Concerning the influence of the *personality of the trainee* on the training transfer, it should be pointed out that although personality is contemplated in the classic model of [Baldwin and Ford \(1988\)](#), subsequent literature has not managed to reach a consensus on the issue and it remains one of the most controversial elements. Among the traits studied are the locus of control, the need for achievement, or diligence. However, their relevance to training processes has been questioned, to the extent that little can be done to influence them through human resource management practices or policies ([NOE & Colquitt, 2002](#)), an issue that is equally applicable to TPfEs in which the admission of participants is not linked to personality traits. However, the entrepreneurial personality is an important aspect, to the extent that the entrepreneur is more attracted to "adventures" that fit with his/her personality traits such as the desire for independence, locus of control, creativity, risk aversion, need of achievement and reference models ([Dvir et al., 2010](#)). Thus, although to date the influence of these entrepreneurial personality traits on the success of the training for entrepreneurship has been poorly addressed, authors such as [Luca et al. \(2012\)](#) consider enrolment on a training programme for entrepreneurship as an entrepreneurial activity in itself and confirm that the need for achievement positively influences the training results. Also, [Fairlie and Holleran \(2012\)](#) have found that individuals who have less risk aversion, benefit more from training for entrepreneurship, and ultimately develop their company to a greater extent than those who are less risk-tolerant.

In a separate issue, the literature on entrepreneurship has highlighted *psychological capital* as a psychological state of the entrepreneur, considered as an input to training, which allows him/her to face the emotional challenges of the stressful entrepreneurial process ([Hmieleski & Carr, 2008](#); [Jensen & Luthans, 2006](#); [Zou et al., 2016](#)). According to [Zou et al. \(2016, p.447\)](#), "psychological capital refers to an individual's positive psychological state of development characterised by high self-efficacy, hope, optimism and resilience". While self-efficacy has been extensively studied in the literature on training transfer (e.g. [Chiaburu & Marinova, 2005](#)), the rest of the states of psychological capital have been scarcely addressed in the context of training. In this way, hope reflects the determination to achieve the objectives and their ability to proactively design alternative ways to overcome the obstacles that prevent their achievement. Optimism turns setbacks into challenges and opportunities, and finally, resilience allows the entrepreneur to recover from adversity and improvise and adapt solutions to the changes ([Hmieleski & Carr, 2008](#); [Jensen & Luthans, 2006](#); [Zou et al., 2016](#)). Thus, it is of particular interest to study the psychological capital of the entrepreneur in the context of training for entrepreneurship, since it confronts the trainee with ambiguous situations while working in activities that are not familiar and where the group dynamics are not very controllable ([Pittaway & Cope, 2007](#)). The entrepreneur's psychological capital could help manage negative affective states derived from the difficulty of the training content and the frustration generated when facing training activities to solve problems ([Ustav & Venesaar, 2018](#)), as well as the application of the content learned in the framework of the difficulties of the entrepreneurial project.

4.2. Training design

The importance of training design lies in the fact that it can enhance the trainees' ability to transfer the knowledge and skills learned to the job (Bhatti et al., 2014; Holton et al., 2000). However, the need for more considerable research efforts has been pointed out to clarify how it helps such transfer (Baldwin et al., 2017). Furthermore, in the training transfer literature, the design has been analysed mostly within the framework of training programmes with simple tasks, and quite far from business reality (Baldwin et al., 2009). This approach conditions its usefulness in the field of training design for entrepreneurship whose objective is much more complex. In addition, Ford et al. (2018, p.207) highlight the need to study training design strategies according to "different types of training programs and different types of training contexts", which supports the aim of this work to analyse this issue in relation to TPfEs and their context. In this regard, in the field of entrepreneurship, the design of training has undergone constant evolution, although with inconclusive results (Hägg & Gabrielsson, 2019; Mwasalwiba, 2010). In this sense, various authors point out that this may have been due to poor development in understanding the pedagogical aspects of training for entrepreneurship (Hägg & Gabrielsson, 2019; Henry et al., 2005a; Kuratko, 2005; Mwasalwiba, 2010; Nabi et al., 2017). The diversity in the conceptualization of entrepreneurship hinders an academic consensus on the suitability of the best content and teaching methodologies (Bechard & Toulouse, 1998; Hägg & Gabrielsson, 2019; Maresch et al., 2016; Mwasalwiba, 2010). An inadequate selection of content and methodologies can make the course lean towards training *about* and not *for* entrepreneurship (Kirby, 2004; Mwasalwiba, 2010). For these reasons, it is appropriate to further analyse the elements of entrepreneurship training design through the training transfer literature. This analysis is divided into training content and learning principles.

Concerning the training *content*, a first aspect to be analysed is its relevance in relation to the work expected of the trainee. In this sense, Yelon et al. (2004) highlight the importance of the credibility of the information, the practicality of the skills to be transferred and the suitability of the knowledge contained in the course. Also, it has been noted that training transfer can benefit from the incorporation of short transfer goal setting and self-direction sessions. In the latter, the trainees become aware of the possible obstacles that they may encounter when applying what has been learned and how to overcome them (Bhatti et al., 2014; Lim & Johnson, 2002; Machin & Fogarty, 2003). The specialised literature on entrepreneurship has studied the relevance and adequacy of the content, although it has scarcely addressed the use of sessions of goal setting or self-direction in training for entrepreneurship. Furthermore, the content of the training programmes may have been affected by the lack of theoretical rigour of entrepreneurship research (Henry et al., 2005a). In this sense, the analysis of the content of these programmes must start from the conditioning imposed by the general objective pursued (Bechard & Toulouse, 1998; Mwasalwiba, 2010). Thus, the theoretical content must have as its purpose "to help entrepreneurs to understand the consequences of their decisions" (Fiet, 2001b, p. 11). Thus, concerning the content, Seet et al. (2018) distinguish between traditional training and contemporary training. The first focuses on the development of competencies around the business plan, which includes multidisciplinary content related to sales management, marketing, product design, operations, commercial law or finance so that the trainee can develop the business project. The second provides the entrepreneur with a set of tools for the design and development of business models such as Design Thinking, Business Model Canvas, or Lean Start-up. These instruments help to work more dynamically in the development of the business project, pivoting and changing its direction based on the feedback that is obtained from the market. In this regard, Baldwin et al. (2009) highlight that when the content of the training focuses on transmitting a series of principles whose application requires higher cognitive requirements, the transfer will have greater difficulty. In these cases, the importance of open skills with multiple pathways to achieve adequate performance is emphasised.

The content must cover the process of creating an organisation without forgetting entrepreneurial skills such as the recognition of opportunity, creativity, the generation of ideas, leadership and communication (Liñán, 2008). Also, it must address specific business management areas such as human resource management (Bae et al., 2014) and more specifically those related to the ability to build and manage teams (Mwasalwiba, 2010). Bechard and Toulouse (1998) consider that a programme should include content on market research, the figure of the entrepreneur, the socio-cultural factors that promote or limit entrepreneurship, the essential tools for managing a business, the strategies for its launch, survival and growth, the negotiating skills, the stages of a business idea and the elements that make up a business plan. Besides, it should be noted that training for entrepreneurship requires creative and innovative content focused on the trainee, that is personalised, based on the process and the project and that has a multidisciplinary character (Morselli, 2018). Finally, it should be noted that in the entrepreneurship literature, there is also a lack of consensus on the depth and nature of these contents (Maritz & Brown, 2013). Thus, it has been argued that the programmes must incorporate enough theoretical material, of a conceptual type, that can lead to improving the trainee decisions in order to achieve greater financial success and business continuity over time (Fiet, 2001a; Martin et al., 2013; Ojala & Heikkilä, 2011). The assimilation of the theoretical content increases the trainee's intellectual ability and enables him/her to manage the complex and abstract information typical of the entrepreneurial process (Zaring et al., 2019). However, the saturation of the modules with an excess of knowledge and experiences, exceeding the trainees' absorptive capacity, has also been pointed out as a reason for the entrepreneurship programmes failure (Gartner & Vesper, 1994).

As far as the *learning principles* are concerned, several authors have identified relevant issues in the design of the training programme (e.g. Baldwin et al., 2017; Bhatti et al., 2014; Ford et al., 2018; Holton et al., 2000; Lim & Johnson, 2002; Machin & Fogarty, 2003). The importance of the presence of identical elements has been highlighted, that is, the similarity between the training context and the application context. The need to transmit general principles on how to use skills, and set the why and when of their use has also been studied. Also, the significance of the variability of stimuli has been pointed out to discuss and apply the training contents. In this sense, the impact on behavioural outcomes of using multiple learning strategies such as case analysis, simulations, discussions, etc., has been highlighted. On the other hand, the achievement of open skills, so necessary in the particular context of entrepreneurship, can be supported by the use of error management strategies. Finally, the convenience of the presence of appropriate practical training

conditions that favour learning and transfer has been discussed. These learning principles support the didactic methodologies that integrate the design, and that shape how the trainer, the trainee and the content to be taught are related (Amade-Escot, 2005). In short, the principles of learning determine how the content is presented within a training environment (Ismail et al., 2018).

The training transfer literature agrees with the literature on training for entrepreneurship in the transcendence of the choice of methodologies. Both study areas consider that the training success is conditioned by how the content is presented to the trainee since it influences the perception of the attractiveness of the course (Martin et al., 2013). In this sense, although there is no consensus on how content should be taught in entrepreneurship training programmes (Balan et al., 2018; Mwasalwiba, 2010), it is agreed that the choice of teaching methodologies is conditioned by the objectives and contents of the programme (Fayolle & Gailly, 2008). Identifying the appropriate teaching methodologies for each specific profile of trainees lead to a higher level of commitment to training for entrepreneurship, increasing the degree of learning and the positive feelings towards entrepreneurship (Balan et al., 2018; Maritz & Brown, 2013). For this reason, various authors underscore the need to design learning environments similar to those faced by entrepreneurs in the development of the project (e.g. Henry et al., 2005a; Kubberød et al., 2018; Pittaway & Cope, 2007). Likewise, teaching methods must correspond to the improvement of competencies experienced by entrepreneurs in the actual process of creating the company (Henry et al., 2005a; Kubberød et al., 2018).

Furthermore, the orientation towards action in entrepreneurship training programmes has been underlined, specifically in project-based learning and learning by doing (Garavan & O'Conneide, 1994; Kubberød et al., 2018; Mwasalwiba, 2010). Kurczewska et al. (2018) discover that it is the use in practice, through learning by doing, that makes the trainees learn to link the knowledge transmitted regarding the entrepreneurship process. These approaches allow trainees to change their behaviours and acquire essential skills for entrepreneurship as they face problem-solving, ambiguity and uncertainty (Fayolle & Gailly, 2008; Morselli, 2018; Ojala & Heikkilä, 2011; Toding & Venesaar, 2018). Along these same lines, Fayolle and Gailly (2008) propose that the debate with trainers and the feedback they provide is an exciting way of teaching the aspects that determine the behaviours and actions of entrepreneurs, among other issues. Similarly, Souitaris et al. (2007) believe that a good training programme for entrepreneurship must incorporate interaction with practice, through talks with professionals and entrepreneurs, as well as networking events. These methodologies provide role models to the trainees that help them to "form judgments of their own capabilities through personal comparison" (Wilson et al., 2007, p. 392). In addition, Chen et al. (1998) consider that trainee's intellectual ability focuses excessively on the technical aspects of entrepreneurship, and should pay more attention to the belief systems, attitudes and perceptions of future entrepreneurs. In this regard, the suitability of including interactive learning methods, such as role-plays, discussions and debates, has been suggested to help achieve affective learning outcomes (Ilonen & Heinonen, 2018). Achieving this goal could be accomplished by involving trainees in designing or helping small community businesses, as well as by inviting successful entrepreneurs to share their experience (Chen et al., 1998). These activities would help the trainee develop their business idea while submitting to the scrutiny of the community of which they intend to be part (Pittaway & Cope, 2007).

A further area of concern is that didactic methodologies should allow the trainees to reflect on their experiences (Kubberød et al., 2018), as well as focus on their cognitive and belief systems (Chen et al., 1998; Kurczewska et al., 2018). Thus, compared to trainer-oriented training, in which the instructor presents the concepts and the trainee focus on its memorisation, several authors propose trainee-oriented training. (Fayolle & Gailly, 2008; Gartner & Vesper, 1994; Kubberød et al., 2018; Pittaway & Cope, 2007; Souitaris et al., 2007; Toding & Venesaar, 2018). According to these authors, trainee-oriented training encourages trainees' reflection on the different subjects taught, as they explore and experience tasks and skills with the guidance of the trainer, leading to entrepreneurial behaviour through interactive social learning. Reflection not only allows developing a richer understanding of the entrepreneurial process but also provides the trainee with the ability to control their progress in the training process, in terms of knowledge, motivation and feelings (Ustav & Venesaar, 2018). Thus, reflection is a process that links knowledge, experience and action, in which cognition is connected with the feelings of the trainee (Kurczewska et al., 2018). On the other hand, various authors point out the relevance of teaching methodologies focused on teamwork, since promoter teams drive many of the new companies (e.g. Balan et al., 2018; Morselli, 2018; Pittaway & Cope, 2007). Team-based training allows collaborative skills to be developed, through reflection and feedback from group members on the actions carried out (Harms, 2015).

Thus, training for entrepreneurship is characterised by the use of action-oriented methodologies, among which experiential learning through activities such as the preparation of business plans, simulations or the development of service models or products (Hägg & Gabrielsson, 2019). In short, the need for the methodologies used in entrepreneurship training to be experiential, reflective and collaborative is highlighted (Harms, 2015; Morselli, 2018).

As previously discussed, TPFEs include a broad set of complementary activities (Souitaris et al., 2007). They usually gather a variety of teaching methodologies and pedagogical techniques with a broad spectrum of content to transmit to the participants (Seet et al., 2018). Furthermore, between these different methodologies and techniques, there are multiple interactions that affect their success (Gartner & Vesper, 1994). That is why it is proposed to analyse the programme format as a way to integrate all these training activities. Thus, the programme *format* is considered as an additional element to the traditional model of analysis of the transfer of training. According to Zaring et al. (2019), the choice of the type of format will be conditioned by the characteristics of the trainees to whom the programme is directed (for example, their educational level), the support structures that the institution have to help potential entrepreneurs and the balance between theory and practice.

In this way, a distinction is made between structured training programmes, with independent or combined formal group training sessions, and 'ad-hoc' programmes designed specifically for certain profiles of entrepreneurs or types of projects, with individual tutoring and mentoring. In this sense, most business schools use methodologies that combine theoretical approaches with practical applications, reinforced by a detailed analysis of business problems and solutions based on case studies and realistic fieldwork (Matlay, 2008). Thus, in the training programmes for entrepreneurship, the suitability of combining training with mentoring is considered

(Huggins & Thompson, 2015; Seet et al., 2018), as well as the benefits of interacting with other participants and external professionals to achieve the project development objectives (Audretsch & Belitski, 2017; Huggins & Thompson, 2015). In addition, it is usual for these programmes that combine training and mentoring to take place in co-working spaces where entrepreneurs work on their projects, interact with other participants and share experiences. These types of programmes usually end with a demo day, a closing event in which entrepreneurs present their projects to potential investors (Seet et al., 2018).

From an academic perspective, Nabi et al. (2017) group the teaching methodologies for entrepreneurship into four fundamental types: supply models, focused on the transmission and reproduction of knowledge (masterclasses, videos, readings and preparation of a business plan); demand models, based on personalisation and participation (seminars, projects carried out outside of class, simulations and interactive searches); competency models, where attendees organise resources in competencies for the solution to real problems, focused on communication, discussion and production (presentations, debates, generation of essays and analysis of real entrepreneurship cases); and finally, hybrid models, a mixture of the previous three. These authors consider that the demand and competency models generate greater active participation of the trainee in the construction of their understanding and knowledge and, therefore, help to promote entrepreneurial intentions, in addition to the development and survival of start-ups.

Finally, it is interesting to analyse the design suitability from the perspective of the *time* of the training, understood as its coherence with the state of progress of the entrepreneurial project. The entrepreneur's training needs and job transfer opportunities may be different depending on whether the project is in an embryonic state of an idea, in the detailed design phase, or in a start-up state. Thus, based on the work of Anosike (2018), Kirby (2004) and Matlay (2008), it can be said that training *about* entrepreneurship is suitable for programmes for early-stage entrepreneurs; training *for* entrepreneurship is appropriate for programmes for entrepreneurs with identified business opportunities and projects in different stages of progress; and training *in* entrepreneurship, for programmes for entrepreneurs with a running company. As an example, Seet et al. (2018) affirm that the programmes focused on the Business Model Canvas are appropriate for entrepreneurs at an early stage of the entrepreneurial process, while the programmes focused on Lean Start-up are suitable for projects with a more advanced state of progress, that have the product or service already developed and a need to test specific issues with key customers or partners. For these reasons, the proposed model includes time analysis as an element of the training design.

4.3. Trainer characteristics

The trainer is a fundamental part of the training process barely addressed in the work of Baldwin and Ford (1988). Baldwin et al. (2017) subsequently regret the limited research attention dedicated to the nature and motivation of the trainer. The analysis of the trainer's role, due to its complexity, has been considered the weak link in the entrepreneurship training (Toding & Venesaar, 2018). Its study must address relevant and current issues such as the integration of the trainer's role as a facilitator versus his/her traditional role of teacher, as well as the need to combine academics with professionals and entrepreneurs (Hägg & Gabrielsson, 2019). According to Wisshak and Barth (2021, p.2), in the training transfer literature, the trainers are considered those "individuals who plan and deliver training". These authors consider that trainers choose and implement instructional methods and influence the design of the training format and its execution. Finally, they believe that trainers should be involved in the entire transfer process. Nevertheless, in the training programmes for entrepreneurship, due to its breadth of activities, there are other types of agents in addition to the traditional trainer or instructor such as mentors, other entrepreneurs, experts, peers, key partners and customers (Seet et al., 2018). Given their role and relevance in the design and implementation of training, in the proposed model, the first three types of agents are considered as trainers (mentors, other entrepreneurs and experts). Thereby, the figure of the *mentor* is considered a facilitator of the process of reflection of the entrepreneur throughout the learning process, which allows him/her to internalise the complex experiences faced (Kubberød et al., 2018). According to Morselli (2018), mentoring is essential to generate higher levels of trainee self-efficacy. Its importance lies not only in the transmission of knowledge and professional experience that guide the trainee promoting their development but also in the emotional support, personal advice and motivation during the entrepreneurial process (Seet et al., 2018). *Entrepreneurs* who share their personal experiences of success and failure in entrepreneurial processes should also be considered, with whom the trainee can also work on real projects (Hägg & Gabrielsson, 2019; Seet et al., 2018). In this sense, Fiet (2001b) advises that reflection on these experiences should support solid theoretical concepts of the programme. The programme can also be nurtured by professional *experts* who contribute their specific knowledge on technical issues such as the preparation of confidentiality agreements or manufacturing techniques, and who also connect the trainees with professional networks necessary for the development of their business idea (Hägg & Gabrielsson, 2019; Seet et al., 2018).

Concerning the trainer's capacity, the present model proposes to adjust the vision of the training transfer literature, including a novel theoretical approach, distinguishing between technical capacity and capacity to adapt. In this sense, regarding the trainer, entrepreneurship literature highlights the relevance of studying the type of knowledge and skills that can transmit, that is, their *technical capacity*. It cannot be assumed that all TPfE instructors or mentors have the appropriate technical ability. Thus, within the framework of start-up support programmes, Clarysse and Bruneel (2007) discover that some of the consultants acting as coaches have little or no experience working with start-ups, greatly reducing the added value generated for the entrepreneur and his/her project. In this line, Martin et al. (2013) point out as a need for research on entrepreneurship training to analyse how different profiles of trainers influence their success, differentiating between experienced versus academic entrepreneurial trainers. Therefore, Gartner and Vesper (1994, p.182) state that "entrepreneurship instructors seem to view the practice of business in a different way from instructors of other types of business courses". These instructors have specific knowledge and skills to understand the problems and difficulties involved in starting a business, which differs significantly from the knowledge required to manage an operating and consolidated business (Gartner & Vesper, 1994). In this sense, Seet et al. (2018) highlight the ability of professional *experts*, with extensive experience in

practical application, to integrate academic content with real entrepreneurial situations, or to resolve specific questions about legislation, marketing, sales, production or finance. In short, the technical capacity of the trainer helps him/her deal with the ambiguity inherent in the implementation of any business (Gartner & Vesper, 1994).

Another relevant factor in the training process is the trainer's *ability to adapt* the knowledge to be transmitted and the way to do it, to the trainees' knowledge base and their contextual circumstances (Ballesteros-Rodríguez & De Saá-Pérez, 2010). Vermeulen (2002) also stresses the need for the trainer to translate the demands of the trainee's work into training content. According to this author, a crucial aspect of the trainer's task is to make the different aspects of the work roles of the trainees as explicit as possible. Within the entrepreneurship framework, Kurczewska et al. (2018) highlight the need that training adapts to the idiosyncratic profiles of the trainees, as well as their evolutions throughout the training process in terms of assimilation of knowledge. Consequently, trainers must generate a training approach focused on the entrepreneur and transmitting lifelong learning practices (Garavan & O'Cinneide, 1994; Robinson et al., 2016; Toding & Venesaar, 2018). The mastery of technical content and the experience in practical application, as well as the ability to adjust them to the entrepreneurs' profile, to their initial knowledge, and to the type and state of progress of their project grounds the trainer's ability to adapt (Hägg & Kurczewska, 2019; Seet et al., 2018). Morselli (2018) also highlights the need for trainers to be able to adapt the programme to the novelties and requirements demanded by the industry. Given the relevance of the trainer's ability to adapt to the peculiarities of the trainees and their entrepreneurship project, the inclusion of this variable in the training transfer models for entrepreneurship is important.

However, the training transfer literature has concluded that it is not enough for the trainer to master a particular subject because other variables may affect the success of the transmission of knowledge and skills. Thus, in the first place, the trainer must be motivated to transmit his/her knowledge and have the ability to articulate it, which has a direct impact on the achievement of training results (Ballesteros-Rodríguez & De Saá-Pérez, 2010). According to these authors, a high level of motivation on the part of the trainer can influence the abundance of examples, information and help that can be provided to the trainees, thus influencing the success of the learning and transfer process. In fact, even in the early stages of the entrepreneurial process, trainers can motivate students to become entrepreneurs (Ratten & Usmanij, 2020). In the framework of training for entrepreneurship, the trainee, as mentioned above, receives the attention of various types of trainers and their different levels of motivation can affect different moments of the training. In the framework of the entrepreneurship programmes, Seet et al. (2018) emphasise the support role that the mentor plays for the trainees, accompanying them throughout the training programme, during which critical moments occur in which the strength and motivation of the teacher or mentor themselves are essential in overcoming such situations. According to St-Jean and Audet (2012), it should be borne in mind that the mentors of the same entrepreneurship training programme will differ in their degree of commitment to the development of the trainee and will be involved to a different extent when transmitting their knowledge. These authors show how some mentors decide to provide extra work materials for the consolidation of cognitive aspects compared to others who do not; or mentors who work together on the project of the trainee versus others who are limited to verbal exchanges with the trainee. This different level of mentor involvement is also observed in their degree of support and encouragement of the trainee during the difficult moments of the entrepreneurial project. In this sense, it has been suggested that these differences in behaviour may be due to particular aspects of the mentor, such as their personal characteristics or their perception of the trainee as a future competitor. Based on these arguments, the analysis of the level of motivation of the different types of trainers during the training process for entrepreneurship is considered pertinent.

In addition, the importance of the trainer's *interpersonal skills* to generate a good relationship with the trainee, that serves as a conduit to achieve success in training, has been highlighted (Ballesteros-Rodríguez & De Saá-Pérez, 2010). In this way, the trainer can act as a facilitator, generating a climate tending to reduce tension, hostility and even the fear of the trainee to be open and friendly with others (Murk et al., 2000). In training for entrepreneurship, the trainer's interpersonal skills become even more important, taking into account the emotional support function performed during the entrepreneurial process. This is especially relevant in the moments of the process when the trainee's intention seems to be to abandon the project, which is when personal trust between the two parties is critical in overcoming this moment (Seet et al., 2018). The encouragement and feedback provided by instructors and mentors, considered by Wilson et al. (2007) as "social persuasion", can generate higher levels of trust in the trainee in their capacities for entrepreneurship. In this sense, Baldwin et al. (2017) warn of the risk that trainers could incur when they feel responsible only for the delivery of the contents of the training programme. Thus, within the framework of these programmes, the transcendence of interpersonal skills on achieving transfer results is highlighted, as recommended by Burke and Saks (2009).

4.4. Workplace environment

The work environment affects training transfer through a social component and a task component (Facteau et al., 1995). The first refers to the support of supervisors and colleagues, while the second refers to the opportunity to apply what has been learned, as well as the availability of the necessary resources to carry out the training transfer. Ford et al. (2018) also suggest that research on environmental support should focus on three dimensions: affective, informational, and instrumental. The first focuses on encouraging the trainee and is linked to the social component of the Facteau's et al. (1995) scheme. The second provides guidance and advice, and the third focuses on resources and direct help. Both are more related to the task component.

Concerning the social component, in the training transfer literature, it is pointed out that superiors have a positive impact facilitating attendance to the training programme, setting objectives for the improvement of trainee skills, reinforcing the use of knowledge learned, establishing plans for its application and showing behaviours consistent with training objectives (Baldwin & Ford, 1988; Holton et al., 2000; Lim & Johnson, 2002; Smith-Jentsch et al., 2001; Sookhai & Budworth, 2010). Other employees, colleagues of the trainee, can also support him/her by collaborating in applying the knowledge and skills learned (Hawley & Barnard, 2005; van der

Klink et al., 2003). However, these questions are far from the reality experienced by trainees in the framework of the training programme for entrepreneurship, as they do not have the indications of a superior to help with the application of what they have learned, or feedback on attempts to put the knowledge into practice. The entrepreneur also does not have colleagues with whom to share a job position and who may hinder or facilitate the training transfer. Thus, in entrepreneurship training programmes this weakness of an incipient work environment is compensated by social support given to the trainee by other types of agents (peers, key partners and customers) (Seet et al., 2018). For this reason, the programme facilitates the connection with other *peers* in order to provide a reciprocal critical evaluation of the business idea (Wright et al., 2017), which will lead to valuable collaborative learning (Pittaway & Cope, 2007). Peers can play a crucial role since teamwork carried out during the training programme generates higher probabilities of success than individual work (Blank, 2013). In addition, the reason for this higher level of success is due to the emotional support that these colleagues provide during moments of uncertainty on the training programme and other stressful periods in the entrepreneurial process (Seet et al., 2018).

Finally, the programme offers entrepreneurs the opportunity to contact *key partners* and potential *customers*, from whom they receive valuable knowledge to validate their offer (such as level of satisfaction of needs, purchase interest, reasonable prices), providing a market vision that reduces the bias derived from its lack of objectivity (Seet et al., 2018) and commercial experience (Clarysse & Bruneel, 2007).

Along these lines, Liñán (2008) points out that the closest social support positively influences the acquisition of skills for entrepreneurship. In this sense, entrepreneurs prefer to work collaboratively in a team of *promoting partners* because it increases their level of motivation and confidence (Seet et al., 2018). Thus, these teams are more likely to successfully launch and manage new business adventures than entrepreneurs who work alone (Blank, 2013; Gregori & Parastuty, 2020). The reason for this may be that the partners provide the necessary social support, through emotional help, the material and information resources necessary for the project (Farooq et al., 2018). Whereas, Matlay (2008) insists on the influence of *family members* on entrepreneurs. Thus, the work ethic, commitment and perceived lifestyles of entrepreneurial family members have a positive influence on the trainee in their intention to start the entrepreneurial process (Galvão et al., 2018). Similarly, the opinions of people of value to the entrepreneur and the current situation at home, influence the configuration of the entrepreneurial spirit (Jayawarna et al., 2011; Solesvik, 2013). Regarding the influence of family members and partners in the training process that the entrepreneur undertakes, Bae et al. (2014) suggest that an entrepreneurial family context can make the trainee consider that the training materials and contents are critical to the success of their project. The family context provides an indirect experience on the process difficulties and, therefore, on the need to be well trained. Toding and Venesaar (2018) support this idea when they consider that the family of the trainee must support the learning that occurs in training for entrepreneurship from the outside, among other agents. For all these reasons, in the model proposed it has been considered relevant to include the support of peers, key partners and customers, the support of promoting team partners and the support of family as elements of the work environment closest to the trainees that can affect the success of their training transfer attempts.

The *opportunity to apply* the knowledge and skills learned refers to the extent to which the work environment allows the activities covered in the training programme to be applied, and is closely related to the degree of autonomy the trainee has at work (Awoniyi et al., 2002; Lim & Johnson, 2002). On the other hand, the *availability of resources* refers to the trainee's perception about the readiness of necessary tools, supplies, information and personnel required to apply what has been learned to the work environment (Awoniyi et al., 2002; Lim & Johnson, 2002). In this way, if the trainee perceives that he/she is not going to have the opportunity to apply what is being taught or what it takes to do so, the level of motivation to learn and apply what has been learned will decrease (Brown & McCracken, 2009; Clarke, 2002). In the training transfer literature, both issues are exogenous to the trainee. It is the organisation that must provide the trainee with the opportunity to apply what has been learnt, in addition to the necessary resources. Regarding the entrepreneur who attends a TPFE, it is necessary to consider the high degree of autonomy and responsibility inherent in the entrepreneurial process itself, so both issues must be adapted to the particular context of training for entrepreneurship. In this sense, within the scope of business acceleration and incubation programmes, Seet et al. (2018) point out the need for coherence in the timing between the development of the training programme and the state of progress of the project. Not surprisingly, the dynamics of the learning process developed during the training programme correspond to the essence of the entrepreneurship process (Kurzewska et al., 2018). For this reason, the proposed model includes the opportunity to apply, analysed from the perspective of such alignment. This implies studying the impact that the alignment between the teaching sequence of the programme contents and the actual possibility that the trainee has of applying them to his/her entrepreneurship project may have on the transfer of training. On the other hand, the *availability of resources* is a crucial issue for the development of the entrepreneurial project (Nicotra et al., 2018; Wright et al., 2017). The entrepreneur faces limited access to material, human and financial resources (Belz & Binder, 2017; Clarysse & Bruneel, 2007) whose requirements vary depending on the type of project and the stage of development which it is at. In addition, the entrepreneur faces the need to incorporate a series of essential technological and knowledge resources to shape the business idea. Frequently, the entrepreneur contributes much of this knowledge, although often requires other industry-specific knowledge to help develop and implement the idea from a technological and market point of view (Clarysse & Bruneel, 2007). Based on the training transfer literature, it can be suggested that in those cases where the entrepreneur has more resources, either because of his/her family, partners or because the design of the programme facilitates them, there will be a greater willingness to strive to learn and transfer the content acquired from the TPFE.

4.5. Organisational environment

Training transfer literature has attempted to analyse the influence on training success of broader contextual elements. Thus, *organisational culture* has been highlighted as a support for training initiatives (Hughes et al., 2020) and a critical determinant for the

effectiveness of the training programme (Gómez-Mejía et al., 2004). The organisation's shared values, assumptions, artefacts, language, and rituals can affect the type and number of learning events developed within it (Egan et al., 2004; Kissack & Callahan, 2010). The existence of an organisational culture committed to training, which fosters an open communication climate (Brown & McCracken, 2009; Lim & Johnson, 2002), support for creativity, innovation, risk-taking and quality (Awoniyi et al., 2002; Kontoghiorghes, 2004) has been suggested as a very positive influence for training transfer. Furthermore, trainee's transfer motivation and behaviour are favourably influenced by the existence of an organisational continuous learning culture (Gegenfurtner et al., 2009; Hughes et al., 2020), in which the acquisition of knowledge and skills are the responsibilities of each individual, although based on social interactions and work relationships (Tracey et al., 1995). In this way, Gautam and Basnet (2021) identify the dimensions of the organisational culture that play a crucial role in the transfer of training: job challenge, communication, trust, innovation and social cohesion. However, in the context of TPfEs, the study of the influence of the organisational environment on the transfer of training requires addressing two challenges. On the one hand, entrepreneurship is embedded in social structures (Rice et al., 2014). Therefore, a broad vision must be taken when analyzing the transfer of training in this context, expanding it to the *entrepreneurial ecosystem*. On the other hand, applying the concept of organisational culture must be done from the institution's perspective that promotes the training programmes.

The entrepreneurial ecosystem, defined as the set of heterogeneous and independent actors and coordinated factors that favour entrepreneurship (Stam, 2015), affects innovative activity and business development (Audretsch & Belitski, 2017). Thus, it is necessary to analyse the influence of the agents involved, institutions, professional networks and cultural values that generate and sustain entrepreneurial activity (Roundy et al., 2018). The ecosystem concept emphasises the fact that entrepreneurial activity takes place in a community, in which the entrepreneur is the leading agent both in its creation and in the maintenance of good health, and where professional services, legislation and financial facilities are the nutrients (Stam, 2015). The critical success factors for entrepreneurial ecosystems reside in the talent of researchers and entrepreneurs, the contributions of public institutions, the local entrepreneurial culture, access to capital and financing, and a favourable regulatory environment (Oh et al., 2016). For this reason, in recent years, policies and tools have been developed at a national level to create an environment conducive to innovative entrepreneurship, which must be implemented at a regional level (Autio et al., 2014). In this sense, it has been recommended that training for entrepreneurship takes into account the entrepreneurial environment, among other issues, to favour an adequate selection of the didactic methodologies used (Balan et al., 2018). Thus, in the proposed model dividing the analysis of the influence of the entrepreneurial ecosystem on two levels is contemplated: entrepreneurial macrosystem and entrepreneurial microsystem.

The *entrepreneurial macrosystem* largely coincides in its conception with the entrepreneurial ecosystem widely addressed by scientific literature. This macrosystem is considered a system made up of the government, the different public administrations, institutions, companies and universities of a nation, region or locality (Scaringella & Radziwon, 2018), as well as by the successful interaction between them and the entrepreneur with the common objective to create innovative companies that generate value and growth for society (Roundy et al., 2018). In this sense, the entrepreneurial macrosystem provides support and guidance to the entrepreneur's need for talent development (Rice et al., 2014). Some countries, to reduce the scarcity of resources available to entrepreneurs, have developed policies and initiatives to support entrepreneurship for the creation and growth of new companies (Lucas et al., 2018), such as tax incentives and soft financing lines (Hundt & Sternberg, 2016), creation of co-working spaces, entrepreneurial networks, and business acceleration and incubation programmes (Seet et al., 2018) or programmes to stimulate technological entrepreneurship (Wright et al., 2017). These elements coincide with what Nicotra et al. (2018) have called the institutional capital of the entrepreneurial ecosystem, and Kuckertz et al. (2020) have named as cultural and regional dimensions of entrepreneurship. These authors identify a second set of factors group under the label of financial capital. This element of the macrosystem materialises in the existence of venture capital companies, business angels, crowdfunding initiatives, entrepreneurship scholarship programmes sponsored by large companies, and so on. On the other hand, within the macrosystem proposed in this study, it is essential to address the presence of the knowledge capital indicated by Nicotra et al. (2018). The existence of technology parks, research institutes, universities with good research programmes, public or private programmes for technical assistance to entrepreneurship, and so on, can be seen by the trainees as potential support in terms of knowledge (Wright et al., 2017). In short, the presence of these elements in society can influence the success of the TPfE itself, by transmitting to the trainee the idea of the value of the entrepreneur for society, which can lead to greater involvement in the training programme. In this sense, the entrepreneurial macrosystem can be perceived by the trainee as the support for creativity, innovation and risk-taking highlighted by Awoniyi et al. (2002) and Kontoghiorghes (2004) in the training transfer literature.

On the other hand, several authors point to the existence of hyperlocal ecosystems derived from the interaction of resources, services and activities that take place in each of the institutions dedicated to promoting entrepreneurship, be they a training centre, accelerator, incubator or co-working space (e.g. Oh et al., 2016; Roundy et al., 2018). In the present study, these hyperlocal ecosystems are associated with an *entrepreneurial microsystem* built on five variables. The first refers to the institution's organisational culture that promotes the TPfE. The second, named specialisation, refers to the intensification of TPfEs in one or more sectors of activity, which conditions entrepreneurs and the business initiatives with which they can be linked. The third refers to the profile of the entrepreneurs linked to the institution that promotes the TPfE and its collaboration dynamics. The fourth focuses on the management model of the incubator, accelerator or training centre, reflected in the set of revitalisation policies and activities carried out in the space. The last variable is the space conceptualised as the physical place where training for entrepreneurship occurs, characterised by its location, spatial configuration and equipment. This microsystem influences the number of start-ups that emerge as a consequence of the programme, its type and speed of growth (Audretsch & Belitski, 2017).

The culture of the institution where the TPfE takes place has also been highlighted as a variable that can affect the results of the participating entrepreneurs (Fayolle et al., 2006). Thus, it has been postulated that a greater innovation culture of the training

programme can make the participant pursue innovation more through its use and the transfer of learned knowledge (Rice et al., 2014). In this sense, the five dimensions of culture proposed by Gautam and Basnet (2021), which influence the transfer of training (job challenge, communication, trust, innovation and social cohesion), must be studied in the context of the institutions promoting the TPfE. Job challenge refers to aspects related to variety and self-direction at work. Communication concerns the quality of vertical and lateral information flows. Innovation applies to the encouragement of new ideas and methods, creativity, and the adoption and use of new practices. Trust is centred on the existence of an open-minded climate. Finally, social cohesion connects to the degree of collaboration and unity in the TPfE promoting institution.

With regard to the specialisation variable, the programmes developed within incubators, accelerators, co-working spaces and training centres can be differentiated according to the sector they are aimed at. In recent years there has been a notable trend towards the creation of vertically specialised accelerators that develop specialised programmes in sectors (health, energy, and so on) or specific technologies (software, apps, and so on) (Hochberg, 2016). This specialisation influences the characteristics of the facilities, availability of physical resources, services offered, as well as activities and mechanisms developed to help new companies (Pauwels et al., 2016). Thus, each typology adapts its value proposition to the specific needs of the participating companies (Bruneel et al., 2012), including support services to evaluate market opportunities and product development, knowledge-intensive services, networking activities and access to specific networks of entrepreneurs, among others (Clarysse & Bruneel, 2007; Soetanto & Jack, 2013).

Also, trainees attending a TPfE can benefit from the connection dynamics generated with those who participated in previous programmes and continue linked to the accelerator or incubator. Similarly, other entrepreneurs working at the accelerator or incubator can provide knowledge and skills due to the interactions that happen, in which they share problems, passions and experiences (Hafeez et al., 2018). These connection dynamics can be encouraged by the TPfE. Along these same lines, Stam (2015) emphasises the importance of connection events (pitch day, start-up weekends, mentor days, hackathons or competitions) to foster engagement among entrepreneurs. In short, the frequency and importance of these collaborative and support activities generated in the microsystem can increase the motivation of the entrepreneurs enrolled in the programme to learn and put into practice the knowledge acquired. In sum, the programme must encourage dynamic and fluid interconnections between the participants and other external entrepreneurs to facilitate multidisciplinary learning (Rice et al., 2014).

Regarding the management model, as a feature of the entrepreneurial microsystem, Audretsch and Belitski (2017) highlight the importance of the elements orchestrated by the management of the business incubator in the local context. These elements are specified in standards, infrastructure and equipment, professional and administrative services, available information technologies and connectivity and Internet access (Fernández Fernández et al., 2015). In this sense, Seet et al. (2018) emphasise the need for the incubator or accelerator management model to contribute to integrating start-ups and entrepreneurs in professional networks or ecosystems. Similarly, the development of sponsorship programmes can facilitate entrepreneurs' access to knowledge and financial resources from former programme participants or individual entrepreneurs, who become advisors or potential investors (Rice et al., 2014). It should be noted that incubators managed by private companies tend to offer fewer services than those managed by public institutions (Fernández Fernández et al., 2015).

The last variable that defines the entrepreneurial microsystem is space, which initially focused on providing office space, on later including a broader range of services with greater added value for companies (Pauwels et al., 2016). It should be borne in mind that entrepreneurship training spaces go far beyond the traditional classroom, having to accommodate different types of teaching in which interactive methods prevail (Pittaway et al., 2019). These multifaceted spaces, which may consist of open areas, modular offices and informal meeting areas (Pittaway et al., 2019), should enable collaboration between trainers, mentors and trainees, as well as the conduct of meetings and events (Cohen et al., 2019). These spaces not only seek to improve educational achievement but also develop an entrepreneurial culture that encourages collaboration and fosters the design and launch of the company (Cohen et al., 2019; Pittaway et al., 2019).

Based on all the above, this study incorporates the variables of the entrepreneurial macrosystem and microsystem into the proposed model, as elements that can encourage the level of effort the participant puts into the training programme, as well as their higher level of learning and transfer of knowledge and skills to the business projects.

4.6. Outputs of training for entrepreneurship

In Baldwin and Ford's (1988) classic model, the learning and retention of the taught content are included as previous steps to training transfer, both considered as training outputs. Subsequently, the conditions that determine the transfer appear that is, the generalisation, maintenance and adaptability, which shape the trainee behaviour change. These elements are a starting point for analysing the results of a TPfE. However, the research on training for entrepreneurship has not been conclusive when defining the results; difficulties were observed when specifying them in empirical studies (Hägg & Schölin, 2018). In many cases, the results analysed have largely departed from final entrepreneurship objective, which is the success of a new business adventure (Martin et al., 2013).

On the other hand, the well-known taxonomy of training results from Kraiger et al. (1993) has been used for the evaluation of programmes for entrepreneurship (e.g. Ilonen & Heinonen, 2018; St-Jean & Audet, 2012). According to these authors, any training generates three types of results: cognitive, affective and those based on technical or motor skills. In this regard, Ilonen and Heinonen (2018) comment that the cognitive results reflect the real knowledge of the trainee, as well as his/her ability to analyse and evaluate that knowledge and create a new one. The affective results refer to issues such as beliefs, attitudes, desires, values or interests of the entrepreneur. Finally, the results based on motor skills, by their very nature, are limited to those technical questions needed to develop the product or to provide the service (St-Jean & Audet, 2012), and in which according to Garavan and O'Conneide (1994),

entrepreneurs often show a thorough knowledge before training. In addition, in the few situations in which the entrepreneur suffers from low technical and psychomotor skills, those responsible for the programme often refer them to external centres or schools (St-Jean & Audet, 2012). For all these reasons, the analysis of the latter type of skills will not be included in the proposed model.

In the model proposed, the analysis of the TPfE results will be carried out from a combination of the different elements that make up both perspectives. In this way, cognitive outcomes, affective outcomes and behavioural changes are studied. In this sense, concerning learning and training retention, as *cognitive results*, the development of knowledge about entrepreneurship and entrepreneurial process constitutes its most basic level (Martin et al., 2013). In addition, as already mentioned, many entrepreneurs join TPfEs to fill gaps in knowledge and skills that are essential for managing a new business (Solesvik, 2013). This *technical and managerial knowledge* that a trainee acquires can help to identify and refine business opportunities that truly make him/her an entrepreneur (Stuetzer et al., 2013). Therefore, learning this knowledge is a fundamental result of the TPfE (Souitaris et al., 2007). However, several authors have pointed out the excessive emphasis on the acquisition of knowledge versus the development of skills or competencies as a weakness of training related to entrepreneurship (Garavan & O'Connell, 1994; Scott et al., 2016). For this reason, TPfEs must foster fundamental *entrepreneurial skills*, such as the ability to identify opportunities, creativity, the ability to develop new products and services, the ability to take risks and to make decisions in ambiguous situations, the ability to solve problems, leadership and communication skills, and finally, the ability to develop professional contacts and networks (Chen et al., 1998; Cruz et al., 2009; Liñán, 2008; Martin et al., 2013). It is these latter skills that are most in doubt in the literature about the effectiveness of TPfEs in successfully teaching them, as they are closer to the idea of art than science (Henry et al., 2005b; Scott et al., 2016). The importance of these cognitive results goes beyond the trainee's learning, to the extent that they "lay the groundwork for achieving affective learning outcomes" (Ilonen & Heinonen, 2018, p. 400).

In relation to *affective results*, the training literature has identified the change in beliefs, attitudes, desires, values and interests as possible desired outcomes (e.g. De Saá & Ortega, 2002; Huang, 2001). However, the most emotional aspects have frequently been ignored in the entrepreneurship training literature (Kurczewska et al., 2018; Nabi et al., 2017). Because entrepreneurs act and make decisions based on their knowledge and skills, but also according to their emotions, research on TPfE results must contemplate both aspects (Kurczewska et al., 2018). Thus, the need to understand the entrepreneur's emotions, affections and feelings is highlighted, since entrepreneurship is considered as a "journey of the heart" (Nabi et al., 2017, p. 288). Furthermore, entrepreneurship is associated with facing a constant emotional overload (Hmieleski & Carr, 2008; Toding & Venesaar, 2018), so the design of TPfEs must take care of that "inspirational" part (Souitaris et al., 2007). This complex affective learning has a fundamental role in changing the mindset and behaviour of the trainees (Ilonen & Heinonen, 2018). Therefore, TPfEs must contribute to encouraging the states of mind related to improving the perception of entrepreneurship, the attitude towards it, and the desire to become an entrepreneur (Martin et al., 2013).

TPfEs must promote certain states of the individual's personality that, although stable, are susceptible to change such as entrepreneurial self-efficacy (Chen et al., 1998; McGee et al., 2009). This is an important result because it influences subsequent entrepreneurial behaviour, which has been rarely used in research when studying the effectiveness of training for entrepreneurship (Wilson et al., 2007). *Entrepreneurial self-efficacy* refers to the individual's belief in being able to successfully perform the roles and tasks of the entrepreneurship process and is made up of factors related to knowledge of marketing, management and financial control, and skills related to innovation and assumption risk (Chen et al., 1998). This self-efficacy implies a more positive attitude of the trainee towards his/her potential to be a successful entrepreneur, considering him/herself capable of managing the challenges that will arise during the entrepreneurial process (Balan et al., 2018; Ilonen & Heinonen, 2018). The entrepreneurial self-efficacy reflects the individual's confidence in his/her ability to look for opportunities, generate a planning process that leads the idea to a viable business plan, the marshalling of resources and, finally, the implementation of the business project based on their managerial skills (McGee et al., 2009). This output of entrepreneurship training is especially relevant for women participating in the programme who show a greater tendency to limit their career aspirations than men when they consider that they lack the necessary skills (Wilson et al., 2007). Thus, training should increase the trainee's confidence in his/her ability to launch the new business project successfully (McGee et al., 2009).

Entrepreneurial self-efficacy along with entrepreneurial skills have been proposed as antecedents of entrepreneurial intention (Bae et al., 2014; Chen et al., 1998; Liñán, 2008; Maresch et al., 2016). The *entrepreneurial intention* is the conviction that the trainee has that he/she is going to create a company and do it in the near future (Maresch et al., 2016). Several authors have highlighted the importance of entrepreneurial intentions as a result of training efforts for entrepreneurship (e.g. Nabi et al., 2017; Souitaris et al., 2007). However, entrepreneurial self-efficacy does not always go hand in hand with entrepreneurial intention, since facing the trainee with the challenges and difficulties of entrepreneurship and giving him/her the tools to overcome obstacles can increase his/her entrepreneurial self-efficacy but yet decrease his/her entrepreneurial intention (Fayolle et al., 2006; Ilonen & Heinonen, 2018). For this reason, Wilson et al. (2007) highlight the need for the training programme to provide a realistic idea of everything that is needed to be an entrepreneur but also to generate the feeling that these requirements are achievable, in order to strengthen entrepreneurial intentions. According to the Theory of Planned Behaviour, entrepreneurial intentions are a fundamental training output that predicts expected behaviour, especially in those situations where there is a time-lapse between training and performance of this behaviour (Krueger et al., 2000; Maresch et al., 2016). In short, the entrepreneurial intention is an objective predictor of entrepreneurial behaviour, even though personal circumstances after the training programme may impose a long delay at the start (Krueger et al., 2000).

In addition, the training transfer literature has addressed the trainee *behaviour changes* as a fundamental result for the training success. Behaviours learned should be generalised to the work environment, maintained over time and adapt the knowledge and skills learned for application to work contexts that may differ greatly from the training environment (Baldwin et al., 2009; Baldwin & Ford, 1988). Thus, the need to study adaptability as a training output is highlighted, given its relevance in work situations that face complex and poorly structured problems (Smith et al., 1997). In training for entrepreneurship, adaptability is imperative, since it allows the

Table 1
Training transfer inputs: adaptation for training for entrepreneurship programmes.

	Training transfer		Entrepreneurship	
	Element	Concept	Element	Concept
Trainee characteristics	Ability	<ul style="list-style-type: none"> • Cognitive ability • Technical competences 	Ability	Knowledge traits: <ul style="list-style-type: none"> • Initial basic training • Previous professional experience • Business technical competences Entrepreneurial activating elements: <ul style="list-style-type: none"> • Idea / opportunity • Need for survival/solution to a problem • Social interest / personal motivation / future prospects
	Motivation	<ul style="list-style-type: none"> • Perceived training relevance • Self-efficacy prior to training • Work involvement • Expectations of results 	Motivation	
	Personality	<ul style="list-style-type: none"> • Locus of control • Achievement orientation 	Entrepreneurial personality <i>Psychological capital</i>	Entrepreneurial personality traits: <ul style="list-style-type: none"> • Desire for independence • Locus of control • Creativity • Risk aversion • Need of achievement • Reference models • Self-efficacy • Hope • Optimism • Resilience
Training design	Content	<ul style="list-style-type: none"> • Content relevance • Goal setting • Self-direction 	Content	<ul style="list-style-type: none"> • Traditional training & contemporary training • Multidisciplinary • Creative & innovative • Project focussed
	Learning principles	<ul style="list-style-type: none"> • Identical elements • General principles • Variability of stimuli • Error management strategies • Practical training conditions 	Learning principles <i>Format</i>	<ul style="list-style-type: none"> • Action focussed (learning by doing) • Reflective teaching • Collaborative teaching • Supply models • Demand models • Competency models • Hybrid models
			<i>Time</i>	<ul style="list-style-type: none"> • Alignment in the timing between the development of the training programme and the state of progress of the entrepreneurial project
Trainer characteristics			<i>Types</i>	<ul style="list-style-type: none"> • Mentor • Entrepreneurs • Experts
	Capacity	<ul style="list-style-type: none"> • Adapt the knowledge to be transmitted • Adapt to individual initial knowledge • Adapt to trainee environment 	Technical capacity Ability to adapt	<ul style="list-style-type: none"> • Mastery of contents • Experience in practical application
	Motivation	<ul style="list-style-type: none"> • Abundance of examples and provided information 	Motivation	<ul style="list-style-type: none"> • ‘Ad-hoc’ programme designed specifically for entrepreneur profile and type of project • Support and encouragement of the trainee
	Interpersonal skills	<ul style="list-style-type: none"> • Generating a suitable climate • Interpersonal relationship with the trainee 	Interpersonal skills	<ul style="list-style-type: none"> • Relationship of trust with the entrepreneur • Emotional support during the programme
Workplace environment			<i>Support of peers, key partners and customers</i>	<ul style="list-style-type: none"> • Collaborative learning • Emotional support • Evaluation of the business idea • Valuable market knowledge
			<i>Support of promoting team partners</i>	<ul style="list-style-type: none"> • Application of the content • Collaborative work

(continued on next page)

Table 1 (continued)

Training transfer		Entrepreneurship	
Element	Concept	Element	Concept
			<ul style="list-style-type: none"> ● Shared knowledge ● Emotional help
		<i>Support of family</i>	<ul style="list-style-type: none"> ● Motivate to entrepreneurship ● Emotional support
	Opportunity to apply	Opportunity to apply	<ul style="list-style-type: none"> ● Alignment in the timing of progress of the entrepreneurial project
	Availability of resources	Availability of resources	Limited: <ul style="list-style-type: none"> ● Material resources ● Human resources ● Financial resources Essential: <ul style="list-style-type: none"> ● Technology ● Knowledge
Organisational environment	Organizational culture	<i>Entrepreneurial ecosystem</i>	Entrepreneurial macrosystem: <ul style="list-style-type: none"> ● Agents: public administrations, institutions, companies, universities ● Interaction between agents ● Institutional capital ● Financial capital ● Knowledge capital Entrepreneurial microsystem: <ul style="list-style-type: none"> ● Organizational culture ● Specialisation ● Connection dynamics ● Management model ● Space
			<ul style="list-style-type: none"> ● Job activities ● Degree of autonomy
			<ul style="list-style-type: none"> ● Material resources ● Human resources ● Financial resources
			<ul style="list-style-type: none"> ● Job challenge ● Communication ● Innovation ● Trust ● Social cohesion

In *italics*: aspects incorporated from the entrepreneurship literature to the study of training transfer.

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trainees to generate alternative ideas and multiple solutions to respond to different circumstances, thus helping them become flexible, adaptable and initiative thinkers (Scott et al., 2016). When training for entrepreneurship is successful, the range of behaviours adopted by the trainee is broadened (Kurczewska et al., 2018). Thus, the elements that reflect the behaviour change must be studied within the framework of a TPfE.

The study of training transfer within a TPfE requires analysing the path taken by the trainee up to the company creation. It must be taken into account that although Bae et al. (2014, p.219) affirm that “once the formation of intentions occurs, actual behaviour is expected”, Nabi et al. (2017, p.290) point out that “intention does not always translate into entrepreneurial behaviour and little is known about this transition”. In this sense, when analysing these outputs related to the creation of the company, the time horizon of the application of training must be taken into account (Fayolle & Gailly, 2008). Entrepreneurship does not arise from isolated actions but requires systematic and constant behaviour in search of new opportunities and solutions, as well as the development of a series of behaviours, such as accessing resources, hiring personnel, setting up facilities, and so on (Mensmann & Frese, 2019). There may be a significant time lapse between the completion of training and the development of entrepreneurial behaviour, and even between the development of entrepreneurial intentions and such behaviour (Souitaris et al., 2007). Since it is unlikely that the trainees will have set up their business by the end of the training programme (Fayolle et al., 2006), it is more appropriate to measure the change in behaviour in terms of completion of the different necessary activities during the process (Souitaris et al., 2007). For this reason, in this study, training transfer is conceptualised with a greater time span in which different intermediate milestones are accomplished. In this sense, activities that give rise to *intermediate milestones* in the entrepreneurial process, such as the culmination of the writing of the business plan, the search for financial resources, the first hiring of human resources, and so on, could be taken as examples of these training outputs linked to behaviour changes (Martin et al., 2013).

Finally, it should be noted that according to Kozlowski et al. (2000), most training models consider the achievement of organisational outcomes through training as a crucial aspect of its effectiveness. According to these authors, training results at the individual level may be linked to results at higher levels, such as unit or organisation. In this sense, Garavan and O’Cinneide (1994, p.5) consider that the “ultimate measure” of entrepreneurship training is how it fosters the trainees’ aspirations and leads to start-ups. Therefore, in the proposed model and following Martin et al. (2013), affective and cognitive results and behavioural changes generated in the TPfE contribute to the consolidation of the entrepreneurial project (see Fig. 3). As final organisational outcomes, this consolidation is evidenced by the generation of the start-up, financial success, and maintenance over time.

5. Discussion

The literature on entrepreneurship training reflects numerous doubts about how to design this type of programme (e.g. Balan et al.,

2018; Galvão et al., 2018), its effectiveness in generating entrepreneurs (e.g. Martin et al., 2013; Zaring et al., 2019) and even about the evaluation of its results (e.g. Fayolle et al., 2006; Scott et al., 2016). Until now much of the analysis of the influence of training on entrepreneurial behaviour has been carried out observing training as a global construct, without going into detail on the elements that make it up and how they can affect the outputs (Bae et al., 2014). Similarly, models have been used that link training with entrepreneurial intentions based on the Theory of Planned Behaviour (e.g. Fayolle et al., 2006; Galvão et al., 2018). However, these studies do not address key elements, such as content or teaching methods, which must be aligned with the objectives of training for entrepreneurship and its participants (Mwasalwiba, 2010). This study, intending to respond to these gaps in TPfEs, approaches its analysis from a different and novel perspective, based on the literature on training transfer. At the same time, from the perspective of this literature, this study makes another important contribution by deepening the knowledge of the entrepreneur as a trainee, observing him/her as an active actor in his/her own training and transfer process, following the recommendations of Baldwin et al. (2017). In this way, an attempt has been made to understand what the specific characteristics of potential entrepreneurs, as trainees are, their context and experience, which may, in turn, condition the training transfer in entrepreneurship programmes.

The achievement of these study objectives has required a comprehensive review of the training transfer literature to identify elements that can be used in its study in the context of a TPfE. This goal has also involved discriminating those elements whose application in this specific training context may not be feasible. At the same time, the review of the literature on entrepreneurship training has made it possible to adapt the elements identified in the training transfer literature, bringing nuances to its study. Furthermore, in cases where the elements of the training transfer literature were not useful in the context of TPfEs, elements of the entrepreneurship training literature have been identified that could replace them. Thus, the present study contributes to both areas of literature proposing a comprehensive theoretical and integrative model for the analysis of the training transfer within the framework of TPfEs. The summary of this theoretical contribution is summarised in Table 1, which includes the five categories of training transfer inputs (trainee characteristics, training design, trainer characteristics, workplace environment and organisational environment).

Concerning the trainee characteristics, the elements identified in the training transfer literature related to skill, motivation and personality are applicable in the context of TPfEs. Specifically, in relation to the trainee's skills, the analysis of cognitive ability or technical skills is considered equally useful. However, it is considered relevant to particularly analyse the effect that the business knowledge that the trainee may have. Regarding motivational aspects (perceived training relevance, self-efficacy prior to training, and so on), it is confirmed that they should also be present in the study of TPfEs, but that the analysis of the activating elements of the entrepreneurial process as possible antecedents of the training success should be further explored. Finally, in relation to personality, the analysis has revealed the need to include specific aspects of the entrepreneurial personality (creativity, desire for independence, risk aversion, and so on) due to its impact on the entrepreneurial process. Additionally, the literature on entrepreneurship has highlighted the critical influence of the psychological capital of the entrepreneur on the entrepreneurial process, which is why it has been considered appropriate to include it in the study of training for entrepreneurship.

With regard to the design of the training programme, and specifically in relation to content, it is observed that this is a useful variable for the analysis of TPfEs. Taking into account the importance of the obstacles that the entrepreneur faces in his/her business project, it is very interesting to analyse whether the content of TPfEs includes modules related to goal setting or self-direction. On the other hand, due to the particularity of training for entrepreneurship, it is necessary to know the effect of traditional versus contemporary content on the training transfer. Likewise, it is interesting to study the impact of the content multidisciplinary nature, as well as its creative and innovative orientation and the extent to which it is focused on the entrepreneur's project. Regarding the principles of learning, the issues traditionally analysed by the training transfer literature are applicable, once they have been adapted to the context of TPfEs. Emphasis should be placed on the study of three training aspects: action orientation, which is essential for problem-solving; orientation towards reflective teaching, which enables a lifelong learning capacity for the entrepreneur; and orientation towards collaborative teaching, because of the importance of the team in the entrepreneurial activity. Finally, it is considered pertinent to study the format of the training programme itself and its time alignment with the state of progress of the entrepreneur's business project.

The proposed model, concerning the trainer, includes the analysis of the different types that participate in a TPfE. The training transfer literature has not addressed this issue since most of the empirical research was carried out on programmes where this diversity of trainers did not exist. Trainers on a TPfE can take on various roles, each having a different impact, so it is interesting to study them further. On the other hand, the elements of the training transfer literature related to the capacity, motivation and interpersonal ability of the trainer could be used, with a certain adjustment, in the context of training for entrepreneurship. Firstly, the proposed model differentiates between the trainer's technical capacity and his/her ability to adapt the knowledge to be transmitted. The former refers to the trainer's need to have an in-depth command of the contents related to the entrepreneurial process, as well as experience in its practical application. The latter refers to his/her ability to adapt the training content to the attendees' entrepreneurial profile and type of project. Secondly, the trainer's motivation must be analysed with a broader temporal perspective that corresponds to the full scope of the process that the entrepreneur goes through in his/her training. Lastly, in respect of the trainers' interpersonal skills, it is recommended that their ability to build a relationship of trust with the entrepreneur, as well as to provide emotional support during the programme should be studied.

Regarding the workplace environment, the proposed model includes very interesting elements that can influence the TPfE success. The literature on training transfer has addressed the impact of the support that the trainee might receive from their organisational superiors and colleagues at the time of applying what they have learned. However, these aspects are difficult to extrapolate to the work experience undertaken by the attendees of a TPfE. Thus, certain groups such as programme peers, key partners and customers who join the TPfE provide social support while helping to consolidate the integration of what has been learned with the business idea of the trainee. Also, the proposed model analyses the support provided by the entrepreneurial project partners and the family, when applying what has been learnt. Both agents have a great influence on the entrepreneur, on his/her entrepreneurial process, and during the

training programme development. On the other hand, the opportunity to apply what has been learned in daily work activities is a question traditionally related to the degree of autonomy that the trainee possesses at work, a question that is not too applicable for the analysis of the training transfer of the entrepreneur. Thus, in the proposed model, this element is adapted to reflect the temporal alignment between the pace of learning and the entrepreneurial project state of progress. Lastly, the availability of material, human and financial resources is still relevant in the analysis of the training transfer within the framework of a TPfE, but with particular emphasis on technological and knowledge resources, given their special importance in the process of creating a new business project.

On the other hand, traditional analysis of the influence of the organisational environment on the training transfer has to be carefully tailored to the context of a TPfE. The organisational environment in which the trainee applies what has been learned in the TPfE is conditioned by the emerging state of the entrepreneurial project, which differs significantly from that of a well-established organisation, which is the traditional focus of training transfer literature. For this reason, the proposed model studies two different sub-categories of the environment: the entrepreneurial macrosystem and microsystem. The first would encompass the influence that particular society or geographic region may have on the entrepreneur's motivation to learn and apply what has been learned. This macrosystem, through its agents, the interaction between them and the institutional, financial and knowledge capital it provides can influence the success of the training for entrepreneurship. The second refers to the environment closest to the institution that provides the TPfE. Co-working spaces, business incubators and accelerators that surround entrepreneurship programmes are diffuse, permeable, informal, and interconnected frameworks that must be studied when analysing the training transfer. The model proposes that the TPfE's promoting institution has its own organisational culture that can influence the trainee's efforts to transfer what has been learned. Also, it may have a certain degree of specialisation that affects the application of what is learned. It is also proposed to analyse the influence of the connection dynamics, the management model applied, and the space where the TPfE is developed.

Finally, the outputs of the training process, divided into the dimensions related to cognitive results, affective results, behavioural

Table 2
Training transfer outputs: adaptation for training for entrepreneurship programmes.

	Training transfer		Entrepreneurship	
	Element	Concept	Element	Concept
Cognitive results	Knowledge	Knowledge retention of the content of the programme	Knowledge	<ul style="list-style-type: none"> • Technical • Managerial • Business opportunities identification • Creativity • Products/services development • Risk-taking • Decision making • Problem-solving • Leadership and communication • Networking
	Skills	Skill demonstration based on training content	Entrepreneurial skills	
Affective results	Beliefs Attitudes Desires Values Interests	Changes in beliefs, attitudes, desires, values and interests relevant to the training programme	<i>Entrepreneurial self-efficacy</i>	<ul style="list-style-type: none"> • Confidence in identifying opportunities • Confidence in planning capacity • Confidence in the marshalling of resources • Confidence in implementation of business project • Conviction in the creation of the start-up • Culmination of the business plan • Search for financial resources • Hiring of human resources • Generation of the start-up • Financial success • Maintenance over time
Behaviour changes	Generalisation Maintenance Adaptability	Knowledge and skills learned from the training programme generalised to the job, maintained over time and adapted to new work situations	<i>Entrepreneurial intention</i> <i>Intermediate milestones</i>	
Organisational outcomes	Individual level performance Unit level performance Organisational level performance	Performance improvements at the individual, unit, and organisational level based on the cognitive, affective and behavioural change results of the training programme	<i>Final results</i>	

In *italics*: aspects incorporated from the entrepreneurship literature to the study of training transfer.

changes, and organisational outcomes, are concretized in specific questions according to the particular objectives of each training program. In this work, these outputs have been specified according to the purposes of a TPfE (see Table 2). Thus, the proposed model includes, firstly, the analysis of cognitive results, emphasising technical and managerial knowledge and the entrepreneurial skills necessary to develop the entrepreneurial process. Secondly, and responding to the recommendations of the entrepreneurship training literature, the study of affective results is included, with specific attention to entrepreneurial self-efficacy and entrepreneurial intentions. Thirdly, any training programme seeks to change the behaviour of those attending it, which generates the transfer of training itself. So, it is proposed to adjust the study of the behaviour change to the path of the entrepreneurial project. In order to do this, the development of certain preparatory activities for the start-up launch, such as the business plan creation or the search for financial resources, should be analysed. Lastly, the model proposes the analysis of distal organisational outcomes of the training programme, focusing on the start-up's generation, its financial success, and maintenance over time.

6. Conclusions

The revision of the literature on training transfer and training for entrepreneurship has allowed the construction of a holistic and inclusive model adapted to the particular circumstances of TPfEs. Testing this model in subsequent empirical studies will allow evaluating the importance of each of the elements included, which may generate specific practical recommendations for managers of institutions promoting TPfEs. Some of these elements adapt to those already covered by the training transfer literature, and others are new additions. Among the latter, it is considered of particular interest to study the trainee's psychological capital as an outstanding characteristic. Regarding the programme design, it would be interesting to analyse the influence of its format and its alignment over time with the entrepreneurial project's stages. Concerning the trainer characteristics, the need to study the influence of the different types of trainers is highlighted. The study of the influence of the work environment on training transfer should emphasise the support generated by peers, key partners and customers, by the promoting team partners and finally, the family support. In addition, the study of the organisational environment should focus on the entrepreneurial macrosystem and microsystem. Regarding the training outputs, the analysis of the TPfE's success requires focusing on the achievement of entrepreneurial self-efficacy and intention as well as intermediate milestones linked to trainee's behaviour changes. Finally, the consolidation of the entrepreneurial project is a crucial performance variable to study, as it defines the TPfE's success.

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Declaration of competing interest

none.

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