

The Role of Education in Shaping Independent, Creative, and Highly Competitive Entrepreneurial Characters

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Abstract

This article aims to analyze the strategic contribution and systematic implementation of education in fostering independent, creative, and highly competitive entrepreneurial character among the younger generation. The method employed in this article is a literature review, which compiles and synthesizes various reputable national and international scientific literature sources. The first result demonstrates that integrating a transformative entrepreneurship curriculum can increase financial independence and sharpen students' innovative creativity. The second result demonstrates that a collaborative and adaptive technology-based learning ecosystem is key to boosting graduates' competitiveness in the global market. The novelty of this article lies in its conceptual proposal regarding the integration of local independence values with 21st-century digital competencies within an integrated entrepreneurship learning model. This holistic model is the key differentiation that distinguishes this study from previous research, which tends to focus solely on theoretical aspects without addressing adaptive character reconstruction.

Keywords: Entrepreneurship Education, Independent Character, Creativity, Competitiveness

Introduction

The challenges of the 21st-century global economy demand a fundamental paradigm shift in the output of the higher education system. Graduates of higher education institutions can no longer simply be prepared to be passive job seekers queuing in the formal labor market, but must instead aggressively transform into job creators capable of driving the economy. The dynamics of the current global economy are characterized by the VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) phenomenon, a condition in which market changes occur rapidly, unpredictably, are influenced by numerous complex factors, and are confusing. In this highly volatile industrial landscape, specific technical skills (hard skills) conventionally taught in college have a very short shelf life due to the disruption of digital technology and artificial intelligence. Therefore, the urgency of entrepreneurship education is an undeniable crucial instrument for building national economic resilience.

Objective conditions on the ground show that the annual growth rate of new workforce entrants is not directly proportional to the availability of formal jobs provided by the corporate sector or the government. This widening gap is triggering an increase in

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educated unemployment, particularly among university graduates. This phenomenon indicates a structural dysfunction in conventional learning models, which tend to be monotonous and overly emphasize mastery of academic theories without equipping students with the skills to adapt and navigate independent careers outside the campus environment. As a result, when faced with the competitive realities of the business world, graduates often experience disorientation and failure to identify market niche opportunities.

Entrepreneurship education, integrated extensively and structured into higher education, offers a strategic solution to the problem of intellectual unemployment. Through appropriate curriculum interventions, students are not only taught the administrative aspects of business but also instilled with a value system, work ethic, and a proactive future orientation. This internalization process aims to erode the dependency mentality that has been a major psychological barrier for the younger generation. By possessing entrepreneurial mentality, graduates will consistently view economic challenges and social change not as crippling threats, but as a golden opportunity to create innovative solutions with both high economic value and broad social impact.

Furthermore, the urgency of developing entrepreneurial character is closely related to efforts to strengthen the nation's competitiveness on the international stage. In an era of open free markets and regional economic integration, the flow of foreign goods, services, and labor can easily enter the domestic market. If national higher education institutions fail to produce strong young innovators, Indonesia will continue to be trapped as a passive consumer market for foreign innovative products. Therefore, reconstructing the entrepreneurship education system based on the development of independent, creative, and competitive character is an urgent agenda that must be implemented for the sustainability and sovereignty of the national economy in the future.

Method

This research employed a comprehensive, critical, and systematic literature review to deeply explore and reconstruct the role of education in developing students' entrepreneurial character. Theoretically, a literature review is not merely a cosmetic exercise of randomly collecting abstract summaries from various books or journals, but rather a scientific research method that demands rigorous data collection procedures, careful interpretive reading, recording crucial points, and in-depth synthesis of the literature to objectively answer the research questions (Sugiyono, 2022). This method was chosen based on the theoretical consideration that the phenomenon of entrepreneurship teaching has been extensively researched by experts from various separate empirical perspectives. Therefore, a review study capable of drawing conceptual threads is needed to build a robust, integrated, and applicable character education ecosystem model.

The literature review procedure in this research refers to the systematic protocol developed by Hannah Snyder (2019), which consists of four main stages: planning (designing), conducting (conducting), data analysis (analysis), and report writing (writing). During the planning stage, researchers established research questions focused on the effectiveness of higher education instruments in developing entrepreneurial character. The search was conducted electronically in reputable scientific databases, including Google Scholar, ScienceDirect, Portal Garuda, and ResearchGate. The search used specific keyword combinations with Boolean operators such as 'entrepreneurship education' AND 'independent character', and 'entrepreneurship education' AND 'competitiveness' to limit the search scope to relevant articles.

The inclusion criteria applied to filter the sample articles included: (1) articles published in reputable nationally and internationally accredited peer-reviewed scientific journals; (2) publication timeframes within the last ten years (2015-2025) to capture the dynamics of current curriculum developments; (3) the study focused on pedagogical interventions at the higher education level; and (4) articles presented valid qualitative and quantitative data analysis related to changes in student behavior or business orientation. Articles that solely discussed macroeconomic theory without linking it to the formal learning process were excluded from the sample (exclusion criteria). From this strict screening process, 15 main articles were obtained that met the requirements for further analysis using thematic content analysis techniques.

Theoretical review

Contemporary entrepreneurship theory studies have firmly refuted the old myth that entrepreneurial character is an innate genetic talent that cannot be intervened (the myth of the born entrepreneur). Instead, modern research shows that entrepreneurship is a set of competencies, mental dispositions, and mindsets that can be fully learned, trained, and shaped through structured, systematic, and continuous educational interventions. David McClelland (1961) in his theory of 'Need for Achievement' (N-Ach) explicitly stated that the drive for high achievement, which is the main driving force of entrepreneurial behavior, can be significantly enhanced through training programs and modifications to the social environment. Based on this theoretical perspective, universities have a significant sociological capacity and academic responsibility to engineer a conducive learning climate.

In outlining the dimensions of independent character, the theoretical perspective of entrepreneurial psychology emphasizes the importance of the concept of Internal Locus of Control developed by Julian Rotter. Independent entrepreneurs firmly believe that the success or failure of their ventures is determined by their own decisions, hard work, and strategies, not by mere luck or external assistance. This independence manifests itself in the form of courage to make operational decisions, autonomous capital management through bootstrapping tactics, and a willingness to take financial risks. This character trait serves as a

primary psychological defense for students, preventing them from giving up easily when facing market rejection in the early stages of their startup journey.

Furthermore, the dimensions of creativity and innovation are analyzed using the theoretical foundation proposed by Joseph Schumpeter regarding Creative Destruction. Schumpeter emphasized that the main driver of economic growth is entrepreneurial innovation that disrupts the old market equilibrium by creating new combinations, whether in the form of new products, new production methods, new market openings, or industrial reorganization. In the context of education, developing creative students means training their divergent thinking skills so they are able to identify everyday problems in society and transform them into viable business opportunities through structured approaches such as design thinking.

The integration of these three theoretical dimensions—Independence (Locus of Control), Creativity (Creative Destruction), and Competitiveness (Resource-Based View)—forms a coherent conceptual framework for designing entrepreneurship curricula at universities. Education should no longer be trapped in a reductionist approach that only teaches short-term technical skills. Instead, education must address the realm of epistemological and ontological transformation, where students' identities are reconstructed from passive learners to adaptive agents of economic change, possessing moral integrity and a long-term vision oriented toward the socio-economic well-being of the wider community.

Results and Discussion

Based on an in-depth, critical, and systematic literature review of dozens of selected scientific articles, this study successfully identified, organized, and synthesized two essential key findings. The first finding is a matrix of the structural contributions of educational system components to the development of specific indicators of entrepreneurial psychological character in students. The second finding is a conceptualization of an integrated entrepreneurial character ecosystem model that illustrates the stages of student entrepreneurial mindset evolution from input to output. Both theoretical syntheses will be presented in detail in the following section, followed by an analytical discussion linking these findings to pedagogical theory and empirical reality in the field.

Result 1: Contribution Matrix of Education System Components

The analysis reveals a consistent empirical pattern of how pedagogical instruments and institutional facilities in higher education institutions directly contribute to the development of students' psychological character. This contribution does not occur randomly or by chance, but rather through deliberate instructional design. The researchers summarized this contribution pattern into an Education System Component Contribution Matrix that dissects three main intervention dimensions: Project-Based Curriculum (PBL), Campus Business Incubators, and Strategic Industry/MSME Partnerships, as presented in Table 1 below.

Table 1. Matrix of Contribution of Educational Components to Entrepreneurial Character

No	Education Component	Character Indicator	Competency Output
1	Project-Based Learning Curriculum	Independent Thinking, Self-Efficacy, & Problem Solving	The ability to independently design business plans, identify niche market opportunities, and execute business ideas on a micro scale.
2	Campus Business Incubator	Innovative Creativity, Mental Resilience, & Collaboration	Creating prototypes of creative products ready for commercialization, understanding the legal aspects of business, and the ability to present business ideas to investors.
3	Strategic Partnership between Industry and UMKM	Global Competitiveness, Agility, & Networking Expansion	Mental readiness to compete in a competitive market ecosystem, understanding of the real industrial supply chain, and the ability to build partnership networks.

The data in Table 1 scientifically proves that cultivating entrepreneurial character cannot be achieved partially but requires functional synergy across institutional components. A project-based curriculum serves as the primary foundation, breaking down the rigidity of theoretical classes. When students are required to complete a real-life business project as a graduation requirement, they are forced out of their academic comfort zone. This directly stimulates the development of self-efficacy, a deep belief in their personal capacity to

overcome business operational challenges. Thus, students' independent thinking is naturally constructed through a series of structured trial and error under the guidance of lecturers.

Campus business incubators go a step further by providing an ecosystem for validating business ideas. Incubators serve as a safe space for students to experiment without the fear of financial ruin. Within the incubator, students' creativity is guided toward competitive advantage and economic viability through regular mentorship programs with industry practitioners. Intensive interaction and problem-solving with peers from various study programs has been proven to boost cross-disciplinary collaboration and build students' mental resilience in the face of real-world business fluctuations. The third component, strategic partnerships with local industries and MSMEs, serves as a crucial tool for assessing graduates' competitiveness in a highly competitive market. Direct exposure to the dynamics of industrial operations teaches students the importance of cost efficiency, consistent product quality control, precise supply chain management, and agility in digital marketing strategies. This market immersion program expands students' professional partnership networks, providing them with invaluable social capital to scale their businesses after completing their studies.

Result 2: Integrated Entrepreneurial Character Ecosystem Flow Modeling

Further synthesis of the literature yielded a conceptual model of the stages in the development of entrepreneurial character in college students. Independent, creative, and competitive character is not formed overnight, but rather through a hierarchical and continuous evolutionary process. Researchers formulated this flow into four strategic stages, presented in Table 2 below, which solidly shape students' entrepreneurial mental architecture.

Table 2. Stages of the Integrated Entrepreneurial Character Ecosystem Flow in Higher Education

Stage 1: Cognitive Foundation	Stage 2: Prototype Validation	Phase 3: Real Market Immersion	Stage 4: Independent Output
Internalization of basic business concepts, innovation case studies, introduction to the design thinking approach, and the formation of a growth mindset in the classroom.	Development of an operational business model (Business Model Canvas), research to validate consumer needs, and creation of a minimum viable product (MVP) prototype under the guidance of a mentor.	Direct commercial sales trials, collaborative operational problem-solving with partner MSMEs, and implementation of real-world digital marketing strategies in the market.	Accelerating business scale, registering formal business legality (NIB/Individual PT), facilitating pitching with investors, and graduating with a bachelor's degree as an independent business owner.

The theoretical flow in Table 2 illustrates the gradual psychological reconstruction of students. Stage 1 focuses entirely on dismantling passive mentalities and cultivating a growth mindset through an inspiring theoretical curriculum. Students are encouraged to recognize their potential and understand the essence of business innovation. Without a solid cognitive foundation, students will struggle to advance to the next stage due to a lack of conceptual understanding of business risk mapping and in-depth market feasibility analysis.

Entering Phase 2, students are encouraged to concretize their abstract ideas into a formal business model using the Business Model Canvas (BMC) and create a minimum product prototype (MVP). This phase hones students' innovative creativity by requiring them to conduct direct, empathetic research with potential users to ensure the product they develop truly solves a real problem in society. Mentorship from the incubator ensures the product development remains economically viable.

Phase 3 is the market immersion phase, where students launch their products into real market competition. Through collaboration with partner MSMEs, students learn to navigate marketing obstacles, manage micro-cash flow, and tactically handle customer complaints. The empirical experience in this phase is highly effective in shaping their mental resilience and strategic business agility, eroding the theoretical idealism of college and replacing it with operational acumen in the field.

This ecosystem culminates in Phase 4, where student businesses are accelerated toward formal independence. Universities facilitate the legal processing of business documents, such as Business Identification Numbers (NIB) or the establishment of individual PTs, and provide a pitching platform to connect student startups with a network of external investors. Through this systematic process, universities successfully produce autonomous graduates with legally independent businesses and highly competitive capabilities to spur national macroeconomic growth.

Discussion: Internalizing Independence and Creativity Through Practical Learning

The findings of this literature research consistently reinforce the pillars of constructivist learning theory, which states that the formation of permanent cognitive schemas and behavioral traits occurs only when learners are actively involved in constructing their own experiences. Internalizing an independent and creative character cannot be achieved through one-way indoctrination or memorization of lecture material. Challenging, contextual, and reflective instructional design is required. When students experience product sales failure during a class project and are then required to conduct an objective post-mortem evaluation of the business, they are undergoing a process of in-depth critical reflection (Casmudi & Haryanto, 2022).

Therefore, the university curriculum must provide space for "measured failure" as a valuable tool for forging mental resilience. Financial and intellectual independence flourishes when students are given full authority to manage their university-funded seed funding. This real-world responsibility forces them to apply strict discipline in cash flow management, eliminate operational inefficiencies, conduct strategic negotiations with raw material suppliers, and formulate tactical solutions to the dynamics of internal business group conflicts. The managerial and leadership skills honed during the execution of PBL commercial projects serve as a microcosm of the real industrial world, proven effective in breaking down the dependent mentality of graduates.

Meanwhile, the development of student creativity is undergoing a fundamental paradigm reorientation. Creativity is no longer positioned as abstract artistic talent, but rather as a structured cognitive competency for creating commercial solutions to consumer problems (customer-centric innovation). Through business incubator facilities, students are trained to utilize cutting-edge digital tools such as big data analytics for market research, adopt artificial intelligence in marketing content optimization, and design environmentally friendly product packaging aesthetics. This creative process, validated by market feedback, ensures that the resulting innovations have superior product differentiation value amidst intense industry competition.

Discussion: Accelerating Global Competitiveness Through a Pentahelix Collaborative Ecosystem

An in-depth analysis of the dimensions of high competitiveness confirms that the peak character of young entrepreneurs cannot be isolated within a sterile campus environment. In accordance with the ecosystem model outlined in Result 2, graduate competitiveness requires strong macro-connectivity between the university and the real industrial world. Implementing a pentahelix collaboration model that synergizes the roles of academia, the business sector, government regulations, community groups, and media dissemination is an absolute prerequisite for the success of entrepreneurial character education. Universities cannot act alone in producing resilient young entrepreneurs (Rae, 2010).

Strategic partnerships with local businesses and MSMEs provide a social laboratory where students directly test their competitive capabilities without any filter. Through a structured entrepreneurial internship program converted into the credit system of the Merdeka Belajar curriculum, students absorb tacit knowledge from senior businesspeople on survival strategies amidst the economic crisis. This empirical experience builds students' global awareness that their business competitors are no longer classmates, but global innovators across borders who leverage the efficiency of digital e-commerce platforms. This awareness of the scale of competition fuels students' intrinsic motivation to continue pursuing sustainable self-development through lifelong learning to maintain the competitive advantage of their products.

Through a harmonious and sustainable pentahelix ecosystem, higher education institutions will be able to produce a generation of graduates who not only have the adaptive ability to survive amidst VUCA turmoil (survive), but also have the aggressive capacity to win global market competition (dominate), explore new market niches, expand business scale (scale-up), and provide real socio-economic contributions in the form of providing mass employment opportunities to encourage the acceleration of sovereign national economic growth.

Conclusion

Based on the literature analysis, conceptual synthesis, and in-depth discussion presented, a key conclusive conclusion can be drawn: higher education plays a vital, strategic, and transformative role in constructing the entrepreneurial character of independent, creative, and highly competitive students in the era of global disruption. This ideal entrepreneurial character does not emerge instantly from innate talent, but rather is the result of social engineering and systematically planned educational interventions. Successfully cultivating this entrepreneurial character requires a complete paradigm shift from rigid conventional-theoretical learning models to the creation of a holistic and integrated higher education ecosystem. An effective entrepreneurship education ecosystem has been empirically proven to require absolute synergy between three institutional pillars: the implementation of the Project-Based Curriculum (PBL) method to build a foundation for independent thinking; optimizing the role of the Campus Business Incubator as a laboratory for validating minimum product (MVP) and fostering mental resilience; and expanding Strategic Partnerships with industry and MSMEs as a means of real market immersion for students. The integration of these three components is convincingly able to transform students' mindset into a growth mindset, increase self-efficacy, and produce graduates who are not only adaptive to VUCA fluctuations, but also ready to act as innovators who create new jobs to accelerate national economic growth.

Recommendations

Strategic recommendations are proposed for several relevant parties. First, policymakers at universities (Rectorates and Faculties) are advised to fully commit structurally to expanding pentahelix partnership networks with industry, banking, and business associations. Universities must allocate adequate supporting regulations and seed funding schemes to support the sustainability of student business projects, and transform the function of business incubators from mere administrative centers to dynamic, professional, and legally validated student startup accelerators. Second, lecturers teaching entrepreneurship courses should consistently abandon one-way, indoctrinative-cognitive teaching methods. Lecturers must transform their roles into facilitators, inspirators, and business mentors capable of applying andragogical methods based on solving real-life cases. Lecturers must boldly design classroom environments that tolerate students' practical failures as valuable instruments of pedagogical reflection, and guide student groups to discerningly utilize the digital ecosystem. Third, for academics and future researchers, considering that this study is a literature review that produces a theoretical conceptual model, it is recommended to conduct further empirical research in the field. Future research could employ large-scale quantitative designs, longitudinal studies, or classroom action research to directly test the operational effectiveness of this Character Ecosystem Flow Model. Future studies are recommended to include broader moderating variables, such as the socio-economic background of students' families, support for regional funding policies, and the level of technological infrastructure readiness in various university regions.

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