

Leveraging Communities of Practice to Cultivate Entrepreneurial Mindset: A Systematic Review and Practical Insights

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Abstract

This paper explores the role of Communities of Practice (CoPs) as a potential teaching tool to better promote an entrepreneurial mindset, particularly in the context of higher education. Through a systematic review of existing learning theories and the concept of CoPs, this paper identifies the challenges of entrepreneurial education and proposes changes in higher education that focus on creating entrepreneurial awareness, enhancing entrepreneurial competencies and developing students' entrepreneurial identity to foster an entrepreneurial mindset by supporting formal higher education with informal educational practices such as CoPs. The originality of this paper lies in the presentation of the alternative concept of Accountable Entrepreneurial Education. By combining theoretical insights with practical examples, this paper serves as a valuable resource for educators, researchers and practitioners in the field of entrepreneurship education.

Introduction

Entrepreneurship is an important driver of economic development, efficiency and competitiveness, it fosters innovation, creates jobs (Shane & Venkataraman, 2000; Amofah & Saladrighes, 2022), promotes social change and a better quality of life and thus contributes to economic growth and sustainability. The EU identifies entrepreneurial competencies as key competencies not only for the world of work but also for everyday life and assigns higher education institutions (HEIs) a key role in developing an entrepreneurial mindset that should be addressed to all students, regardless of their future career path or personal experience (Gibb, 2002). Research has shown that it is possible to develop an entrepreneurial mindset by providing people with the knowledge, skills and attitudes necessary to recognize opportunities, innovate and take calculated risks through entrepreneurial education. Therefore, HEIs have an extremely important role to play in preparing the future generation of entrepreneurs and promoting positive change.

The entrepreneurial mindset is a way of thinking and acting that can be cultivated to encourage innovation and proactive behaviour. It is a set of attitudes, skills and behaviours that enable individuals to identify opportunities, deal with uncertainty, innovate and create value.

To change the entrepreneurial attitudes of Generation Z students and create a more favourable entrepreneurial environment, modern HEIs need to innovate the way they develop an entrepreneurial mindset in their students by introducing alternative teaching and learning strategies and promoting students' competencies through active participation in the learning process (Igwe et al., 2022). Through a systematic review, this paper aims to deepen the understanding of how entrepreneurial education in higher education (HE) can better promote the entrepreneurial mindset through the application of an alternative teaching approach. Using the Situated learning theory (Wenger, 1998), it explores how entrepreneurial education, which includes curricular content, active learning and extra-curricular activities, can influence students' entrepreneurial mindset. This paper has theoretical, policy and practical significance. First, an overview of the theoretical considerations of the entrepreneurial mindset is provided. It then introduces the relevant learning theories and discusses the challenges of entrepreneurial education today. Next, the concept of Communities of practice is discussed, followed by the introduction of the new concept of Accountable Entrepreneurial Education. The chapter ends with conclusions and practical implications.

Theoretical Background

The mindset determines how someone uses and reacts to information (Dweck, 2006). The entrepreneurial mindset is characterized by a combination of attitudes, individual characteristics, beliefs, and behaviours that relate to an entrepreneur and that help individuals find, interpret, evaluate, and pursue innovation opportunities (Korte, 2018). Krueger (2015) has emphasized that the is deeply cognitive and shares common characteristics such as opportunity recognition, risk-taking, creativity and innovation, future orientation, flexibility and adaptability, initiative and self-confidence, critical thinking and problem-solving, communication and collaboration. Key aspects of an entrepreneurial mindset include a willingness to try out new ideas, the ability to think creatively, take calculated risks and step out of one's comfort zone. It also includes proactivity, resilience, self-efficacy, opportunity recognition, resourcefulness, learning orientation and creating value for others,

whether through products, services or solutions. Together, these dimensions form a mindset that focuses on the ability to recognize, act and mobilize resources under uncertain conditions and overcome challenges to succeed in ambiguous and extremely difficult circumstances (Cui et al., 2021; McGrath and MacMillan, 2000; Ireland et al., 2003; Taatila, 2010). In a broader sense, an entrepreneurial mindset is described as an entrepreneurial attitude towards life (Blenker et al., 2012).

Developing an entrepreneurial mindset in HE is important as it prepares students to succeed in a rapidly changing and increasingly complex world, and equips them with the necessary skills and attitudes to succeed in different areas of life, thus contributing to economic and social development and fostering a culture of innovation and continuous improvement (Kruger, 2015). The modern labour market and business environment are constantly evolving, which is why fostering an entrepreneurial mindset in HE is also crucial (Ikonen, 2013). An entrepreneurial mindset helps students to adapt to change and uncertainty, and they learn to see challenges as opportunities and develop creative solutions, which strengthens their resilience in the face of setbacks. An entrepreneurial mindset encourages innovative thinking and leads to the development of new ideas, products and services (McGrath & MacMillan, 2000). Entrepreneurial graduates can contribute to the local and global economy and promote development and innovation in their communities. Developing an entrepreneurial mindset builds confidence in one's ability to achieve goals and overcome obstacles. An entrepreneurial mindset promotes continuous learning and personal growth, which is essential in an ever-changing world. The skills and attitudes that come with an entrepreneurial mindset – such as initiative, critical thinking and resilience – are valuable in all fields, not just business.

Awareness and skills have been found to have a positive impact on the entrepreneurial mindset (Cui et al., 2021). Previous research (Lakshmi & Jayakani, 2024) has also identified five key factors that significantly influence the entrepreneurial mindset: entrepreneurial personality, entrepreneurial attitude, entrepreneurial intention, entrepreneurial career and entrepreneurial education. It is quite difficult to identify all the attributes, skills and knowledge that characterize an entrepreneurial mindset, which makes it extremely difficult to decide how to develop them in formal education and how to assess students' learning and behaviour. Entrepreneurial education at HEIs is under pressure to meet the needs

and expectations of students on the one hand and the demands of the world of work on the other. It is based on the assumption that it is possible to develop an entrepreneurial mindset during education (Hjorth et al., 2015). Fayolle (2009) conceptualizes entrepreneurial education as all activities aimed at developing an entrepreneurial mindset, attitudes and competencies. This encompasses a wide range of areas such as idea generation, business creation, growth and creativity.

Although entrepreneurial education (EE) has been around for more than 60 years worldwide, the question is whether educational initiatives are effective in developing an entrepreneurial mindset and whether they can be embedded in higher education curricula (Florin et al., 2007; Yang, 2016; Loi et al., 2022; Cui et al., 2021), especially because classroom teaching and the real world are so different. Classroom teaching provides a structured, theoretical and controlled environment with guided learning and immediate feedback, using primarily academic resources. In contrast, the real world provides a dynamic, practical and unpredictable environment with self-directed learning, performance-based assessment and multiple interactions and resources. See Table 1 for more details on the differences.

The differences between the classroom and real life can be seen as the main reason for the low effectiveness of EE in HE, and understanding these differences is crucial to bridging the gap between academic learning and practical application and ensuring that the skills and knowledge acquired in HE can be effectively transferred and utilized in real-life contexts.

In HE too much emphasis is placed on classroom learning. This formal education is a structured, sequential and institutional form of education with standardized curricula, formal assessments and recognized qualifications (Gibb, 2007). However, learning is not only the result of formal education, much learning also takes place outside the classroom. This is what is known as informal education and non-formal education. Informal education refers to unstructured, spontaneous learning that takes place in everyday life without formal curricula or assessments, while non-formal education includes semi-structured, organized learning that takes place outside of traditional educational institutions, with flexible curricula and informal assessments. Both informal and non-formal education could complement formal education by providing diverse learning opportunities and fostering lifelong learning skills and attitudes (Melnic & Botez, 2014).

Table 1

Comparison of classroom and real-world settings

	Classroom	Real-world
Environment	controlled environment with a predefined curriculum and structured learning activities, lessons follow a set schedule, and outcomes are often predictable	unpredictable environment with dynamic, real-time challenges, learners must adapt to changing circumstances and unexpected situations
Focus	theoretical knowledge, concepts, and principles, opportunities for practical application are simulated or hypothetical	practical, hands-on experiences and applying knowledge to real-life situations, learning involves solving real-world problems and making decisions
Assessment	teachers provide immediate feedback on performance and learning is assessed through standardised tests and exams	success is assessed based on outcomes, performance, and impact in real situations, feedback comes from results, experiences, or supervisors, and can be delayed
Resources	primarily textbooks, lectures, and other academic materials, teachers guide the learning process, providing explanations and answering questions	a wide range of tools, information sources, and real-life experiences, students need to seek out information and learn independently
Interaction	structured through group work and classroom discussions and limited to classmates of similar age and background	a diverse group of people, including colleagues, mentors, and clients, learning through collaboration, teamwork, and exposure to different perspectives

Source: Author's synthesis according to Gibb (2007) and Kolb & Kolb (2009)

Entrepreneurial education should lay the foundation for an entrepreneurial mindset by providing individuals with the necessary tools, experiences and incentives to think and act entrepreneurially, thus raising a new generation of innovative and dynamic leaders (Cui et al., 2021). In modern HEIs, the main objective of entrepreneurial education is to develop entrepreneurial competencies and an entrepreneurial mindset that promotes an entrepreneurial attitude towards life (O'Brien & Cooney, 2016). It is argued that HEIs that create the right environment for an entrepreneurial mindset will be more successful (Green, 2019).

By design and delivery, entrepreneurial education at HEIs inhibits creativity and limits critical thinking and innovation. Faculty rarely consider the input of entrepreneurs and employers (Serdyukov, 2017). Although it is now common for HEIs to collaborate with businesses and public organizations (usually in the form of guest lectures), it is very difficult to incorporate working life into the HE curriculum.

Researchers agree (Gibb, 2002; Fayolle, 2009; Taatila, 2010; Philpott et al., 2011; Blenker et al., 2012; Kruger, 2015; Yang, 2016; Igwe et al., 2022) that the promotion of an entrepreneurial mindset is less likely to be successful if it is only attempted through instruction at HEIs alone. The reason for this could be that students develop their entrepreneurial awareness by acquiring knowledge and skills in the classroom and are then expected to practice entrepreneurial behaviour in a completely different environment. The results fall short of expectations and their self-identity, self-efficacy and motivation suffer. To bridge this gap and ensure that the competencies acquired in the classroom are transferable beyond the classroom, entrepreneurial education should provide students with opportunities to interact with stakeholders and apply entrepreneurial competencies by extending the learning environment beyond the classroom.

Methodology

The study relied on a systematic literature review (SLR) that synthesised research findings from several studies on entrepreneurial education and learning theories, searching multiple databases and using various search terms, with no research in the field. To ensure that the selected studies were consistent with the research

objectives, methodologically rigorous and provided a comprehensive overview of the topic under investigation, only studies with a strong conceptual or theoretical basis relevant to the objectives of this paper were considered. These include peer-reviewed journal articles, books and conference proceedings written in English that include quantitative, qualitative and mixed-method studies and directly address the selected keywords. The data from 65 books and journals were analysed in the following steps: searching different sources about what is to be researched, analysing the results obtained from different sources, inclusion and exclusion, and conclusions and explanations (Fundoni et al., 2024). The keywords used in the study were: "Entrepreneurship Education, Entrepreneurial Mindset, Entrepreneurial Education, Higher Education, Learning Theories, Situated Learning Theory, and Communities of Practice". The quality of the included papers was assessed using a standardised instrument, i.e. AMSTAR checklist, which is specifically designed for evaluating the scientific paper quality by assessing its transparency, rigour, and reproducibility.

The Results and Discussion section reviews the literature and integrates the findings to provide answers to the following specific research question: How can entrepreneurial education in higher education better promote an entrepreneurial mindset? The relevant data from the included studies were systematically extracted and the results are summarised here.

Results and Discussion

To find an answer to the research question about the challenges faced by modern entrepreneurial education and to discuss the approaches and innovations in entrepreneurial education to promote entrepreneurial mindset among students, a systematic review of previous literature was conducted.

Introduction to Learning Theories

The following existing learning theories were identified as relevant to the promotion of entrepreneurial mindset: Social cognitive theory (Bandura, 2002), Engagement theory of learning (Kearsley & Shneiderman, 1998), Social identity theory (Hogg, 2016) and Situated learning theory (Wenger 1998). A summary of the relevance of these theories is presented in Table 2.

Table 2

Existing theories and their relevance for entrepreneurial education

Theories	Relevance for promoting students' entrepreneurial mindset
Social cognitive theory	Learning happens through observing, and role models. The importance of personal factors, environment and behaviours for learning (reciprocal determinism) Supportive learning environment. Active engagement in learning. Vicarious learning (through the experience of others). Positive experiences and incremental success to build self-efficacy. Motivation through self-regulation.
By emphasizing learning through observation, self-efficacy, and interaction with one's environment, this approach can help students build the skills, confidence, and resilience needed, reinforcing behaviours and attitudes that form an entrepreneurial mindset.	
Engagement theory of learning	Collaboration as a core component of learning. Relate-Create-Donate Model (collaboration - Relate, project creation - Create, and making meaningful contributions - Donate). Meaningful learning experiences lead to better knowledge retention - Engagement Through Real-World Problem-Solving. Learning is most effective when actively engaged in meaningful, collaborative, and project-based activities. The importance of active participation.
This theory provides a valuable framework for entrepreneurship education by promoting active, collaborative, and meaningful learning experiences, and real-world applications. By aligning with these principles, educational programs can effectively cultivate an entrepreneurial mindset, and prepare students to think innovatively, collaborate effectively, and bring value to real-world situations.	
Social identity theory	Students identify with the groups they belong to, and this influences their behaviours and attitudes. Importance of role models within a social group. Fostering a strong sense of in-group belonging. Identity evolves through active participation in group practices. Learning through positive comparisons, interactions between individuals and social environment. Adapting the norms and behaviours of identity. Social Identity as a driver for risk-taking and innovation. Identifying with a group provides a sense of purpose.
By encouraging students to adopt an entrepreneurial social identity, align with entrepreneurial role models, embrace group norms, and actively participate in entrepreneurial activities, education programs can help students internalize entrepreneurial values, behaviours and attitudes. This approach makes the entrepreneurial mindset not just a set of skills but part of students' identity, which is more enduring and impactful.	
Situated learning theory	Learning through active participation in meaningful Social structure and meaning are continually negotiated through active participation embedded in contexts other than formal education. Learning influences one's identity, as individuals adopt new roles and social identities within a community. Learning involves participation and reification (creating shared representations of knowledge). Learning through social interaction and observation. Learning through legitimate peripheral participation. Educational institutions are not the only locus of learning.
By embedding students in real-world entrepreneurial contexts, encouraging participation in communities of practice, and promoting identity transformation, this theory helps students internalize entrepreneurial skills and attitudes. This theory not only makes learning more relevant and impactful but also encourages a mindset of continuous learning, adaptability, and resilience.	

Source: Author's analysis

Situated Learning Theory (SLT)

The concept of Situated learning theory (SLT), which was developed by Etienne Wenger (1998) (Wenger, 1998), is particularly relevant and will therefore be discussed in more detail. SLT assumes that learning is inherently linked to the situation in which it takes place, that it is most effective in a context that is meaningful and

relevant to the learner, and that knowledge is best learned and retained when it is acquired through practical application in the real world rather than through decontextualized information or memorization (Lave & Wenger, 1991). Learning takes place when individuals participate in collective activities and share knowledge and skills. By participating in communities, learners move from a peripheral to a more central role as they gradually

acquire knowledge and skills. Wenger refers to this process as legitimate peripheral participation. Similar to traditional apprenticeship, cognitive apprenticeship is about learning through guided experiences and social interactions in which experts model the behaviours of novices.

Negotiation of meaning (i.e., the process of becoming a particular person in a particular context (Wenger, 1998), as opposed to merely acquiring information or knowledge) and identity are two key components of SLT. The negotiation of meaning involves two enriching concepts: Reification and participation (Farnsworth et al., 2016), where reification refers to the process of giving form to experiences by creating objects, terms, symbols, and concepts that can be shared and recognized within a community and that provide tangible representations of knowledge and practice. Examples of reification include the creation of documents, tools, roles, symbols and rituals that embody the knowledge and practices of a community. Participation, on the other hand, involves active, social involvement in these practices. It encompasses the interactions, activities and relationships through which people learn, contribute and are recognized as members of the community. Participation means contributing to the shared practices and knowledge of the community, which facilitates learning, meaning-making and identity formation.

Members build their identity in three ways: Imagination, Engagement, and Alignment, which work synergistically together. They need to identify with and contribute to the community (Farnsworth et al., 2016). The entrepreneurial mindset is shaped by social identity, as entrepreneurship is essentially a social endeavour that depends on the interactions and beliefs of a diverse ecosystem (Bucholtz & Hall, 2005). An identity encompasses a set of meanings that describe who a person is when they occupy a particular role in society, belong to a particular group, or possess certain characteristics that define them as a unique individual (Burke & Stets, 2022). Identity is made up of three components: a relatively stable set of personality traits, role identity, a set of expectations and behaviours for a particular social position, and social identity, a set of characteristics that define what it means to be part of the group. This last component of identity can change depending on the meaning/characteristics of the group. A person's identity is the result of the interaction between personality and social context.

Communities of practice (CoPs)

It is possible to implement the principles of SLT in HE through organizational structures that combine meaning, membership and participation with a common purpose. These groups, formed around a common interest characterized by a field of interest, a community of members who engage with each other, and a shared practice that develops through collective learning and interaction, are known as Communities of practice (CoPs) (Nordell, 2014). They are characterized by a domain, a community and a practice. The domain refers to the area of interest or topic around which the community revolves and provides a common ground and sense of identity. The community of members is the social structure that facilitates relationships, interaction and learning between members. The practice around which the community organizes its interactions refers to the shared repertoire of resources, experiences, tools, stories, routines, vocabulary and methods.

CoPs have been around as long as humanity, they are everywhere and appear in many different forms, but not all groups and teams are CoPs. It has been shown that (Thompson, 2005) CoPs fulfil certain criteria. There are lasting reciprocal relationships between members, interaction takes place not only within the community but also between the community and the context, members share the way they engage and promote forms of ongoing practice themselves, information flow and innovation develop, a high level of understanding is present, members use specific tools and artefacts, they share local lore, stories and jokes and have mutually defined identities, jargon and abbreviations for communication, distinctive styles and a shared discourse that reflects a particular perspective.

Some examples of CoPs are: Tribes focused on traditional knowledge and practises; groups of doctors, nurses, and health professionals sharing best practices, new treatments, and medical research; teachers and educational administrators discussing pedagogical strategies, curriculum development, and classroom management; student-led organisations focused on interests such as environmentalism or entrepreneurship, where they learn through shared activities and experiences; communities formed around hobbies such as photography or gardening; groups focused on social issues, where members collaborate to address problems

such as poverty, education or health and share strategies and resources, etc. Each CoP has a distinctive profile consisting of characteristics that describe an ideal member. This profile is the main reference point for those who want to join the community (Korte, 2018), and of course, there is a limitation based on willingness to join. Joining a community requires the individual to adopt the norms, beliefs and values of the group (Ashforth & Mael, 1989). Resolving these conflicts is an essential part of forming a new identity and a crucial aspect of developing entrepreneurial behaviour.

Application of Communities of Practice (CoPs) in entrepreneurial education

Situated learning theory underpins much of the discussion in entrepreneurial education literature, as it emphasizes learning in context. CoPs provide a situated learning environment where students can engage in discussions, collaborations, and projects directly relevant to entrepreneurial challenges. This contextual learning fosters a deeper understanding of the entrepreneurial process and enables learners to apply theoretical knowledge to real-life scenarios.

CoPs can influence educational practice in three ways. First, within higher education institutions designing educational experiences that integrate practical application and active participation. Secondly, beyond HEIs by connecting students to real-world practises through engagement with wider communities outside the formal educational environment. And finally, they support lifelong learning by creating communities that focus on topics that continue to engage and interest students after they have completed their formal education. The introduction of CoPs into entrepreneurial education in higher education may have a positive impact on at least some dimensions of entrepreneurial mindset, as previous research (Sedlan König, 2022) has shown that students who have participated in CoPs during their studies have a higher propensity for entrepreneurial behaviour and better self-efficacy. In entrepreneurial literature, tacit knowledge, i.e. knowledge gained through personal experience, plays a crucial role in entrepreneurial success (see Virtanen, 2014). It is vital for entrepreneurial decision-making but is challenging to transmit through formal education alone. CoPs facilitate the transfer of tacit knowledge that is often not recorded in formal documents. They are dynamic, promote continuous learning and play a critical role in professional development, knowledge sharing and fostering innovation in their field. They also provide opportunities for self-directed learning, which should be

encouraged in entrepreneurial education (Igwe et al., 2022). Students have access to mentors who share their entrepreneurial experiences with them, they learn together in small groups with which they identify.

A person who does not identify as a creator, innovator, risk taker, opportunity seeker, initiator, communicator, organizer, collaborator and problem solver is unlikely to succeed in this role. Entrepreneurial behaviour goes beyond knowledge and action. It also includes the adoption of norms and behaviours associated with the entrepreneurial identity. Developing an entrepreneurial mindset is therefore not just about becoming more innovative, ambitious or risk-taking, it is also about students changing their personal, social and professional self-image (Korte, 2018), which is very difficult to achieve in formal higher education. CoPs can provide an interesting playground for this.

An entrepreneurial mindset can hardly be a product of formal entrepreneurial education. CoPs could support the development of teaching methods at HEIs, provide tools for course redesign, improve the outcomes of entrepreneurial education and promote collaboration between HEIs and society (Nordell, 2014). By introducing CoPs into entrepreneurial education, the ambition to strengthen entrepreneurial competencies could reach beyond the framework of formal higher education and support it dynamically.

CoPs can also play a crucial role in developing an entrepreneurial mindset by providing a collaborative environment where individuals can share knowledge, experiences and best practices as they create a platform for the exchange of explicit and tacit knowledge related to the entrepreneurial way of life. Students can learn from each other's successes and failures and gain practical insights that are often not taught in formal HE. By bringing together people with different perspectives and skills, CoPs foster an environment that encourages creative problem-solving and innovation. This is essential for developing the kind of thinking required for an entrepreneurial mindset.

In addition, social capital theory, often discussed in entrepreneurship literature, highlights the importance of networks and relationships in accessing resources, information, and opportunities (see Julien, 2015). Bourdieu and Coleman argue that social capital is instrumental for entrepreneurs, as it provides access to resources and support systems that are crucial for venture success. CoPs act as networking hubs and thus help build social capital, and networks between members

which provide emotional support, resources and opportunities for trust and collaboration.

Reflection is a key element in entrepreneurial learning. It allows students to evaluate their experiences, learn from them, and apply insights to future challenges, a process critical to developing a strategic and adaptive mindset (Schön, 1993; Kolb & Kolb, 2009). CoPs offer a platform for reflective practice, where members can discuss their experiences, receive feedback, and learn collectively.

Entrepreneurial mindset literature (McGrath & MacMillan, 2000) emphasizes that entrepreneurial behaviour entails dealing with uncertainty and willingness to take calculated risks. By participating in CoPs, students can safely experiment with new ideas and discuss failures, which helps normalize risk-taking and resilience-building. They can develop practical skills that are directly applicable in real life, such as leadership, negotiation, project management and risk assessment skills. CoPs often engage in real-life projects that provide members with hands-on experience. This experiential learning is critical to understanding the complexities of the real business world. In summary, by fostering continuous learning and adaptation, CoPs support an entrepreneurial mindset, promote the practical application of explicit knowledge (Philpott et al., 2011), and provide a supportive environment for adapting to changing conditions and learning from their experiences. Thus, CoPs can complement formal higher education by fulfilling a rather unrealistic task assigned to entrepreneurial education, namely to introduce students to the entrepreneurial way of thinking and prepare them to smoothly transfer the acquired knowledge, skills and attitudes to the real world.

To summarize, CoPs ensure that learning is contextualized and that knowledge, skills and attitudes are acquired through guided experiences and interactions in a meaningful context, fostering entrepreneurial awareness, capacity and identity. The concept of Communities of Practice (CoPs) is linked to entrepreneurial literature and practice as CoPs provide a structured environment where students gain essential skills, develop an entrepreneurial identity, and learn from both peers and mentors in a practical setting. CoPs also emphasize the role of social learning, experiential knowledge, and identity formation, which are critical in fostering entrepreneurial mindsets and behaviours. Therefore, it makes sense to include CoPs in entrepreneurial education at HEIs.

Accountable Entrepreneurial Education (AEE)

In response to the research question and based on the existing theories, and as a means to foster students' entrepreneurial mindset, the proposal for the introduction of the novel approach under the name Accountable Entrepreneurial Education (AEE) is made here. By including CoPs, AEE encompasses formal, informal and non-formal educational practices in entrepreneurial education. CoPs are seen as opportunities to promote an entrepreneurial mindset as they allow to focus on three essential components: Creating awareness and empathy for the entrepreneurial way of life, enhancing entrepreneurial capability and developing students' identity when students are expected to adopt the entrepreneurial mindset and transfer the acquired competences to real life. It considers the entrepreneurial environment, mentors and role models are important to foster the entrepreneurial mindset. By incorporating CoPs, AEE can seamlessly bridge the gap between academic knowledge and its application. Figure 1 shows the complex interplay of components that should be integrated and work together in entrepreneurial education at HEIs and beyond.

Formal higher education faces the challenge of fostering students' entrepreneurial experiences and facilitating adaptive and personalized learning (Igwe et al., 2022) necessary for the development of entrepreneurial competencies. Unfortunately, too often the focus in formal education is on imparting knowledge and not on developing students' entrepreneurial capabilities and identities. It is extremely difficult to allow students to gain direct experience through learning by doing in the classroom due to high student enrolment, limited class time, and teachers using outdated curricula and still relying mainly on traditional teaching and learning methods where teachers pass on knowledge and limit students' creativity, discovery, exploration of possibilities and critical thinking.

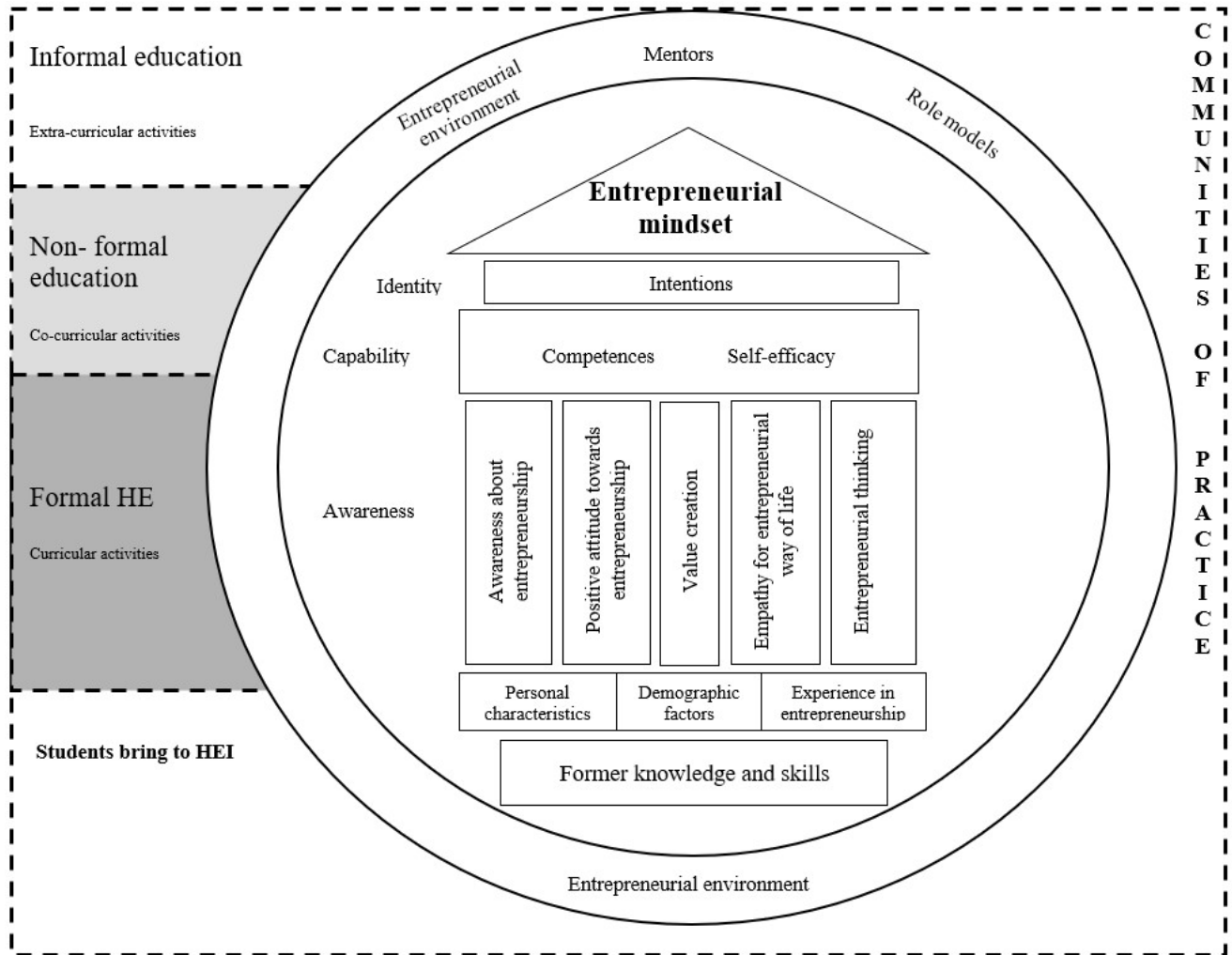
Entrepreneurial learning theory (Cope, 2011; Rae, 2005) emphasizes the importance of experiential learning and learning-by-doing in the development of entrepreneurial skills. CoPs provide this type of experiential learning environment, and learning outside the classroom, through CoPs ensures the relevance of knowledge, skills and competencies and provides an alternative and cost-effective solution to these challenges. It is experiential, engages students in various components that promote an entrepreneurial mindset, such as opportunity

recognition, resource mobilization, and risk management, and places them at the centre of education. Self-efficacy, which is defined as a person's belief in their ability to organize and implement actions to achieve desired

performance and outcomes (Bandura, 2002), is also promoted through practice, self-directed learning, and social networking (Igwe et al., 2022), which mainly take place outside the classroom, in CoPs.

Figure 1

Accountable Entrepreneurial Education for fostering an entrepreneurial mindset



Source: Author

CoPs cannot replace formal higher education. Therefore, AEE provides for the acquisition of knowledge through formal educational practices but also offers students the opportunity to develop entrepreneurial capability and awareness and to explore their entrepreneurial identity. CoPs provide opportunity, support and material for all these aspects.

identity for which this knowledge is important. The curriculum provides knowledge, while CoPs provide the opportunity for practice, competence, and 'knowability'. There is a big difference between assuming an identity (he is an entrepreneur) and living out that identity (he behaves entrepreneurially). This cannot be achieved in the classroom and through formal curricula.

An alternative way to promote an entrepreneurial mindset is through CoPs. They help educators to think differently about formal education. Farnsworth et al. (2016) emphasize that if identity formation is an important part of all learning, educators cannot impart knowledge to students without introducing them to the

As mentioned earlier, identity is formed through imagination, commitment and adaptation, and all three forms are necessary to negotiate meaning. This suggests that if HEIs are to promote an entrepreneurial mindset, they need to provide opportunities, materials and so that all three processes can work synergistically. HEIs focus

predominantly on the technical dimensions of learning, detached from practice and identity. In HE, a conformist focus on curriculum requirements (the knowing) prevails, and there are few opportunities for personal engagement (the doing) and identity formation (the being). Identity should be considered as an organizing principle in the design of Accountable entrepreneurial education (Farnsworth et al., 2016), with a focus on designing relevant and meaningful learning contexts that promote identity negotiation.

In terms of the duality of reification and participation, AEE bridges the gap between academic knowledge and working life and the possibilities of bridging this gap. Academic knowledge can be categorized as reification and CoPs can be seen as forms of participation that support the negotiation of the meaning of knowledge acquired in higher education. By introducing CoPs into formal higher education, the two processes would complement each other in the negotiation of meaning.

Examples of CoPs for students in higher education and beyond include Innovation and entrepreneurship clubs and societies, internships, community projects, service learning, volunteer groups, small business consulting activities, research clubs, study groups, student organizations, (student) mentoring programs, creative arts groups, sports and recreation clubs, and more. Although they vary in form and focus, they can all enhance learning, promote personal development and prepare students for career success through collaboration and shared experiences. These examples share some common characteristics. All are forms of social, and collective learning, are student-led, involve experiential learning, and cooperative learning, promote reflective practice, and take place in a supportive environment. They embrace the way entrepreneurs learn, i.e. the so-called "learning-as-you-go" process, through mistakes, crises and as a result of emotional distress.

These activities promote mutual engagement, a shared repertoire and joint efforts through problem-solving, joint exploration of ideas, trust and respect. The most important driver of innovation and change is the entrepreneurial mindset of teachers. The so-called educational entrepreneurs (Brown & Cornwall, 2000) are individuals or organizations that create and implement innovative solutions to improve education and share a common goal: to improve education through innovation, leadership, and a relentless focus on positive student outcomes. They are characterized by creativity, vision, strategic planning, courage, passion for education and openness to feedback, among other qualities. They

discover innovation to bring about change by developing learning outcomes that explicitly relate to the entrepreneurial mindset.

As the systematic review has shown that focusing on the development of students' entrepreneurial identity could ensure better effectiveness of entrepreneurial education, it is crucial that efforts are made in AEE to shape this identity and this is feasible through the negotiation of meaning, i.e. reification and participation that materialize in the CoPs.

Conclusion

This paper presented new evidence on fostering an entrepreneurial mindset by introducing the novel concept of Accountable Entrepreneurial Education which proposes Communities of practice as an alternative teaching tool in higher education that enables the development of students' entrepreneurial identity, awareness and skills to embrace entrepreneurial mindset by providing relevant and meaningful contexts for the acquisition and application of relevant knowledge, skills and attitudes.

Accountable Entrepreneurial Education focuses not only on entrepreneurial personality, attitude and intention but also on entrepreneurial awareness, entrepreneurial capability and identity, fostering empathy for an entrepreneurial lifestyle and promoting an entrepreneurial mindset. AEE is a novel approach because it includes identity as an organizing principle in the design of higher education and because it incorporates informal and non-formal practices such as CoPs.

The information and views presented here can assist educators and practitioners, as well as administrators and program managers, in creating sustainable educational programs and fostering an entrepreneurial mindset among students. Implementing CoPs and AEE can significantly enrich entrepreneurial education by creating a more integrated, practical, and identity-focused learning environment in HEIs. The shift, however, requires a comprehensive approach involving curriculum changes, faculty development, institutional support, and policy adjustments to effectively foster an entrepreneurial mindset.

The fact that this study relies on a systematic review of existing literature may limit generalizability across different educational contexts or cultural backgrounds. Furthermore, the theoretical focus does not address practical barriers to implementing CoPs in formal HE,

which limits the potential for practical application. In addition, this paper being subject to length restrictions, did not examine the (long-term) impact of CoPs on entrepreneurial mindset. Conducting empirical studies that compare CoP-based entrepreneurial education with traditional methods could provide data on the effectiveness of CoPs. Furthermore, future studies could track students post-graduation to assess the impact of CoP-based entrepreneurial education on their career

paths, entrepreneurial achievements, and adaptability in the workforce. Also, research could explore hybrid educational models that combine CoP-driven informal learning with formal curriculum elements. This can deepen understanding of CoPs as an educational tool and help bridge the gap between theoretical constructs and practical application in the development of entrepreneurial mindset.

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Uporaba delovnih skupnosti za spodbujanje podjetniške miselnosti: Sistematični pregled in praktična spoznanja

Izvleček

Ta članek raziskuje vlogo delovnih skupnosti (angl. Communities of Practice - CoP) kot potencialnega učnega orodja za boljše spodbujanje podjetniške miselnosti, zlasti v okviru visokošolskega izobraževanja. S sistematičnim pregledom obstoječih teorij učenja in koncepta CoP opredeljuje izzive podjetniškega izobraževanja in predlaga spremembe v visokošolskem izobraževanju, ki se osredotočajo na ustvarjanje podjetniške zavesti, krepitev podjetniških kompetenc in razvijanje podjetniške identitete študentov za spodbujanje podjetniške miselnosti s podporo formalnega visokošolskega izobraževanja z neformalnimi izobraževalnimi praksami, kot so CoP. Izvirnost tega prispevka je v predstavitvi alternativnega koncepta odgovornega podjetniškega izobraževanja. Z združevanjem teoretičnih spoznanj s praktičnimi primeri ta članek služi kot dragocen vir za izobraževanje, raziskovanje in prakso na področju podjetniškega izobraževanja.

Ključne besede: učni pripomoček, podjetniško vedenje, visokošolsko izobraževanje, inovativna praksa