International Journal of Development and Sustainability
ISSN: 2186-8662 – www.isdsnet.com/ijds
Volume 14 Number 9 (2025): Pages 709-731
https://doi.org/10.63212/IJDS25042001

The impact of course design and curriculum on students' entrepreneurial aspirations in entrepreneurship education: A literature review

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Abstract

This narrative literature review examines how course design and curriculum development shape students' entrepreneurial aspirations within entrepreneurship education. Grounded in Constructivism and Human Capital Theory, the paper explores how pedagogical strategies, curricular content, and interdisciplinary approaches influence entrepreneurial mindsets and intentions. It emphasizes the need for higher education institutions to adapt to shifting labor markets by embedding entrepreneurship across disciplines. The review critiques traditional lecture-based methods and highlights the value of experiential, project-driven, and real-world learning that fosters innovation, risk-taking, and self-efficacy. It argues that the impact of entrepreneurship education depends on course structure, teaching methodology, and institutional context. Key elements such as interdisciplinary curricula, mentorship, industry collaboration, and effective assessment are identified as vital in enhancing entrepreneurial competencies. Despite challenges such as limited resources, institutional resistance, and misaligned course content, the paper contends that effective entrepreneurship education requires more than knowledge transfer. It calls for a cultural shift that positions students as active participants in creating economic and social value. Ultimately, the review advocates for innovative pedagogies and flexible curricula that strengthen entrepreneurial intentions and prepare students for the uncertainties of contemporary economies

Keywords: Assessment; Curriculum Development; Entrepreneurship Education; Experiential Learning; Higher Education, Innovation; Pedagogy; Student Aspirations

Cite this article as: Ayandibu, E.O. (2025), "The impact of course design and curriculum on students' entrepreneurial aspirations in entrepreneurship education: A literature review", *International Journal of Development and Sustainability*, Vol. 14 No. 9, pp. 709-731.

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1. Introduction

There is an emerging agreement on the pivotal role of entrepreneurship in fostering economic growth and ameliorating youth unemployment (Ajani et al., 2023). Entrepreneurship education has emerged as a feasible intervention. A prolonged charge has been levelled against implicit propositions of direct causality from entrepreneurship education to entrepreneurial intentions and, analogically, to the establishment of new ventures. The very nature of entrepreneurship is not explicitly tackled by traditional methods of teaching and instruction. Furthermore, the outcome of the entrepreneurial process is not necessarily the creation of a new venture but could be, for instance, intrapreneurship (Somasundaram et al., 2025). Nonetheless, recent empirical studies have provided supporting, albeit contentious, evidence for a positive relationship between entrepreneurship education and entrepreneurial intentions. The mechanisms through which this relationship is facilitated need more detailed delineations (Weber et al., 2009). More critically, the extant research on entrepreneurship education largely ignores the host of mediating and moderating variables, overlooking other factors which could interactively affect the entrepreneurship education–intention interface and the subsequent venture creation.

Recent calls propose that the impact that entrepreneurship education exerts on entrepreneurial intentions is subject to an intricate delicate mediation/moderation interplay of other competitive antecedents (Ndofirepi and Rambe, 2018). If it is assumed that entrepreneurship education and the preconceived notions are held constant, and that the environment remains dynamic, the manner in which entrepreneurial intentions take shape will only be comprehensively understood when the emergent intricate role of social ambivalence is taken into account.

This narrative review draws on a purposive selection of scholarly and policy literature relevant to entrepreneurship education, youth enterprise development, and ecosystem-based capacity-building. Sources were identified based on their conceptual relevance, citation significance, and contribution to current debates, with an emphasis on works published in the last decade.

This review adopts a narrative methodology, which allows for a flexible, integrative approach suited to synthesizing complex and interdisciplinary perspectives on entrepreneurship education. Sources were selected through purposive sampling based on their theoretical relevance, empirical contribution, and alignment with the review's central focus: the relationship between curriculum design and entrepreneurial aspirations in higher education. Academic databases such as Scopus, Google Scholar, and Web of Science were used to locate peer-reviewed journal articles, policy reports, and scholarly books published primarily between 2010 and 2025. Key themes, such as experiential learning, interdisciplinary curriculum integration, and the role of mentorship and assessment, emerged inductively during the review process and guided the organization of findings.

Therefore, the objective of this narrative literature review is to critically examine how course design and curriculum structure influence students' entrepreneurial aspirations within higher education. This review adopts a narrative approach, drawing from recent and relevant scholarly literature to identify key theoretical perspectives, instructional models, and implementation challenges that shape the effectiveness of entrepreneurship education.

2. Background and context

2.1. Definition of entrepreneurship education

Universities are increasingly interested in teaching entrepreneurship, but students' attitudes toward being entrepreneurs are not anticipated to increase (Noor, 2024). In the past, universities provided students with professional education; however, college students are finding it difficult to find good jobs after graduation. As a result, students' entrepreneurial intentions are on the rise. Many universities have introduced course programs and setups in relation to how to cultivate the entrepreneurial skill set (Bühler et al., 2022), but prospective students do not seem to be looking into this. Entrepreneurship education entails the skills in becoming an entrepreneur, including the ability to control a business or enterprise, creativity skill, and cognitive skills (Coțiu, 2025). Aside from exploring how to create a business, entrepreneurial education also takes into consideration the students' intentions for entrepreneurship. Entrepreneurship education should cultivate talents having an ability to control a business or enterprise as well as other personal competences that enable entrepreneurship, including the ability to invest resources in the start-ups, innovative ability, decision-making competence, analytical skills, proactivity, and interpersonal relationship skills, while cognitive skills and creativity are required as a foundation to the former characteristics (Wu and Chen, 2019). The form of entrepreneurial education adopted and discussed here is "about", "for", "through", and "embedded", allowing the students to discover the knowledge and entrepreneurial skills required. Regarding the actual operation, the education of entrepreneurship consisted of the courses that take in not only how to be an entrepreneur, but also how to create the opportunities of entrepreneurship for oneself (Ioannou and Retalis, 2025). So, the approach examined here introduces the content of the class that imbues students to methodically brainstorm as well as conceptualise the startup ideas, turning them into a reality. It is worth noting that several steps are taken to instruct how this can be achieved, whether through licenses or by direct support from the government. Thus, the culmination of such courses and a contest event make it possible for students to create and comprehend the broadest range of entrepreneurial business opportunities. However, the skills of entrepreneurship in a wide range on students cannot be commercially manufactured without the cooperation of the industry. For this reason, it is said that the training of entrepreneurship skills necessitates a particular joint effort uniting universities with industry and government in a coordinated effort.

2.2. The role of curriculum in education

Entrepreneurship, also referred to as an entrepreneurial spirit, is the process and activity of personal resource management that allows individuals to autonomously establish new ventures (Abdullahia, 2025). By utilizing innovation, individuals can comprehend consumers' and the market's demands and subsequently start their own business venture to satisfy those demands. Knowledge pertaining to entrepreneurship can be imparted to encourage entrepreneurial behavior. Entrepreneurial knowledge can be used to surpass the problems encountered during entrepreneurship, thereby further solidifying confidence in entrepreneurial endeavors. Therefore, entrepreneurial education can be utilized to provide individuals with an understanding of entrepreneurship.

United Nations policies have been widely implemented, with individuals being encouraged to participate in entrepreneurship (Stubbs et al., 2022). Many colleges and universities have established relevant courses and

programs to respond to national policies. Most recently, US colleges have initiated an annual venture finance project competition, which allows the university's students to participate and possibly receive a large sum of startup financing upon winning (Cantwell et al., 2025). Compensation for competition provides students with a rich mix of entrepreneurial elements. It can be an essential part to convey to students' entrepreneurial knowledge during the entrepreneurial course (Wu and Chen, 2019). The factors of the student body include age, gender, and personal intentions, and the learning plan may be modified according to the students' degree of sensitivity to entrepreneurship. Industry experts can enhance students' understanding of the entrepreneurial process. This is a project that can enhance students' awareness of entrepreneurship education. Such aspirations can be raised by actively participating in contemporary related learning fields. Cross-faculty internships and attendance can further students' views on the market with different learning programs. This study was proposed to advance the education of prospective entrepreneurs in relation to their intent. Many universities have begun to establish entrepreneurial courses to prepare students regarding entrepreneurial knowledge (Komodromos, 2025). Needless to say, universities are devising novel programs that encourage students to generate fresh occupations. This enables students to profit from the university's personalized entrepreneurship education initiative. The surroundings must be noticed even if formal courses are not directly accessible for entrepreneurship education.

3. Importance of entrepreneurship education

The generation of the 1980s youth that once romanticised the value of professionalism, vied to excel in their studies, and sought out job opportunities with fortune companies, are now affected by a changing job market that has set off numerous rounds of unemployment crises and has thudded their dreams. The youth since then began to find it a challenge to get decent employment that can meet their expectations (Yadav, 2024). Such young people who feel lost and anxious about the future in the employment market began to think more about "entrepreneurship". Everyone yearns for the freedom of entrepreneurship, to be the initiator of their lives, to have their own business and to be their own boss, and thus to bring about a qualitative change in their own lives. Entrepreneurship is full of glamorous dreams, and Zhiyi et al. (2024) once said, the spirit of entrepreneurship is the foundation of business prosperity. Experts also predict that entrepreneurship is the development trend of future society. At the global level, statistics show that three in every thousand people in the United States own their own business. Taiwan is an island with a fairly concentrated population density. There are five million registered companies and it is a global center for OEM production (Rigger, 2021). Therefore, the ability to start a business is regarded as a requisite talent for the 21st century, and students are thought to be gradually equipped with the corresponding qualities throughout their education (Wu and Chen, 2019). At this juncture, entrepreneurial courses in higher education should be prevalent. In the past, entrepreneurship courses were mostly taken by business-oriented school students, but with the development of the times, students of varying disciplines have begun to learn about entrepreneurship (Frolova et al., 2022) Universities are extremely well positioned to include the elements of entrepreneurship education in their curriculum, as the addition of entrepreneurial professionalism helps students to create new career opportunities, and has far-reaching benefits. In adapting the curriculum, universities must pay attention to the teaching approach and course design of entrepreneurship, and in the implementation of entrepreneurship education, practices should be consistent with the Education for Sustainable Development approach.

3.1. Enhancing entrepreneurial mindset

Courses in entrepreneurship education provide a pathway for students in any discipline to acquire and develop an entrepreneurial thought process, a desirable soft skill that can be used in both complicated and unpredictable environments (Yu el at., 2025). Some attributes of an entrepreneurial mindset are innovativeness, initiative-taking, risk-assessing, and need for achievement and self-confidence. Education within this scope has not been limited to business schools; it's been believed that students who come from engineering disciplines such as computer science, mechanical engineering, electrical engineering; law, and social sciences must also be provided courses enabling them to have the excitement and capability of becoming an entrepreneur. Entrepreneurship courses have been designed and delivered to such diverse groups of students in order to have them acquire the concept of starting a company with a profitable business idea (Frolova et al., 2021). Incorporating entrepreneurship classes or courses into educational curriculums have been well-effective to enrich students' creativity, perception to recognize opportunities, and develop risk-taking attributes. On the other hand, it has been emphasised that it is necessary to combine expertise and knowledge from disciplines complementary to the entrepreneur, in order to maximally exploit potential.

4. Course design principles

After unemployment rates skyrocketed following the global financial crisis, many youngsters began dreaming of starting their own business (Sheppard, 2020). The success rate of youngsters starting their own business is low, at about 10%, and the biggest obstacle in their entrepreneurial life is that they lack financial funding. While the compounded annual growth rate of entrepreneurial attempts gyrates around 10% to 20%, many ambitious youngsters explore possibilities for entrepreneurship. Yet, people with actual entrepreneurial attempts can fail in their entrepreneurial attempt for a number of reasons – one of which is the lack of training in entrepreneurship-related courses. Therefore, universities and colleges in Taiwan have incorporated entrepreneurial courses into their curriculum to bring them closer to the dreams of their college students. In recent years, school dropout rate of undergraduate students reached 3.3%, and the biggest reason for dropout is poor academic performance. Therefore, at least there is a chance to expand new career opportunities for university students through entrepreneurial education (Wu and Chen, 2019). When incorporating entrepreneurial education into the curriculum, however, schools face a number of problems regarding their teaching approach and course design. For universities, entrepreneurial courses generally rely on teachers visiting the classroom to lecture. The course content mostly comprises entrepreneurial cognition and basic information as well as entrepreneurial stories of industry experts, allowing students to understand more about entrepreneurship in Taiwan as well as opportunities and threats that may ensue (Chang et al., 2025). The traditional teaching approach has led to four potential problems: unreasonable course design placing too much emphasis on classroom teaching, individual course design that cannot specialize in practical entrepreneurial skills, lack of entrepreneurial experience of teachers, traditional entrepreneurial education teaching approach that does not provide a diverse view of entrepreneurship, and inadequate structural planning in entrepreneurial education system. Though students may take relevant courses, entrepreneurship has not increased. Considered from the viewpoint of the theory of planned behavior (TPB), entrepreneurial intentions evolve into actual behavior, such as entrepreneurship, only when personal attitudes and perceived norms toward the behavior and the perceived ease of enacting the behavior surpass certain thresholds (Moshood et

al., 2025). This argumentation engendered the motivation to integrate a specialization in entrepreneurship into the academic program. A series of in-depth studies concerning entrepreneurship and innovation during the past years corroborated that a minimum set of entrepreneurship skills is needed to effectively foster the decision and capability of becoming an entrepreneur. Within the discussion on how design college courses for the start-up and fostering of entrepreneurship, an educational practice proceeded involving bachelor students attending the elective course of Corporate Finance. The educational experience is based on an immersive entrepreneurial project framework, implementing a "learning by doing" approach to entail entrepreneurship and innovation.

4.1. Experiential learning approaches

Due to drastic changes in recent years graduates find it hard to secure employment after school (Alpaydın and Kültür, 2022). A notable decline in the national economy perhaps, inadequate job creating initiatives or sectors too are close to saturation point. In an attempt to alleviate this menace or nip the scourge in the bud universities in a twin move have agreed to continually embrace entrepreneurship education and develop an entrepreneurial curriculum for students. Correspondingly, researchers, policymakers and scientists have opined that entrepreneurship development among university students can only be achieved through well packaged curricula, structured and quality education as well as adopting experiential teaching pedagogies (Olokundun et al., 2018). However, if entrepreneurship education has to inspire students to pursue entrepreneurial ventures as envisaged by universities it could be consented that a considerate mix of course unit and instructional strategy is paramount. It goes without saying that universities worldwide and more so in forthcoming economies are seriously contemplating enticing undergraduate students to take the entrepreneurship plunge.

Measurement scale development and administering the questionnaire at a different time and location helps to overlook the common method biases (A. McCrea, 2013). The research was based on the expectation models, which suggests that the business undergraduates' knowledge in starting and running a business significantly influences the success of the business start-ups. The nature of undergraduate curriculum format currently adopted at this institution for facilitating entrepreneurship education tends to have a significant effect on the growth of business startups. Basically the new curricular design should consider improving student skills in business startups. This knowledge would allow universities to critically evaluate their curriculum and pedagogical perspectives regarding entrepreneurship education against the coveted pedagogical goal which is to inspire the establishment of start-ups while still protecting the concept of knowledge transfer.

4.2. Interdisciplinary integration

The interdisciplinary integration of entrepreneurship into the curriculum represents a transformative approach to education that equips students across diverse academic fields with entrepreneurial thinking and problem-solving skills. Rather than confining entrepreneurship to business studies alone, this approach embeds entrepreneurial principles, such as innovation, opportunity recognition, and value creation, into disciplines like science, engineering, health, the arts, and humanities. This not only fosters a culture of creativity and initiative but also enables students to apply their disciplinary knowledge in real-world contexts, thereby enhancing employability and encouraging the development of socially responsive and economically

viable solutions (Fiore et al., 2019). By breaking down academic silos, interdisciplinary entrepreneurship education cultivates a generation of graduates who are adaptable, resourceful, and capable of contributing meaningfully to a dynamic and complex global economy.

4.3. Assessment and feedback mechanisms

Assessment strategies and feedback mechanisms of the activities that guide the progression of students in the proposed instructional surroundings are crucial to evaluate the effectiveness of the course design and curriculum-integrated activities to improve students' entrepreneurial aspirations (Adegbite and Muibi, 2021). These activities incorporate course materials and class assignments where students develop a business idea/plan, meet entrepreneurs, and present their ideas at a business event. The results obtained by using technology and a partnership with a business incubator are presented. Data indicates that students' entrepreneurial aspirations and self-efficacy to become entrepreneurs increase throughout the three courses designed.

Assessment strategies and feedback mechanisms are essential elements in any successful educational approach (Attiogbe et al., 2025). They guide students' progression in their courses of study and are instrumental for evaluating the effectiveness of the course design and curriculum-integrated activities to stimulate students' entrepreneurial aspirations. Entrepreneurship education effectiveness is associated with activities planned to be executed through formal educational environments, such as syllabi and coursework materials. Curriculum embedded activities have been often incorporated in academia worldwide, with variable degrees of success as assessed by the relevant stakeholders (Hazelkorn, 2020). In the entrepreneurship education context, there is much focus on the promotion of individuals that promote and manage business ventures to commercialize their innovative ideas but also, in a broader sense, to instill an entrepreneurial spirit among the workforce, so as to facilitate the employment situation across the global market. However, despite the plethora of in-curriculum educative activities in place, still few attempts measuring and assessing the evolution of students' entrepreneurially oriented knowledge, skills, attitudes and other associated characteristics as induced through such formal education activities.

5. Entrepreneurship curriculum development strategies

Two formulations have been proposed in explaining the development of entrepreneurial intentions among Students. Entrepreneurship education has significant positive effects on the development of perceived desirability and perceived feasibility of entrepreneurial behavior, individual attitudes towards entrepreneurship, subjective norms, and entrepreneurial self-efficacy (Paudel, 2025). In addition, perceptions of the university environment also have a significant positive effect on the entrepreneurial intentions of students. Education in higher education that generally refers to college or voluntary education to obtain a degree or rewarding certificate becomes the task of a university to hold a higher education curriculum. The entrepreneurial behavior of Indonesia through entrepreneurship education is designed to be in university education as the last stage in education before students embark on business and / or other professional careers (Chang, 2022). In addition to the education courses entrepreneurship also gains knowledge and experience of developing business, profit share management, technological training, and so on. The minimum value of a developing economy is knowledge capital. To that end, the curriculum must be designed for those who want

to become job creators. The entrepreneur profession is regarded as an occupation. The entrepreneur can also be learned without being born and can be nourished by students who have been formed in a disciplinary or multidisciplinary field of science.

Curriculum development is one of the critical components in education. Curriculum is directly related to the competency standard of university graduates so that the graduates are reliable in their fields. Nevertheless, the curriculum is not only formulated in the contents that must be flowed with particular objectives and transparent but also the entire experience explored by students while completing the education program. Wahidmurni et al. (2019) suggest that curriculum development includes how the curriculum is planned, implemented, and evaluated, as well as the objects, processes, and procedures for making an option program. In terms of the object, consider curriculum development through a comprehensive approach of the university will greatly benefit. The comprehensive approach to curriculum development can be understood as the presence of the culture of the institution through a complete configuration of the components of the curriculum to create an ideal environment for learning experience. It is in legendary background reason, this is essential to imply that entrepreneurial behavior to keep students from shooting interest and generation of intention of owning business. On the continent of Europe, the subject of entrepreneurship for the first form is the realization of the importance of entrepreneurship and the improving of the attitude of entrepreneurship society at both institutional level and national level (Del Vecchio et al., 2025).

5.1. Stakeholder engagement

Effective entrepreneurship education requires collaboration among a broad spectrum of stakeholders, including students, educators, industry professionals, university administrators, and policy actors. Each group contributes unique insights and expectations that can enhance the relevance and impact of curriculum design. By involving stakeholders in the development and delivery of entrepreneurship courses, institutions can ensure that the curriculum is aligned with both educational objectives and real-world entrepreneurial demands.

From the perspective of curriculum development, stakeholder engagement provides opportunities for integrating practical, interpersonal, and reflective dimensions into course content. For example, involving experienced entrepreneurs or startup founders in co-designing modules can help align learning objectives with industry needs, thereby strengthening students' entrepreneurial competencies. Stakeholder-informed lesson planning allows for the inclusion of real-life business cases, mentorship opportunities, and feedback mechanisms that reflect the dynamic nature of entrepreneurship.

Additionally, stakeholder collaboration fosters a culture of continuous improvement. Through structured feedback loops, such as consultative workshops, pilot course evaluations, and co-teaching arrangements, educators can adjust instructional strategies and assessment methods to better meet learner needs. This engagement promotes mutual understanding and shared ownership of educational outcomes, while also ensuring that entrepreneurship education remains adaptive, current, and outcome-driven.

Ultimately, stakeholder engagement acts as a bridge between theoretical knowledge and practical application. It supports the creation of educational environments where students are not only exposed to entrepreneurial concepts but also empowered to apply them in meaningful, market-relevant ways.

5.2. Incorporating real-world challenges and innovation

Entrepreneurship education must bridge theoretical instruction with practical, real-world challenges to cultivate genuine entrepreneurial capacity. Students develop critical skills, such as innovation, adaptability, and opportunity recognition, when they are immersed in authentic entrepreneurial tasks. This includes project-based learning, business plan development, startup simulations, and collaboration with external stakeholders.

For example, some institutions implement phased project courses where students progress from idea generation to feasibility studies, marketing strategies, and pitch presentations. Teachers guide students using structured rubrics assessing feasibility, creativity, and professional execution. These methods not only teach core entrepreneurial content but also mirror real-life startup challenges, making learning both relevant and rigorous.

Moreover, practical engagement improves students' entrepreneurial aspirations by offering hands-on insight into how entrepreneurial processes unfold. Hackathons, case competitions, and incubator-linked coursework expose students to time-sensitive problem solving and stakeholder interaction, reinforcing both creativity and strategic thinking. As Hagvall Svensson (2018) notes, these immersive experiences enable students to translate classroom knowledge into nascent entrepreneurial activity.

By embedding real-world entrepreneurial challenges into course design, institutions create dynamic learning environments that foster innovation, build confidence, and increase the likelihood of entrepreneurial action after graduation.

5.3. Utilizing technology in curriculum

There are two dimensions in curriculum design (CD) - course design (CDes) and curriculum content (CC) (Grimus, 2020). In the entrepreneurship education literature, the terms curriculum design, course content, course structure and course delivery are used interchangeably as CD. The existing literature explains that CD has a significant relationship with ICT knowledge and ES for students. The key purpose of CD is to develop ES through ICT knowledge among university students (Iqbal et al., 2022). Universities are in dire need of designs that integrate curricula across disciplines. There are a variety of non-credit approaches to imparting entrepreneurial education, such as extracurricular workshops, mentorship programs and community support (Q. Li et al., 2019). While there is growing interest in teaching entrepreneurial mindset abilities to students, as entrepreneurship has gained attention in all economic sectors of society, it is necessary to ensure that appropriate teaching strategies are applied.

Entrepreneurship curriculum development strategies involve deliberate planning and design processes aimed at creating dynamic, relevant, and impactful learning experiences that foster entrepreneurial skills and mindsets. Effective strategies include aligning curriculum goals with national and institutional priorities, incorporating experiential learning through case studies, simulations, and real-life projects, and ensuring active industry involvement to maintain relevance. A multidisciplinary approach that integrates entrepreneurship with other fields of study can also broaden its applicability and appeal (Wahidmurni et al., 2019). Additionally, continuous curriculum review, informed by feedback from students, alumni, and industry stakeholders, ensures that the content remains current and responsive to evolving economic and technological

landscapes. These strategies collectively contribute to cultivating innovative, opportunity-driven graduates equipped to navigate and shape the entrepreneurial ecosystem.

6. Influence on entrepreneurial aspirations

Entrepreneurship education has gained large popularity at universities all over the world. However, there is hardly any conclusive evidence from empirical research on its effect.

There is hardly any conclusive empirical evidence on the effect of entrepreneurship education. In sum, only three empirical papers investigate the causal effects of entrepreneurship education. In a seminal theoretical approach, (von Graevenitz et al, 2010) sketch possible positive and negative implications of entrepreneurship education, which have been elaborated in recent theoretical models. More needs to be understood about the contingencies, the reasons, and the nature of the effects entrepreneurship education has on student. For this purpose, the present study makes use of data that allow for testing questions that are not possible to be answered by using survey data, by exploiting proprietary record-level data from German. Custom-tailored entrepreneurship courses have been created for business administration students at German universities. Treatment intensity varies and the subjects are different. The present study complements the existing evidence by specifically designing the courses and the research design to fill the gap and better inform policy decisions.

6.1. Building self-efficacy

Entrepreneurship education is premised to the belief that entrepreneurial behaviours can be learned and that individuals need to be equipped with an understanding of the process to prepare them for the challenges of entrepreneurship. It takes as the starting point that the individual holds the capacity to be entrepreneurial but that this also needs to be cultivated and encouraged. If students are to maximize their potential, they need applied experiences that provide the opportunity to practice and refine their understanding in realistic settings. Yet early research suggests that these opportunities are not available to the majority of students who are interested in being entrepreneurial (Lucas and Cooper, 2005). Empirical research into the impact of course design and the curriculum on students' entrepreneurial aspirations is sparse. This research goes some way to filling this gap, drawing upon data gathered from one of the most important enterprises within the United Kingdom that deliver education in entrepreneurship.

The preferred conceptual apparatus has moved slightly from the notion of commitment to that of self-efficacy. Although the research was originally framed in the former idiom, more recent literature review, and in particular, data, have convinced that the articulation and acceptation of belief in the capacity to be entrepreneurial is better captured by the latter. In forming a company (or seeking to do so), the student entrepreneur undergoes a series of discrete processes. There are key milestones that ultimately lead to the trading company. In any one instance the company will not go beyond a certain point whereas in another view the same purely speculative business idea is taken to fruition, the trading company. From the perspective of external observers, the more developed business is certain to appear inherently less risky and difficult to implement. This work has privileged two milestones for analysis the completion of a business plan, and the launch of the business.

6.2. Encouraging risk-taking

Entrepreneurship education must encourage a mindset that embraces uncertainty and calculated risk-taking, particularly among youth from underrepresented or disadvantaged backgrounds. Research shows that entrepreneurial success is not confined to specific regions, elite institutions, or socio-economic backgrounds. Instead, emerging innovators can be found across a variety of contexts, urban, rural, privileged, and underserved (Wu and Chen, 2019). For example, many young people today are acquiring programming and business skills independently, often in challenging environments where access to formal training and mentorship is limited.

Venture capital trends also suggest a shift toward greater autonomy in early-stage enterprises, with limited interference in operational choices such as workspace design or branding decisions, which can empower founders to take bold, creative approaches to business development (Wu and Chen, 2019). Encouraging risk-taking in this context does not imply recklessness but supports the cultivation of confidence and resilience in facing complex and unpredictable market dynamics.

While trend forecasting in enterprise development is a valuable methodological tool, its application must be clearly aligned with the domain of youth entrepreneurship support. There is a need to critically evaluate the relevance of certain forecasting findings, such as those linked to eldercare or niche sectors like sustainable manufacturing to broader strategies for fostering entrepreneurial capacity among young people. For entrepreneurship education to be effective, it must focus on evidence-based interventions that directly contribute to the development of entrepreneurial skills, especially within contexts of high youth unemployment and limited market access.

7. Theoretical framework

This article is underpinned by two theories, namely, Constructivism theory and Human Capital theory.

7.1. Constructivism

Constructivism posits that learners actively construct their own understanding and knowledge through experiences and reflection (Adigun et al., 2025). This theory emphasizes the subjective creation of knowledge, suggesting that learning is most effective when individuals engage in authentic, real-world tasks that require problem-solving and critical thinking. In the context of entrepreneurship education, constructivist approaches advocate for experiential learning methods, such as simulations, real-life projects, and internships, which enable students to mirror actual entrepreneurial practices (Aunzo Jr, 2025). By engaging in these activities, students develop the ability to navigate complex entrepreneurial environments, thereby fostering their entrepreneurial aspirations. Bell (2021) highlights that constructivist learning serves as a foundation for developing entrepreneurial behaviors, as it encourages learners to create new meaning from experiences and problem-solving activities. Furthermore, this approach prepares students for the dynamic nature of entrepreneurship, where adaptable solutions are essential for addressing diverse challenges (Bell, 2021).

7.2. Human capital theory

Human Capital Theory asserts that education and training are critical investments that enhance an individual's productivity and capabilities (Leoni, 2025). Within entrepreneurship education, this theory underscores the importance of equipping students with both theoretical knowledge and practical skills necessary for entrepreneurial success. The effectiveness of entrepreneurship educators in influencing students' entrepreneurial mindsets is contingent upon their own theoretical understanding and practical experience (Shabbir, 2025). Educators with a blend of academic qualifications and real-world entrepreneurial experience are better positioned to bridge the gap between theory and practice, thereby enhancing the quality of entrepreneurship education (Otache et al., 2024). By integrating Human Capital Theory into course design, curricula can be structured to develop essential entrepreneurial competencies, such as opportunity recognition, strategic planning, and risk management, which are vital for fostering students' entrepreneurial aspirations.

7.3. Application to course design and curriculum

The application of Constructivism and Human Capital Theory provides a coherent interpretive framework for understanding how course design and curriculum influence entrepreneurial aspirations.

Constructivism supports experiential learning models discussed in Sections 4.1 and 5.2, such as project-based courses, startup simulations, and real-world business planning. These formats align with the constructivist emphasis on learners actively engaging with authentic tasks to construct meaning through reflection and problem-solving (Yakubu et al., 2025). By embedding hands-on activities and interdisciplinary projects within the curriculum, educators can create dynamic learning environments where students internalize entrepreneurial concepts through direct practice, thus fostering self-efficacy, adaptability, and innovation.

Human Capital Theory, on the other hand, is reflected in the deliberate structuring of curricula to build students' competencies in opportunity recognition, resource mobilization, risk assessment, and venture creation (Romanovich et al., 2025). As highlighted in Sections 4.2 and 5.3, entrepreneurship education programs that integrate mentorship, case studies, and industry partnerships enhance students' capabilities by combining theoretical instruction with skill development. This targeted investment in student capabilities serves to increase their long-term economic productivity and career readiness.

Together, these theories inform the development of entrepreneurship education that is both pedagogically sound and practically relevant. They underscore the need for course designs that not only deliver knowledge but also cultivate the mindset and capabilities essential for entrepreneurial success.

8. Successful entrepreneurship programs

8.1. Comparative analysis of different curricula

Although a growing number of policy makers and curriculum designers have paid attention to the field of entrepreneurship education, only about half of all European countries offer courses on providing

entrepreneurship at higher education level, even though it is found that lower secondary school pupils have very positive attitudes to self-employment as a future option. The lack of consensus on curriculum content has slowed the development of entrepreneurship education in terms of the quantities of enrollments it attracts and the effectiveness of outcomes it provides. Therefore, a major concern of this study is to analyze and compare course design, including curriculum objectives and learning methods in entrepreneurship education, offered in selected Chinese graduate programmes; to set up the measurements according to this analysis; and to present an assessment model that builds entrepreneurial self-efficacy in respect to the sample. Two research questions will be explored: How are different curricula and designs of entrepreneurship education at graduate level comparable in terms of scaffolding entrepreneurial self-efficacy and how do such courses differ in regard to learning methods and learning material? How do different curricula affect the extent of students' entrepreneurial orientations, intentions and outcomes, using the model that measures entrepreneurial self-efficacy intentions and the endogenous variables forming entrepreneurship engagement (Moberg, 2011)? The Chinese graduate programmes in applied sciences for engineering and human science will be taken as an experimental context. Course design for entrepreneurship education must not only be proposed by educators with practical know-how but also backed up by an array of studies or improvement frameworks on entrepreneurship education (Wu and Chen, 2019); In view of the evidence, this study initially sought course designs for entrepreneurship education through a literature review. The research results found that most of the course designs for entrepreneurship education had been proposed by educators with entrepreneurial experiences rather than by scholars or scientists. Therefore, a competent course design proposal, Course Design for College Entrepreneurship Education, was put together by school teachers and experts with entrepreneurial experiences. The proposed course design goes beyond merely educating successful experiences and instead discusses the entire startup process, thereby giving students practical guidance. In addition, it has significant links to references on successful cases and actively teaches the relationship and methods for students to apply for startup subsidies, thereby enhancing the likelihood of success in startup while providing a strong foundation of hardware conditions.

9. Challenges in course design and curriculum implementation

The practice of entrepreneurial education must fall in line with the Education for Sustainable and as such enhance the quality of course design and the teaching of entrepreneurial classes. The college courses should move in the direction of various or even diversified teaching approaches, i.e, courses or study projects or products demonstrating entrepreneurial abilities. Even considerations are given to comprehensive entrepreneurship education covering undergraduate, master, doctor, and post-doctor degrees made by universities. However, problems may be encountered in actual operation, though this education is practiced and studied. There are divided into course design, teacher setting, teaching approach and didactic in prohibiting it in a system within a university.

Entrepreneurial education is planned to cultivate talents demonstrating six abilities: entrepreneurial ability, productivity, innovativeness, analytical ability learning to undertake risk and bear with the consequences of failure (Chea, 2020). Entrepreneurial education is conducted in four ways: the type of education about learning for, through and embedded into for learning (Miç Cungu, 2023). There are plans to make students not only

learn about entrepreneurial knowledge but also about ways to create a business opportunity for themselves and to examine how a business plan should be drafted, together with startup funding plans.

9.1. Resource limitations

Resource limitations include lack of practical entrepreneurial exposure, conceptual entrepreneurial knowledge, difficult environment to operate in, environmental hostility (Ndofirepi and Rambe, 2018). Lack of practical entrepreneurial exposure and negative subsequent effects come about mainly on the grounds of theoretical underpinnings, passive learning methods and limited mentoring opportunities. Since risk engagement in real entrepreneurship is discouraged during the initial stages of entrepreneurship competency development, student response to entrepreneurship can be observed to be mostly associated with an entrepreneurship career perspective. Entrepreneurship education awareness of entrepreneurship as a career appears to be more articulated in the literature. Previous search has shown college-based entrepreneurship education to be more influential on entrepreneurship career preparedness. However, other studies have also indicated college degree does not foster growing consideration of entrepreneurship as a career and non-interest in entrepreneurship as a career at a better rate than prior to commencing the program. Divergence of opinions on the enhancement of procedural entrepreneurial knowledge stage of entrepreneurship efficacy (development of skills and knowledge) has also been noted. Entrepreneurship education lacked applicability therefore fostering... more competences do not result in more business start-ups. For some, entrepreneurship competency is developed at individual pace in an unstructured manner.

9.2. Resistance to change

Integrating entrepreneurship education (EE) into existing curricula often encounters institutional and pedagogical resistance (Hagvall Svensson, 2018). This resistance is frequently rooted in deeply entrenched academic practices and norms governing teaching, learning, and assessment. Educators may perceive EE as inefficient or too resource-intensive, particularly when faced with pressures to adhere to traditional disciplinary content and assessment models. However, such resistance may also result from a lack of exposure to well-structured and comprehensive EE course designs that effectively address these complexities.

The "seven pillars of the entrepreneurial ecosystem" framework provides a useful lens for structuring EE in higher education. These pillars, faculty, curriculum, culture, policy, third places, mentorship, and capital represent interdependent elements that must be intentionally integrated into course design. Effective entrepreneurship education requires that educators engage these elements in a cohesive and mutually reinforcing manner, ensuring that students receive a holistic and context-sensitive learning experience.

In the context of curriculum design, entrepreneurship education often involves structured and formalized activities aimed at achieving specific learning outcomes. These may include project-based assessments, curated learning materials, and strategically sequenced instructional units. Such curricular approaches are designed to ensure the visibility and measurability of learning. By contrast, non-curricular or informal entrepreneurial learning often occurring through co-curricular activities, peer interactions, or community engagement can be equally significant, although it tends to be less structured and more difficult to assess systematically. A balanced educational approach should recognize and integrate both formal and informal learning to foster comprehensive entrepreneurial competence.

10. Future directions in entrepreneurship education

Entrepreneurship education has experienced an impressive revival in recent years. This revival in interest is consistent with calls for enhanced proactive aspects of career planning. In general, students aspire to run their own businesses. This entrepreneurial aspiration is an expression of intentions to pursue an entrepreneurial career. In line with this, a variety of entrepreneurship classes have been introduced into higher educational sector curricula. These entrepreneurship classes cover a range of topics, including the nature of entrepreneurship, the characteristics of entrepreneurs, the concept of new ventures, recognizing and evaluating entrepreneurial opportunities, and deal with new ways of value creating and capturing, and finally on the entrepreneurial process on new venture creation.

Entrepreneurship education is also designed to enhance students' entrepreneurial aspiration as a way of increasing new venture creation, fosters strategic thinking, and triggers entrepreneurial behavior. Nevertheless, the effectiveness of entrepreneurship education on fostering student's entrepreneurial intention significantly depends on course design and curriculum types. Moreover, the country's level of development, organization and structure of the society, culture and educational system may significantly moderate the effectiveness of a given entrepreneurship education and training intervention (Nabi et al., 2017).

10.1. Emerging trends in curriculum design

With the advent of the global financial crisis, the youth, especially students, faced fast-growing job uncertainty. In Taiwan, the second year after the meltdown figures a record high in the unemployment rate among college graduates. In the wake of the economic downturn, college students shift instead to an interest of entrepreneurship in the hope of creating their own job opportunities. Entrepreneurship, in brief, refers to the aspiration and ability to establish a new business (Wu and Chen, 2019). Despite being considered as a symbol of brave invention, most new ventures, unexpectedly, fail at the inception stage. Lack of the fundamental knowledge and critical skills are crucial in this regard. Therefore, delivering systematic entrepreneurship education has become an alternative concern to colleges and universities in response to the attentiveness distinctiveness.

It is incontestable that every single new venture requires full consideration of monetary outlay. One's nascent business intention flounders in the absence of financial support. Lack of financial funding, generally speaking, prompts nascent businesses to sell goods or services at the lowest price in the attempt of boosting sales volume. As a result, negative profits are generated, and a spate of nascent business enterprises eventually crawled to an end. College students, sadly, do not own own funds and are not eligible to apply for financial loans. In other words, college students are denied seemingly veracious venues to approach the startup capital. Therefore, enhancing college students' entrepreneurial intention and cultivating entrepreneurial ability is critical (Qwabe et al., 2025).

10.2. The role of online learning platforms

The COVID-19 emergency led to the temporary closure of universities and schools (Croucher, 2023). Following national and regional provisions imposed by several countries to contain the spread of the virus, traditional face-to-face educational activities have had to be quickly adapted to on-line methodologies. This raises the

issue of how the emergency, and the emergency measures taken, may have an impact on the future provision of education, particularly of entrepreneurship education viewed by the European Union as a fundamental driver for seizing new opportunities and creating jobs. The study aims to explore such issues through a case study concerned with the blending of a MOOC aggregator platform – MOOC link with a digital entrepreneurship ecosystem (Secundo et al., 2021). In response to governmental requests for launching large civil protection campaigns, a multidisciplinary group of students and recently graduated in Engineering and Architecture created an on-line platform to provide information on digital technologies and business models for designing novel and safe sanitary products and spaces. At the same time the MOOC link online platform was released for enhancing opportunities of collective intelligence. The study implements a phenomenographic analysis of in-depth interviews with the above-mentioned key actors, teachers and students, to understand the impacts and limits of this techno-social experiment in the so-called Southern Italy. Findings show an overall positive appreciation of the adopted digital measures, especially for capturing and addressing the complexity and open-endedness of entrepreneurial dynamics. However, potential drop-outs of disadvantaged students and technophobias are also observed, stressing the role of teachers for enhancing inclusiveness and engagement in the access to technology and entrepreneurial knowledge.

11. Policy implications

This study adds to the nascent but growing body of literature that explores the unintended effects of entrepreneurship courses, answers the call of several scholars to support policy making by investigating the effects of course design and entrepreneurship on various aspects of markets (von Graevenitz et al., 2010). Entrepreneurship education is considered highly instrumental in fostering start-up activity. Therefore, many public and private organizations seek to enhance entrepreneurship education – both at universities and other institutions – with the aim of raising future generations of entrepreneurs. Assessing the efficacy of entrepreneurship education programs is therefore important for all parties interested in advancing policies promoting start-up activity.

Broadly, the ENTRI nodes in education curriculums can be split into two groups – standard pedagogical nodes and more specific entrepreneurial nodes, which are often elements of how business skills are learned (Ndofirepi and Rambe, 2018). Two stand out as being particularly powerful at increasing the propensity to conduct business engagement projects of students – "working on real-life cases" and "collaboration on projects with businesses".

11.1. Government support for entrepreneurship education

After the global financial crisis hit many nations around the world in 2008, shocking numbers of professionals have lost their jobs. Taiwan is no exception to this phenomenon. By 2009, layoffs were taking place frequently and firms were cutting employee salaries. The impact on labor was so profound that many students stopped furthering their education or seeking employment. The stock market crash caused families to lose substantial savings. For many young men and women, the financial investment into their education had come to naught. They had entered the workforce but were now back to square one. Exceptionally talented individuals had even signed contracts with foreign firms but now, due to the economic downtime, those contracts had been nullified. Out of such a financial suffocation came the dream for starting one's own business. "Guaranteed benefits don't

exist anymore. Might as well just start my own business." Many could not resist the lure of owning a business and considered it an attractive, imaginative endeavor (Wu and Chen, 2019). With changes in both the domestic and global economies, as well as in Taiwan industries, abundant styles of entrepreneurial courses have been added yet also implemented as a requisite in the university departments. This has led college students to approach entrepreneurship. Designing curricula and teaching the entrepreneurial knowledge has an encouraging influence on teacher education, supporting students' learning efficacy and enhancing their career aspirations, curiosity, and entrepreneurial start-up planning.

Various mechanisms are used to provide the best environment and conditions for producing the most marketable goods and services to the economy. Commonly, those goods or services are produced only when the entrepreneur's planned activities provide a medium for education in entrepreneurship and practical work experience. Since the U.S. government promotes entrepreneurship actively, Taiwan models American policy in developing entrepreneurship. Because universities and colleges are fundamental to the government's strategy in promoting entrepreneurship, educators need to consider students' examination marks from academic records, interviews, personal statements, letters of recommendation and national university and college entrepreneurship in the selection process. Alternate, traditional competitive funds are also provided to university and college education professionals, and educational reform is under way in institutions of higher-learning. As the government heightens its focus on entrepreneurship education, universities have designed entrepreneurial training programs, providing a strong environment for college students to gain a thorough foundation concerning entrepreneurship. It is believed this will cultivate the next generation of entrepreneurs and generate market value. However, the government is overly focused on developing entrepreneurship education and has overlooked a quasi-entrepreneurial attitude held by college students. This disposition for entrepreneurship affects the college course's aspirations. No known research has explored how college course design impacts students' entrepreneurial aspirations.

11.2. Aligning education with economic needs

After the global financial crisis in 2008, the U.S.A. and European countries underwent a severe recession. The unemployment rate was as high as 10.1%, and it also reached 5.8% throughout Asia (Wu and Chen, 2019). The youth unemployment issue became an even more salient topic. After the financial crisis, more college graduates are facing employment-related challenges inherently. Without expectations for finding a satisfying job, they might then turn to starting up their own business. The issue of college entrepreneurship education attracted wide attention, stemming from the global economic situation.

Nowadays, the democratization of higher education is globally known and popular. The higher education level can raise the entire national capacity for innovation and entrepreneurship. It can provide high-insight and aggressive thinking in society with higher knowledge, that accelerate the innovation speed and furtherly raise the international competiveness of a nation. Cheng-Chi University set up the "Entrepreneur Research Center" in 2017 because it is dedicated to the cultivation of professional managers in the business. These well-educated people have great ideas and techniques, but there is still a great shortfall in the fields of OMG so that the research center was conducted with the goal of educating the university students. In order to assist the student in developing the capability for startup and establish the subsequent firm, Investigation was conducted concerning the requirement and any expectation of the entrepreneur. As a result of the research, supported by the university, six different courses tied the knot. The student will receive multiple-art approach learning from

the classroom. Such lectures would hold by the speaker who is knowledgeable about how to transform the technology into domination at the market, how to access the government support, and know the marketing and management. However, those can hardly be obtained from only the text-book learning. The research conclusion suggests that the effect of education was strongly related to bench-work. The center was also responsible for the arrangement of the same six courses. For that reason, the university was assisted in integrating its own resources and infrastructure to effectively educate the university students near the technology. The entrepreneur practical experience related to the classroom was shared along with the business partner. In order to adapt to the trend, the course was organized on the experiential form that means the friendly relationship was established during the team work, and an opportunity seed between the teacher, speaker, and the university student in order to let the student be very aggressive to execute the items. Through such experiential course, the student can perfectly learn how to raise seed money, manage the entire department, and advance the business, and most importantly promote students' entrepreneurship capability.

12. Conclusion

This review has examined the complex relationship between entrepreneurship course design, curriculum structure, and the formation of students' entrepreneurial aspirations. Drawing on theoretical foundations, particularly Constructivism and Human Capital Theory, it highlights how entrepreneurship education must move beyond content delivery to embrace pedagogical practices that build students' confidence, creativity, and capacity for risk-taking.

Key findings from the literature suggest that traditional lecture-based formats are inadequate for fostering entrepreneurial mindsets. Instead, experiential learning strategies, interdisciplinary integration, stakeholder collaboration, and real-world project engagement are essential for stimulating entrepreneurial self-efficacy and intention. Assessment and feedback mechanisms also play a central role in reinforcing entrepreneurial competencies when they are embedded into the curriculum meaningfully.

Despite promising practices, several challenges remain. These include institutional resistance to pedagogical change, insufficient resources, and a misalignment between curriculum content and entrepreneurial realities. Moreover, entrepreneurship education is still too often siloed within business faculties, limiting its reach and impact across disciplines.

This review contributes to the field by synthesizing diverse evidence into a framework that links educational design to entrepreneurial outcomes. It underscores the importance of ecosystem thinking, where curriculum, faculty, culture, mentorship, and external partnerships function as interdependent levers for transformation.

Future research should explore longitudinal outcomes of entrepreneurship education, particularly how students' entrepreneurial trajectories evolve post-graduation. Further inquiry is also needed into how digital platforms, emerging pedagogies, and policy frameworks can support scalable and inclusive entrepreneurship education, especially in developing and under-resourced contexts.

Ultimately, higher education institutions must reimagine entrepreneurship education not simply as a vehicle for business creation, but as a developmental process that empowers students to become proactive, opportunity-driven contributors to economic and social progress.

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