

ENTREPRENEURSHIP EDUCATION AS A CATALYST FOR TRANSFORMATIVE LEARNING: BRIDGING SKILLS, INNOVATION, AND NATIONAL DEVELOPMENT

Hashim Elbadri¹

International College of Engineering and Management, Muscat, Oman

hashim.elbadri@icem.edu.om

ABSTRACT

Entrepreneurship education is increasingly viewed as a transformative element in higher education, especially where national agendas prioritize innovation, resilience, and global engagement. This study examines its strategic relevance to Oman's Vision 2040 through a thematic literature review of interdisciplinary sources from 2010 to 2025. Drawing from science, language education, and entrepreneurship, it explores how these domains foster lifelong learning and prepare students for complex futures [2], [5], [10]. Entrepreneurial pedagogy is analyzed as both a skill-building mechanism and a driver of identity formation, learner agency, and critical reflection [7], [9]. Four thematic outcomes emerge: learner empowerment; curriculum innovation via science and English for Research Purposes (ERP); alignment with national goals; and enhanced global communication [4], [11], [12]. Findings confirm entrepreneurship education's role in economic diversification, knowledge economy growth, and academic literacy [5], [10]. The study offers recommendations for embedding entrepreneurship in curricula, integrating ERP, and aligning education with policy frameworks [1], [3], [6].

KEYWORDS

Entrepreneurship Education, Transformative Learning, Oman Vision 2040, Interdisciplinary Curriculum, Higher Education.

1. INTRODUCTION

The evolving landscape of higher education calls for more than traditional content delivery—it demands learner-centered and transformative approaches. As nations respond to economic diversification, digitalization, and sustainability, universities are expected to prepare graduates for leadership, innovation, and lifelong learning. Entrepreneurship education has become a pivotal strategy in cultivating adaptive thinking and resilience among students [2], [10].

Integrated into general education, entrepreneurship nurtures critical thinking, self-efficacy, and creative problem-solving across disciplines. It leverages experiential learning and reflective inquiry, aligning closely with transformative learning theory [9], [7]. Rather than focusing solely on venture creation, contemporary pedagogy encourages curiosity, agency, and constructive disruption within and beyond academic settings.

In Oman, national frameworks like Vision 2040 prioritize innovation, human capital, and a robust knowledge economy. Embedding entrepreneurship into higher education meets these goals directly [5], [4]. Paired with scientific inquiry and English for Research Purposes (ERP), this approach

builds interdisciplinary capacity and global communication skills. Learners move beyond passive participation and begin contributing meaningfully to societal advancement.

This study explores the transformative role of entrepreneurship education in general curricula, highlighting its potential to empower learners, foster curricular innovation, and support Oman’s development agenda. By synthesizing key literature, it identifies actionable strategies for driving educational reform and sustainable impact.

The conceptual framework connects entrepreneurship education with transformative learning outcomes, interdisciplinary inputs, and national policy alignment. Through ERP and science modules, students develop global competencies in communication, sustainability, and innovation—core targets of the Sustainable Development Goals (SDGs), particularly SDG 4 (Quality Education), SDG 8 (Decent Work and Economic Growth), and SDG 9 (Industry, Innovation and Infrastructure).

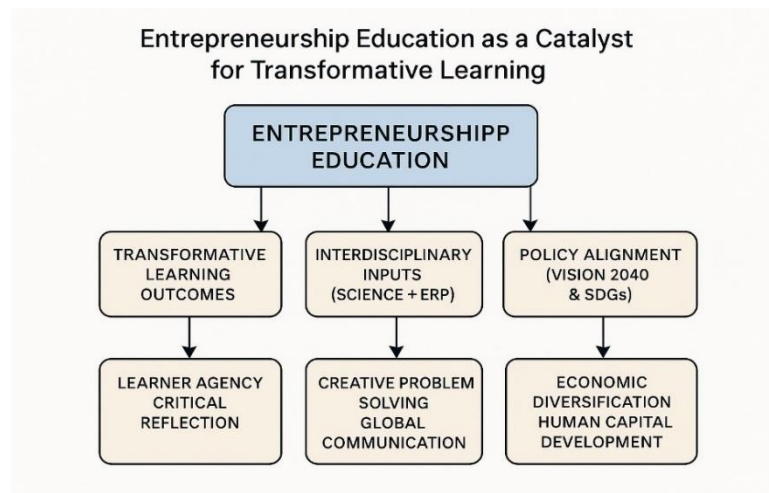


Figure 1. Conceptual framework

2. BACKGROUND AND CONTEXT

Oman’s Vision 2040 emphasizes knowledge-driven development, innovation, and sustainability. Higher education institutions are pivotal in preparing learners not just for employment, but for leadership, research, and socio-economic contribution. Embedding entrepreneurship into general education enables students to engage meaningfully with national priorities and global challenges.

3. PROBLEM STATEMENT

Despite growing interest in entrepreneurship education across Oman and the MENA region, many higher education curricula remain anchored in traditional, teacher-centered models that emphasize rote learning and standardized assessments. For example, although Oman has mandated entrepreneurship courses for all higher education students under Vision 2040, educators often conceptualize entrepreneurship narrowly—as business creation—rather than as a transformative, interdisciplinary process. This misalignment between pedagogical delivery and the broader goals of entrepreneurial learning limits students’ capacity for critical reflection, innovation, and societal engagement.

4. PURPOSE OF THE STUDY

To investigate how entrepreneurship education within general education frameworks fosters transformative learning, with a particular focus on aligning pedagogy with Oman Vision 2040 and SDGs.

5. RESEARCH QUESTION

How can entrepreneurship education in higher education in Oman act as a catalyst for transformative learning and national development?

6. SIGNIFICANCE OF THE STUDY

This study supports Oman Vision 2040 by positioning entrepreneurship education within general curricula as a driver of human capital development, economic diversification, and innovation. By integrating entrepreneurial thinking with language and scientific competencies, it strengthens student preparedness for a knowledge-based economy while reinforcing national identity, sustainability, and global competitiveness. In doing so, the study advances educational reform through interdisciplinary curriculum design, policy alignment, and learner-centered outcomes, and contributes to broader academic discourse on employability, innovation, and equity in emerging economies.

7. LITERATURE REVIEW: THEMATIC

Entrepreneurship education is increasingly recognized as a transformative force within higher education, contributing not only to economic growth but also to learner identity formation, interdisciplinary thinking, and national development goals. This review synthesizes contemporary scholarship across four key themes relevant to Oman's educational reform under Vision 2040.

7.1. Transformative Learning Theory

Transformative learning, as defined by Mezirow (2000), involves critical reflection leading to shifts in personal beliefs, behaviors, and worldviews. It is particularly relevant to entrepreneurship education, which encourages learners to engage in real-world problem-solving, challenge assumptions, and reflect on their goals and values [6].

- Entrepreneurial activities such as opportunity recognition, innovation labs, and reflective journaling serve as catalysts for personal growth and agency development [1].
- Transformative outcomes include increased self-efficacy, autonomy, and the ability to navigate uncertainty—skills essential for economic diversification and sustainability.

7.2. Entrepreneurship Pedagogy and Learner Empowerment

Modern entrepreneurship pedagogy has evolved from content-based instruction to experiential learning models that emphasize the entrepreneurial mindset over business mechanics [10].

- Approaches such as effectuation [14] promote adaptability and resourcefulness in uncertain contexts.

- Studies reveal that entrepreneurship modules embedded in general education significantly improve students’ teamwork, creativity, and resilience [9].

7.3 Interdisciplinary Curriculum Integration

There is growing consensus that entrepreneurship is most effective when taught alongside other disciplines—particularly science and language learning.

- Integrating English for Research Purposes (ERP) equips students with the academic literacy needed to pitch ideas, write proposals, and engage globally [5]; [3].
- Science-based curricula infused with entrepreneurial thinking foster innovation in areas like renewable energy, agritech, and health [13].

7.4. Policy Alignment and National Development

In emerging economies, entrepreneurship education is closely tied to national development strategies.

- Oman Vision 2040 prioritizes innovation, sustainability, and youth empowerment through education [4]; [11].
- Literature indicates that policy-supported curricula increase employability, local enterprise creation, and alignment with SDGs [16]; [17].

Table 1: Thematic Summary of Literature Review with Key Writers

Theme	Key Insights	Relevance to Oman Vision 2040	Key Writers
Transformative Learning	Critical reflection, identity shift, learner agency	Supports human capital and lifelong learning	[8]; [6]; [1]; [15]
Entrepreneurship Pedagogy	Experiential, mindset-focused, fosters resilience and creativity	Encourages innovation and adaptability	[10]; [2]; [14]; [9]; [12]
Interdisciplinary Integration	Combines science, language, and entrepreneurship for global readiness	Advances knowledge economy and global competitiveness	[5]; [3]; [13]; [7]
Policy & Strategic Alignment	Education as driver of sustainable development and economic diversification	Aligns with Vision 2040 and SDG targets	[4]; [11]; [16]; [17]

Table 1 presents a thematic synthesis of literature, linking key scholars to core concepts in transformative learning, entrepreneurship education, and interdisciplinary curriculum reform.

8. METHODOLOGY

8.1. Research Design

This study adopts a qualitative interpretivist design based on a thematic literature review. The goal is to synthesize diverse perspectives on how entrepreneurship education fosters transformative learning within general curricula, particularly in relation to Oman Vision 2040 and the Sustainable Development Goals (SDGs). This design allows for critical exploration of existing scholarships without collecting new empirical data, making it suitable for conceptual and policy-oriented analysis.

8.2. Data Collection Methods

Relevant literature was gathered systematically from peer-reviewed journals, institutional reports, and global education policy frameworks published between 2010 and 2025. Selection criteria included:

- Relevance to entrepreneurship education, transformative learning, interdisciplinary teaching, and national development
- Focus on higher education and curricular reform
- Credibility and indexing by Scopus, Web of Science, and ERIC

Databases consulted included JSTOR, ScienceDirect, Taylor & Francis Online, and Google Scholar. Keywords used were entrepreneurship education, transformative learning, academic literacy, Oman Vision 2040, and interdisciplinary curriculum.

8.3. Data Analysis

Thematic coding was used to classify literature into four major clusters:

- Transformative Learning Theory
- Entrepreneurship Pedagogy and Learner Empowerment
- Interdisciplinary Curriculum Integration
- Policy Alignment and National Development

Each theme was analyzed in terms of conceptual frameworks, implementation models, and relevance to Omani educational strategy. Findings were mapped to Vision 2040 priorities, revealing opportunities for curricular innovation and learner-centered reform.

8.4. Ethical Considerations

As a secondary research study based on publicly available literature, no human subjects were involved, and institutional ethics approval was not required. Nevertheless, ethical standards were maintained through:

- Transparent sourcing of academic and policy documents
- Proper attribution using APA referencing conventions
- Avoidance of bias or manipulation during synthesis

- Respect for intellectual property and scholarly integrity

This ensures the study's contributions are responsibly grounded in credible knowledge and respectful academic practice.

8.5. Limitations and Delimitations

This study is based on a thematic literature review and does not include primary data collection. As such, its findings are limited by the scope and availability of existing scholarships. The review focused primarily on English-language sources indexed in Scopus, Web of Science, ERIC, and other academic databases, which may exclude relevant regional studies published in Arabic or other languages. Additionally, the literature selected emphasizes higher education contexts, particularly university-level programs, and may not fully capture entrepreneurship education practices in vocational or informal learning environments. The geographic focus leans toward Oman and comparable MENA economies, which may limit generalizability to other global regions. These delimitations were intentionally set to align the study with Oman Vision 2040 and Sustainable Development Goals (SDGs), ensuring relevance to national policy and curricular reform.

9. RESULTS

The thematic literature review yielded four interconnected themes highlighting the transformative potential of entrepreneurship education when integrated with science and language learning. These themes reflect best practices, conceptual frameworks, and strategic insights relevant to Oman's educational priorities.

9.1. Learner Empowerment and Identity Formation

Entrepreneurship education contributes significantly to personal development by cultivating self-efficacy, autonomy, and purpose-driven engagement. Mezirow, J. (2000) Theory of transformative learning emphasizes the role of critical reflection in shaping learner identity, which is mirrored in entrepreneurial activities such as ideation, self-assessment, and iterative feedback [1]. Empirical studies reveal that students exposed to entrepreneurship curricula demonstrate increased confidence in navigating uncertainty and taking initiative [9].

9.2. Curriculum Innovation for Interdisciplinary Learning

Programs integrating entrepreneurship with science and language show greater engagement and learning transfer. ERP-enhanced modules support students' ability to articulate research ideas and business concepts in academic and professional contexts [5]. Interdisciplinary models foster active learning, global awareness, and creative problem-solving—key skills for Oman's innovation-driven vision [13].

9.3. Policy-Driven Educational Reform

The literature confirms that national strategies like Oman Vision 2040 benefit from curricular models that embed entrepreneurship into general education. This enhances youth readiness for a diversified economy and encourages socially responsible innovation [4]. [16] further advocates aligning curricula with SDGs through entrepreneurship and sustainability-focused learning outcomes.

9.4. Language as a Medium for Entrepreneurial Communication

English language proficiency—particularly in research and academic writing—emerges as a vital enabler of entrepreneurial success. ERP approaches strengthen students’ capacity to write proposals, present ideas, and engage in international collaboration [3]. The combination of scientific reasoning, linguistic clarity, and entrepreneurial literacy results in more impactful educational experiences.

Table 2. Thematic Outcomes of Entrepreneurship Education for Transformative Learning

Thematic Focus	Key Findings	Supporting Sources
Learner Empowerment & Identity Formation	Entrepreneurship fosters self-efficacy, autonomy, and reflective growth. Learners gain confidence and agency through entrepreneurial activities.	[8]; [1]; [9]; [10]
Curriculum Innovation & Interdisciplinary Learning	Integration of ERP and scientific inquiry promotes active learning, creative thinking, and transferable skills across domains.	[5]; [3]; [13]; [7]
Policy Alignment with National Goals	Entrepreneurship supports Oman Vision 2040 priorities like economic diversification, innovation, and youth empowerment.	[4]; [11]; [16]
Language as an Enabler of Communication	ERP enhances students’ ability to present ideas, write proposals, and engage with global academic and entrepreneurial communities.	[3]; [5]

Table 2 summarizes the key findings from the thematic literature review, highlighting how entrepreneurship education enhances learner development, supports interdisciplinary curriculum innovation, aligns with national policy goals, and utilizes language education as a driver for global engagement.

10. DISCUSSION

The synthesis of reviewed literature underscores the strategic value of entrepreneurship education as a platform for transformative learning in higher education. It extends beyond vocational

preparation to cultivate critical consciousness, creative agency, and social innovation. For Oman, this paradigm aligns with the national emphasis on human capital development, economic diversification, and global competitiveness.

Entrepreneurial pedagogy creates fertile ground for learners to engage with ambiguity, reflect on their goals, and build resilience—qualities increasingly vital in both scientific and business environments [14]. When paired with science and ERP modules, the result is an interdisciplinary ecosystem that empowers learners to contribute meaningfully to research, innovation, and enterprise.

Moreover, the findings support a shift from siloed curricula toward integrated frameworks where entrepreneurship intersects with multiple disciplines. This integration facilitates the development of future-ready graduates capable of navigating complex, interconnected systems [10].

For Oman’s educational reform agenda, the discussion reinforces the need to design programs that:

- Prioritize learner agency and self-directed inquiry
- Embed entrepreneurship as both a skillset and mindset across faculties
- Utilize language learning as a strategic tool for global engagement
- Align educational outcomes with national visions and international development goals

These findings advocate for investment in curriculum redesign, faculty development, and policy alignment to institutionalize entrepreneurship education as a transformative force in Omani higher education.

11. SUGGESTIONS FOR FUTURE RESEARCH

Future research should explore how entrepreneurship curricula contribute to long-term learner transformation by conducting longitudinal studies, analyzing the integration of English for Research Purposes (ERP) into entrepreneurial programs, and examining student-led innovations that support national development priorities.

12. CONCLUSION

Entrepreneurship education, when thoughtfully embedded in general curricula, offers far-reaching transformative potential for higher education in Oman and similar emerging economies. This study’s thematic analysis revealed that such education empowers learners by cultivating self-efficacy, critical thinking, and interdisciplinary competencies essential for innovation and sustainable development. Through the integration of scientific inquiry and English for Research Purposes (ERP), students gain vital tools for global engagement, entrepreneurial communication, and academic literacy.

The findings further confirm that entrepreneurship pedagogy contributes not only to individual learner development but also to broader national goals as articulated in Oman Vision 2040—especially human capital enhancement, economic diversification, and knowledge-driven growth.

For education systems striving to bridge theory with societal impact, entrepreneurship represents more than a vocational pathway; it is a dynamic force for personal transformation and strategic reform.

In the long term, embedding entrepreneurship into general education frameworks in Oman has the potential to cultivate a generation of innovative, resilient citizens who actively contribute to sustainable development, inclusive economic growth, and global leadership.

13. RECOMMENDATIONS

To maximize the transformative potential of entrepreneurship education in alignment with Oman Vision 2040, the following tailored recommendations are proposed for key stakeholder groups:

14.1. For Educators

- Integrate ERP and scientific inquiry into entrepreneurship modules to cultivate research communication and interdisciplinary problem-solving.
- Adopt learner-centered pedagogies such as project-based learning, effectuation exercises, and reflective journaling to foster agency and creativity.
- Collaborate across disciplines to develop co-taught modules that link entrepreneurship with language and STEM education.

14.2. For Policymakers

- Mandate cross-disciplinary entrepreneurship curricula in higher education as part of national reform efforts supporting Vision 2040 and SDG targets.
- Fund incubators and innovation labs that connect academic learning to community enterprise and youth empowerment.
- Promote institutional partnerships between universities and industry to align curricular goals with labor market needs.

14.3. For Institutional Leaders

- Develop university-wide frameworks that position entrepreneurship as a catalyst for research, sustainability, and inclusive development.
- Implement strategic assessment metrics to track student transformation, employability, and innovation outcomes.
- Encourage resource-sharing across faculties, including language centers and science departments, to foster programmatic synergy.

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to all those who supported the development of this study. Special thanks go to my academic colleagues, institutional collaborators, and policy stakeholders whose insights and encouragement were invaluable throughout the research process.

REFERENCES

- [1] Cranton, P. (2016). *Understanding and promoting transformative learning: A guide for adult educators* (3rd ed.). Stylus Publishing.
- [2] Fayolle, A., & Gailly, B. (2008). From craft to science: Teaching models and learning processes in entrepreneurship education. *Journal of European Industrial Training*, 32(7), 569–593.
- [3] Flowerdew, J. (2015). Corpus-based research and the development of academic literacies. *Language Teaching*, 48(2), 162–180.
- [4] Government of Oman. (2019). *Oman Vision 2040: Executive summary*. Retrieved from <https://www.2040.om/>
- [5] Hyland, K. (2016). *Teaching and researching writing* (3rd ed.). Routledge.
- [6] Illeris, K. (2014). *Transformative learning and identity*. Routledge.
- [7] Kuratko, D. F. (2016). *Entrepreneurship: Theory, process, practice* (10th ed.). Cengage Learning.
- [8] Mezirow, J. (2000). *Learning as transformation: Critical perspectives on a theory in progress*. Jossey-Bass.
- [9] Nabi, G., Liñán, F., Fayolle, A., Krueger, N., & Walmsley, A. (2017). The impact of entrepreneurship education: A systematic review and research agenda. *Academy of Management Learning & Education*, 16(2), 277–299.
- [10] Neck, H. M., & Greene, P. G. (2011). Entrepreneurship education: Known worlds and new frontiers. *Journal of Small Business Management*, 49(1), 55–70.
- [11] Oxford Business Group. (2023). *The Report: Oman 2023*. Retrieved from <https://oxfordbusinessgroup.com/>
- [12] Pittaway, L., & Cope, J. (2007). Entrepreneurship education: A systematic review of the evidence. *International Small Business Journal*, 25(5), 479–510.
- [13] Rae, D. (2010). Universities and enterprise education: Responding to the challenges of the new era. *Journal of Small Business and Enterprise Development*, 17(4), 591–606.
- [14] Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, 26(2), 243–263.
- [15] Taylor, E. W. (2008). Transformative learning theory. *New Directions for Adult and Continuing Education*, 119, 5–15.
- [16] UNESCO. (2017). *Education for sustainable development goals: Learning objectives*. Paris: UNESCO Publishing.
- [17] World Bank. (2020). *Skills development in the Middle East and North Africa*. Retrieved from <https://www.worldbank.org/>