

ECONOMIC AND ENTREPRENEURSHIP EDUCATION: AN INTEGRATED ANALYSIS OF COMPETENCE AND SKILLS DEVELOPMENT IN THE CONTEXT OF THE KNOWLEDGE-BASED ECONOMY

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Abstract: *The rapid transformations of the contemporary economy, characterized by digitalization, globalization, and the transition toward a knowledge-based economy, require a fundamental rethinking of the role of education in human capital development. In this context, economic education and entrepreneurship education have become essential components of modern educational systems, contributing to the development of competencies necessary for adapting to labor market dynamics and societal changes. This paper aims to analyze the relationship between economic education and entrepreneurship education from an integrated perspective, highlighting their complementary role in the development of cognitive, practical, and attitudinal competencies. The research is based on a theoretical and bibliometric approach, combining a systematic review of the relevant literature with a bibliometric analysis of scientific publications using specialized tools. These findings indicate that economic education provides the conceptual and analytical foundation for understanding market mechanisms, while entrepreneurship education facilitates the transformation of this knowledge into action through innovation, initiative, and value creation. The integration of these two dimensions contributes to the development of a complex educational profile characterized by critical thinking, decision-making ability, adaptability, and entrepreneurial mindset. Furthermore, the bibliometric analysis reveals emerging trends in the field, including the increasing importance of interdisciplinary approaches, experiential learning, and the integration of digital and sustainability-related competencies. These trends reflect the alignment of educational systems with the requirements of the knowledge-based economy and European educational policies. The results also suggest that the integration of economic and entrepreneurship education has a significant impact on the development of transversal competencies, which are essential for professional integration, particularly in the case of liberal professions. In this context, education plays a key role not only in knowledge transmission but also in shaping individuals capable of acting as agents of economic and social change. The paper contributes to the existing literature by consolidating the conceptual framework regarding the relationship between economic and entrepreneurship education and by emphasizing their role in developing competencies relevant to contemporary economic and professional environments.*

Keywords: *economic education; entrepreneurship education; competencies development; knowledge-based economy; human capital; entrepreneurial skills; higher education; experiential learning.*

JEL Codes: A20; I23; J24; M13

1. Introduction

The structural transformations of the global economy, characterized by accelerated digitalization, increased capital mobility, and intensified international competition, place significant pressure on educational systems to adapt and redefine their objectives. The knowledge-based economy requires not only the accumulation of information, but also the development of complex and transferable competencies that enable individuals to adapt to rapid changes, innovate, and actively participate in economic and social processes.

In this context, economic education and entrepreneurship education have acquired strategic importance, being recognized as key pillars in the development of competitive human capital. Economic education contributes to the development of individuals' ability to understand economic mechanisms and is associated in the literature with increased productivity and long-term economic growth (Becker, 1993; Barro, 1991).

At the same time, entrepreneurship education fosters initiative, creativity, and the ability to transform ideas into value-generating actions, being considered a key driver of economic development and innovation (Raposo and Paço, 2011; Thrane et al., 2016).

Although often addressed separately in both academic literature and educational practice, these two forms of education exhibit a high degree of complementarity. Economic education provides the theoretical and analytical foundation necessary for understanding how economies function, while entrepreneurship education builds upon this knowledge by developing practical competencies and an opportunity-oriented mindset.

The issue of integrating economic and entrepreneurship education becomes particularly relevant in the context of liberal professions, where professional success depends not only on domain-specific technical competencies but also on the ability to manage resources, adapt to market conditions, and develop independent initiatives. Therefore, the formation of a comprehensive professional profile requires the integration of economic knowledge with entrepreneurial skills within a coherent and context-adapted educational framework.

The aim of this paper is to analyze the relationship between economic education and entrepreneurship education from a theoretical and methodological perspective, highlighting their role in developing competencies relevant to the knowledge-based economy. In this regard, the paper seeks to provide a critical synthesis of key conceptual approaches, identify relevant theoretical models, and examine current trends in the literature.

The research objectives are: (i) to clarify the conceptual foundations of economic and entrepreneurship education and their interrelationship; (ii) to analyze the relevant theoretical frameworks and explanatory models; (iii) to identify dominant research directions through bibliometric analysis; and (iv) to highlight implications for competence development and professional growth.

From a methodological perspective, the study is based on a theoretical and documentary approach, complemented by a bibliometric analysis of the literature. This combined approach enables both conceptual grounding and the identification of emerging trends in the field.

Through this approach, the paper aims to contribute to the consolidation of an integrated perspective on economic and entrepreneurship education, emphasizing

their role in shaping an educational profile aligned with the requirements of the contemporary economy and in supporting sustainable professional development.

This paper contributes to the existing literature in several ways. First, it provides an integrated perspective on economic education and entrepreneurship education, which are often treated as separate domains in previous studies. Second, it applies bibliometric analysis to systematically map the structure and evolution of research in this field, offering a comprehensive overview of key themes, influential authors, and collaboration networks. Third, the study identifies emerging research directions and highlights the need for interdisciplinary approaches in competence development, particularly in the context of the knowledge-based economy. By combining theoretical insights with bibliometric evidence, the paper advances the understanding of how these educational domains interact and contribute to professional and economic development.

2. Context

Economic education and entrepreneurship education have evolved in recent decades as complementary fields, driven by the transformations of the global economy and the transition toward a knowledge-based economy. This transition has led to a paradigm shift in education, emphasizing the development of transferable competencies and human capital (Becker, 1993; Hanushek and Woessmann, 2007). In the academic literature, economic education is defined as a process aimed at developing individuals' capacity to understand and interpret economic phenomena, make rational decisions, and actively participate in economic and social life (Belfield, 2000; Geamănu, 2009). It contributes to the development of economic thinking and analytical skills and is grounded in human capital theory, which highlights the direct relationship between education, productivity, and economic growth (Becker, 1993; Barro, 1991).

On the other hand, entrepreneurship education focuses on developing initiative, innovation, and the ability to identify and exploit economic opportunities. According to the EntreComp framework, it involves the development of an integrated set of competencies, including creativity, risk-taking, strategic planning, and the ability to implement ideas in real-world contexts (European Commission, 2016).

A comparative analysis of these two concepts reveals a relationship of functional complementarity. Economic education provides the cognitive foundation necessary for understanding market mechanisms and economic relationships, while entrepreneurship education builds upon this knowledge through action, guiding individuals toward initiative and innovation. This relationship can be interpreted as a transition from "understanding" to "application," that is, from the theoretical to the practical dimension of economic training.

Empirical studies indicate that entrepreneurship education has a positive influence on entrepreneurial intentions and the development of transversal competencies (Sirelkhatim and Gangi, 2015; Ncanywa and Dyantyi, 2022).

From a theoretical perspective, the integration of economic and entrepreneurship education is supported by several relevant educational paradigms. The constructivist paradigm, rooted in the work of Piaget and Vygotsky, emphasizes the active role of the individual in knowledge construction and the importance of social interaction in the learning process. In this context, economic and entrepreneurship education are no longer perceived as processes of knowledge transmission, but rather as processes of competence development through experience and reflection.

The relationship between the two forms of education is thus characterized by functional complementarity. Economic education provides the cognitive basis, while entrepreneurship education translates this knowledge into practice, contributing to the development of an adaptable and innovation-oriented professional profile (Csaba et al., 2016; Gîmbuță, 2018).

The integration of these dimensions is further supported by modern educational paradigms. The experiential learning paradigm, for instance, highlights the importance of learning through experience and is particularly relevant for entrepreneurship education (Kolb, 1984; Pittaway and Edwards, 2012).

At the same time, the competency-based paradigm redefines educational objectives in terms of learning outcomes, emphasizing the development of competencies that can be applied in real-world contexts (European Commission, 2021). In this approach, competencies are understood as integrated combinations of knowledge, skills, and attitudes that enable individuals to perform effectively in diverse professional and social environments.

Recent literature also highlights emerging conceptual directions, such as the integration of digital and sustainability-related dimensions into economic and entrepreneurship education. European strategic documents emphasize the need to develop digital, entrepreneurial, and green competencies as a response to technological transformations and global economic challenges (European Commission, 2023).

In this context, education becomes an interdisciplinary process that integrates elements from economics, psychology, sociology, and technology, aiming to develop flexible and innovative economic thinking. This interdisciplinary approach is essential for understanding the complexity of the contemporary economic environment and for enhancing individuals' adaptability to change.

A central concern in the literature is the impact of economic and entrepreneurship education on competence development. Empirical studies show that economic education enhances critical thinking and analytical capabilities, while entrepreneurship education fosters creativity, initiative, and risk-taking. Together, these dimensions contribute to the formation of a complex educational profile characterized by autonomy, adaptability, and an innovation-oriented mindset.

In the case of liberal professions, this integration becomes particularly relevant, as professional success depends not only on technical expertise but also on the ability to manage economic activities and develop client relationships. Thus, economic and entrepreneurship education contribute to the formation of an integrated professional identity capable of responding to the demands of the contemporary economy (Domilescu, 2019; Igbokwe-Ibeto et al., 2018).

Therefore, the conceptual framework of this paper highlights the need for an integrated approach to economic and entrepreneurship education, one that overcomes disciplinary fragmentation and responds to the requirements of a dynamic, knowledge-based economy.

3. Methodology

The research methodology is situated within the paradigm of theoretical and documentary studies, which is specific to the early stages of scientific inquiry, where the emphasis is placed on conceptual development and theoretical grounding. The methodological approach combines a systematic review of the literature with bibliometric analysis, aiming to identify the main research directions and emerging

trends in the field of economic and entrepreneurship education (Sirelkhatim and Gangi, 2015).

The literature review focused on identifying key theoretical models relevant to the study, including human capital theory (Becker, 1993), experiential learning theories (Kolb, 1984), and competency-based frameworks promoted at the European level, such as EntreComp (European Commission, 2016).

The theoretical-documentary component involved a critical review of relevant scientific literature, drawing on sources indexed in international databases such as Web of Science. In addition, bibliometric tools such as VOSviewer were employed to analyze relationships of co-occurrence, co-authorship, and co-citation. These methods are widely used in the literature for mapping research fields and identifying emerging trends (Fayolle, 2013). The selection process of the literature was based on criteria such as relevance, recency, and scientific impact, including works addressing fundamental concepts, theoretical models, and empirical studies in the field.

More specifically, the bibliometric analysis was conducted using the Web of Science Core Collection database. The search strategy was based on the keywords “entrepreneurship education” and “economic education”, applied through a Topic Search (TS) query, which includes titles, abstracts, and author keywords.

The initial search identified over 2000 publications. Subsequently, the dataset was refined by applying several filtering criteria, including the time frame (2020–2025), document type (scientific articles), and relevance to the research topic, focusing on high-impact journals in the fields of education, economics, and entrepreneurship. Following this selection process, a final sample of 538 articles was retained for the bibliometric analysis.

The selected publications were exported and processed using VOSviewer software, enabling the construction of co-occurrence, co-authorship, and co-citation networks, which formed the basis for the subsequent analysis.

The bibliometric component of the research aimed to map the structure and dynamics of the field. In this regard, analyses of term co-occurrence, co-authorship, and co-citation were conducted using VOSviewer. This approach enabled the identification of key research themes, influential authors, and academic collaboration networks.

The co-occurrence analysis of terms allowed the identification of conceptual connections between economic education and entrepreneurship education, as well as their association with related concepts such as competencies, innovation, higher education, and sustainable development. At the same time, co-authorship analysis provided insights into the main academic centers and the geographical distribution of research activity in the field.

The co-citation analysis offered a deeper understanding of the intellectual structure of the field by identifying the most influential works and authors. This method contributes to clarifying the theoretical foundations of economic and entrepreneurship education and to identifying directions for future research.

The methodology employed presents both strengths and limitations. Among its main strengths are the systematic nature of the analysis and its capacity to integrate diverse theoretical perspectives into a coherent framework. Furthermore, bibliometric analysis provides an objective overview of the evolution of the field and its emerging trends.

However, certain limitations must be acknowledged. These stem primarily from the dependence on the selected databases and from the predominantly theoretical nature of the research, which does not allow for direct empirical validation of the proposed relationships. Nevertheless, the chosen methodology is appropriate for the objectives of the study and provides a solid foundation for future empirical research. By combining theoretical analysis with bibliometric methods, the study offers an integrated perspective on economic and entrepreneurship education, contributing to the conceptual clarification of the field and to the identification of relevant directions for future research.

4. Analysis of results

The analysis of results is based on a bibliometric investigation of the scientific literature on economic and entrepreneurship education, aiming to identify the conceptual structure of the field, the main research directions, and the networks of academic collaboration. In this regard, techniques such as co-occurrence, co-authorship, and co-citation analysis were employed, enabling a systemic understanding of the evolution and organization of scientific knowledge.

4.1. Co-occurrence Analysis of Terms

The co-occurrence analysis of terms highlights the conceptual structure of the field and the relationships between the main research themes. It allows for the identification of dominant thematic clusters and provides insight into how the concepts of economic education and entrepreneurship education are integrated within the scientific literature.

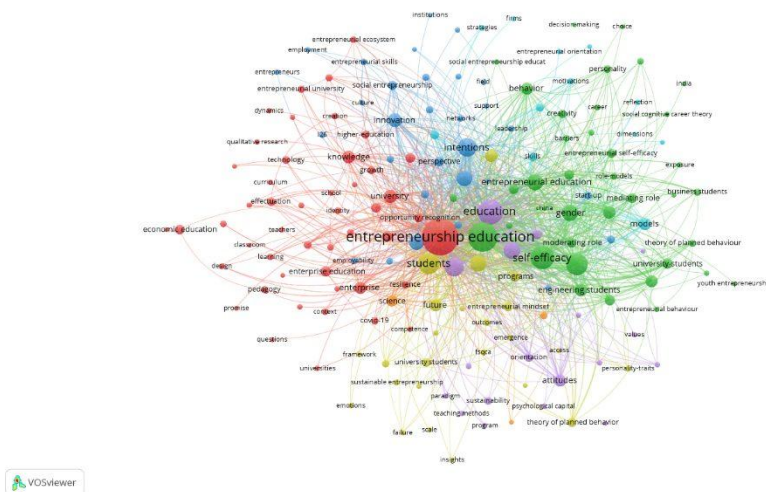


Figure 1. Co-occurrence network of terms in economic and entrepreneurship education

Source: own processing based on Web of Science data using VOSviewer

The interpretation of this network reveals the existence of several distinct but interconnected thematic clusters. A first cluster is centered around the concept of

“entrepreneurship education” and is associated with terms such as “innovation,” “skills,” “higher education,” and “competence development.” This cluster reflects the orientation of the literature toward the development of entrepreneurial competencies within higher education institutions and their role in fostering innovation.

A second cluster is structured around the concept of “economic education” and is linked to terms such as “financial literacy,” “decision making,” and “economic behavior.” This cluster emphasizes the cognitive dimension of economic education and its role in shaping economic thinking and rational behavior.

A third cluster highlights the connections between education, sustainability, and development, including terms such as “sustainable development,” “policy,” and “lifelong learning.” This structure indicates the emergence of an interdisciplinary perspective, in which economic and entrepreneurship education are integrated into broader educational policies and sustainable development frameworks.

The density of connections among these clusters suggests a high degree of conceptual interdependence, confirming that economic and entrepreneurship education are not isolated domains but rather components of a complex educational ecosystem. This interconnection supports the hypothesis of their integration in the development of competencies relevant to the knowledge-based economy.

4.2. Co-authorship Analysis

The analysis of co-authorship networks provides insight into the collaborative structure of research in the field of economic and entrepreneurship education, highlighting the authors, institutions, and geographical regions with the greatest influence.

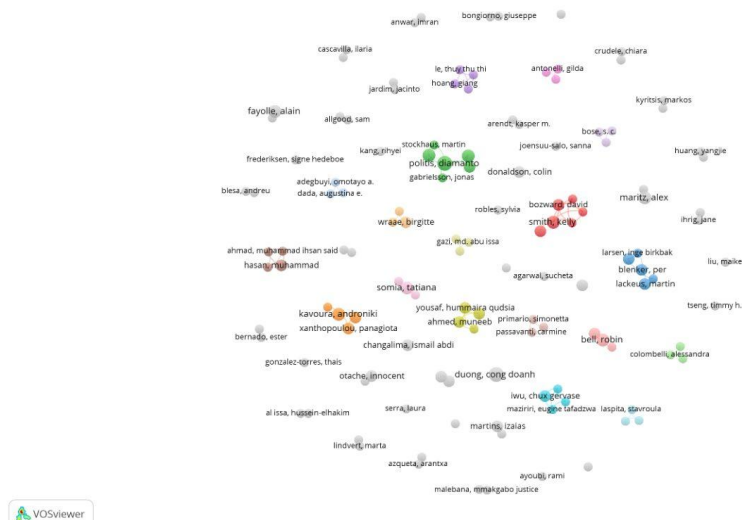


Figure 2. Co-authorship network among authors in economic and entrepreneurship education

Source: own processing based on Web of Science data using VOSviewer

The results indicate the existence of several research groups organized around highly visible authors who function as central nodes within the academic network. These authors contribute significantly to the development of the field through both scientific output and international collaboration.

Institutional analysis reveals that research is concentrated within universities and academic centers in Western Europe and North America, which dominate scientific production in the field. At the same time, there is evidence of a gradual expansion of collaboration networks toward other regions, including Central and Eastern Europe, reflecting the increasing internationalization of research.

From a geographical perspective, co-authorship networks indicate the presence of regional hubs of excellence, where collaborations are more frequent and more intensive. These networks facilitate knowledge dissemination and the development of shared research approaches.

An important observation is that the field exhibits a moderate degree of fragmentation, suggesting the existence of relatively autonomous research communities. This structure may represent both a limitation, due to incomplete integration, and an opportunity, through the diversity of theoretical and methodological perspectives.

4.3. Co-citation Analysis

Co-citation analysis enables the identification of the theoretical foundations of the field by highlighting the works and authors that have significantly influenced the development of economic and entrepreneurship education.

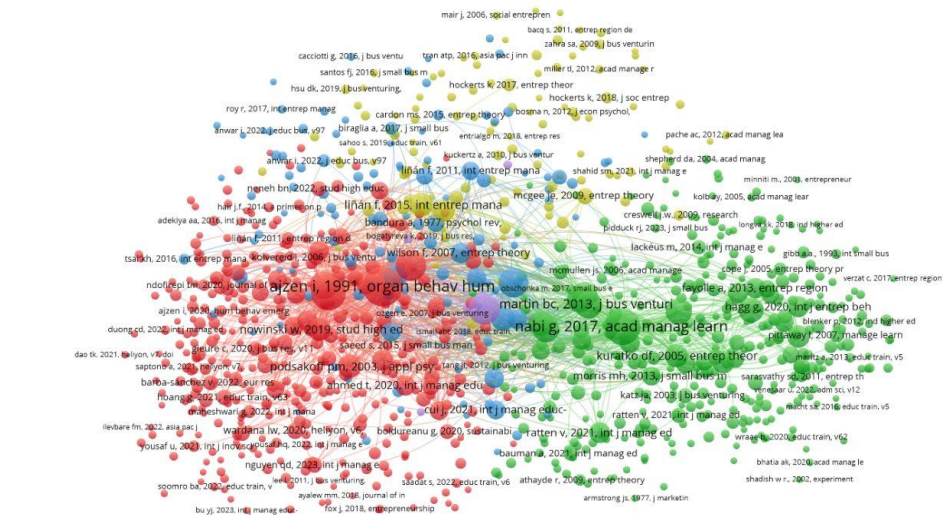


Figure 3. Co-citation network of scientific sources in economic and entrepreneurship education

Source: own processing based on Web of Science data using VOSviewer

The results show that the literature is organized around a set of foundational works addressing themes such as entrepreneurship, economic education, human capital theory, and learning theories. These works form the theoretical core of the field and are frequently cited together, indicating their continued relevance in contemporary research.

Several co-citation clusters can be identified, corresponding to different theoretical paradigms. One major cluster is associated with entrepreneurship literature, including studies that examine the role of education in fostering entrepreneurial behavior and initiative. Another cluster is centered on economic education and human capital theory, highlighting the relationship between education and economic performance.

Additionally, a distinct cluster emerges from the field of educational sciences, encompassing learning theories and pedagogical models applicable to economic and entrepreneurship education. This structure confirms the interdisciplinary nature of the field and the need to integrate economic and educational perspectives.

The co-citation analysis also highlights the evolution of the field through the emergence of recent works addressing topics such as digitalization, sustainability, and transversal competencies. These directions reflect the adaptation of research to contemporary economic and social changes.

5. Synthesis of Results

The results of the bibliometric analysis confirm the existence of a structural and functional relationship between economic education and entrepreneurship education. These two domains are interconnected both at the conceptual level and within the scientific research landscape, being integrated into an interdisciplinary framework focused on competence development.

The co-occurrence analysis highlights thematic convergence, the co-authorship analysis reveals the collaborative structure of research, and the co-citation analysis confirms the existence of a shared theoretical core. Together, these findings support the argument that economic and entrepreneurship education should be approached in an integrated manner in order to meet the requirements of the knowledge-based economy.

The results should be interpreted not only descriptively, but also critically in relation to the existing literature. The strong interconnection identified between economic education and entrepreneurship education confirms previous findings that emphasize their complementary role in competence development (Raposo and Paço, 2011; Thrane et al., 2016). However, the moderate fragmentation observed in the co-authorship networks suggests that the field is still evolving and lacks full theoretical consolidation, which is consistent with earlier literature reviews (Sirelkhatim and Gangi, 2015).

Moreover, the concentration of research within specific geographical regions highlights a potential imbalance in knowledge production, raising questions regarding the generalizability of findings across different educational and economic contexts. This suggests the need for more geographically diverse and interdisciplinary research approaches.

From a theoretical perspective, the results support the integration of economic and entrepreneurship education within a unified framework of competence development. At the same time, they indicate the necessity of further empirical validation, as the

current findings are primarily based on bibliometric patterns rather than direct measurement of educational outcomes.

6. Conclusions

This paper aimed to analyze the relationship between economic education and entrepreneurship education from an integrated perspective, within the context of the transformations specific to the knowledge-based economy. The theoretical-documentary approach, complemented by bibliometric analysis, enabled the identification of both the conceptual foundations of the field and the emerging trends in the scientific literature.

The findings indicate that economic education and entrepreneurship education should not be treated as separate domains, but rather as complementary dimensions of the educational process. Economic education contributes to the development of a solid cognitive foundation by enhancing individuals' understanding of economic mechanisms and rational behavior, while entrepreneurship education builds upon this knowledge by fostering initiative, innovation, and risk-taking.

The bibliometric analysis revealed a significant convergence of research themes across the two fields, as well as an increasing interest in interdisciplinary approaches, experiential learning, and the integration of digital and sustainability-related competencies. These trends reflect the adaptation of research to the evolving requirements of the contemporary economy and to the priorities of European educational policies.

Furthermore, the results suggest that the integration of economic and entrepreneurship education has a relevant impact on the development of transversal competencies, such as critical thinking, problem-solving, decision-making, and adaptability. These competencies are essential for professional integration and for building sustainable careers, particularly in the case of liberal professions, where autonomy and the ability to manage economic activities play a central role.

From a theoretical perspective, the paper contributes to strengthening the conceptual framework regarding the relationship between economic and entrepreneurship education, emphasizing the need for an integrated approach based on complementarity and interdependence. At the same time, the study highlights the role of modern educational paradigms—constructivist, experiential, and competency-based—in supporting this integrated model.

However, certain limitations must be acknowledged. These are mainly related to the predominantly theoretical nature of the research and the lack of direct empirical validation of the relationships examined. Additionally, the reliance on specific databases in the bibliometric analysis may influence the representativeness of the results.

In this context, future research directions should focus on the development of empirical studies aimed at investigating the impact of integrating economic and entrepreneurship education on professional performance, as well as on the design of applied educational models tailored to the specific characteristics of different fields of activity.

This study advances the literature by providing a comprehensive and integrative bibliometric analysis of the relationship between economic education and entrepreneurship education, offering a systematic mapping of research trends and contributing to a deeper understanding of their joint role in competence development within the knowledge-based economy.

In conclusion, the integration of economic and entrepreneurship education represents a relevant direction for the modernization of educational systems and for the development of human capital adapted to the requirements of the knowledge-based economy. Such an approach can contribute to the formation of complex competencies necessary for active and responsible participation in economic and social life.

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