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Fostering Entrepreneurial Creativity: A Multimodal Module Approach for Digital Business Creation in Higher Education

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Abstract

Entrepreneurship education in higher education is increasingly expected to move beyond intention formation and help students generate, validate, and communicate viable digital business ideas. However, many entrepreneurship courses still rely on lecture-dominant delivery, fragmented assignments, and assessments that privilege conceptual recall over creative venture development. This article argues that entrepreneurial creativity can be strengthened through a multimodal module approach that integrates verbal, visual, auditory, collaborative, and digital modes into the process of digital business creation. Drawing on literature on creativity, multimedia learning, multimodality, entrepreneurship education, project-based learning, and digital entrepreneurship, this conceptual article synthesizes key insights and proposes a pedagogical framework for higher education. The discussion highlights four main arguments. First, entrepreneurial creativity should be treated as a learnable educational outcome rather than a rare personal trait. Second, multimodal learning environments support richer opportunity recognition, customer understanding, idea articulation, and prototype communication. Third, a module-based design can scaffold students from problem exploration to digital product validation through integrated activities such as visual mapping, short-form content creation, pitch recording, business model design, and reflective iteration. Fourth, authentic assessment is required to capture creative growth, not only through written tests but also through prototypes, portfolios, peer feedback, and market-based evidence. The article concludes that a multimodal module approach provides a coherent pathway for linking creativity, pedagogy, and digital venture practice in higher education. It offers practical implications for curriculum design, lecturer facilitation, and assessment reform in contemporary entrepreneurship education.

Keywords: *entrepreneurial creativity; multimodal module; digital business creation*

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Introduction

Higher education institutions are no longer expected only to transmit entrepreneurial concepts. They are increasingly asked to help students identify opportunities, design innovations, communicate value propositions, and experiment with venture ideas in fast-changing digital environments. This shift is closely related to the growing importance of entrepreneurship education in universities and the wider demand for graduates who can respond creatively to uncertainty, technological change, and platform-based economic activity. Research on entrepreneurship education has shown that higher education can shape entrepreneurial outcomes, but it also indicates that pedagogical design matters profoundly. Courses that merely deliver information about entrepreneurship tend to produce weaker transformative effects than those that engage students in action, reflection, experimentation, and authentic problem solving.

At the same time, digital entrepreneurship has changed what it means to create and grow a business. Digital technologies reduce entry barriers, accelerate experimentation, support low-cost market validation, and enable students to create digital products, content-based brands, services, and platform-enabled ventures while still studying. This transformation expands the relevance of entrepreneurship education, yet it also raises new curricular questions. Students need not only entrepreneurial intention but also the capacity to convert ideas into digital business models, user-facing content, early prototypes, and evidence-informed decisions. In other words, entrepreneurship education must pay greater attention to digital business creation as a process of creative design, communication, and iterative validation.

This challenge has direct implications for pedagogy. Many entrepreneurship courses in higher education still emphasize lectures, case summaries, and end-of-semester business plans. Such approaches may introduce foundational knowledge, but they often underuse multimodal resources that are central to contemporary digital venture practice. Digital entrepreneurs work through combinations of text, image, interface, sound, video, data dashboards, social media narratives, and visual persuasion. When entrepreneurship education remains predominantly monomodal and text-heavy, there is a mismatch between how students learn and how digital businesses are actually imagined, built, tested, and presented.

A multimodal module approach offers a promising response to this gap. Multimodality recognizes that meaning is made through multiple semiotic resources rather than language alone. In educational settings, multimodal learning can deepen understanding by combining words, visuals, audio, embodied activity, interaction, and digital tools. From the perspective of multimedia learning and dual coding, learners benefit when information is represented through complementary channels that reduce cognitive overload and foster richer mental models. From the perspective of entrepreneurship education, practice-based and project-based pedagogies suggest that students learn entrepreneurial action more effectively when they are involved in doing, making, presenting, reflecting, and iterating.

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This article therefore examines how a multimodal module approach can foster entrepreneurial creativity for digital business creation in higher education. It does not report a single empirical intervention. Instead, it develops a conceptual argument grounded in interdisciplinary literature and proposes a pedagogical framework that universities can adapt to entrepreneurship, business, education, and innovation-related programs. The article makes three contributions. First, it positions entrepreneurial creativity as a central educational outcome in digital entrepreneurship learning. Second, it explains why multimodal modules are especially suitable for the logic of digital business creation. Third, it proposes an implementable module design that aligns content, activities, outputs, feedback, and assessment with creative venture development.

Discussion

Entrepreneurial creativity as a higher education outcome

Entrepreneurial creativity refers to the generation and implementation of novel and useful ideas in entrepreneurial contexts. In higher education, this means students are not only expected to understand entrepreneurship but also to imagine alternative possibilities, recombine knowledge, identify unmet needs, and develop feasible responses to those needs. The literature on creativity consistently emphasizes originality and usefulness as core criteria. This is highly relevant to entrepreneurship because a business idea is valuable only when it is both distinctive and viable. Entrepreneurial creativity is therefore not a decorative add-on to entrepreneurship courses; it is central to opportunity recognition, product design, business model innovation, branding, customer engagement, and strategic adaptation.

For university teaching, an important implication follows: entrepreneurial creativity should be cultivated deliberately. It can be shaped through structured learning experiences, domain knowledge, collaborative feedback, and repeated cycles of idea generation and refinement. This aligns with work in entrepreneurship education showing that pedagogy, not only content, determines the quality of student learning. Students need environments that support exploration, risk-taking, iteration, and the translation of abstract ideas into communicable venture concepts. They also need opportunities to connect entrepreneurial imagination with real-world constraints such as user needs, digital tools, market signals, and resource limitations.

Digital business creation intensifies this need because the digital context rewards rapid prototyping, experimentation, and creative communication. Students entering digital entrepreneurship must often design not only a product or service but also a customer journey, digital content strategy, visual identity, and platform presence. Creativity is thus enacted across multiple representations. A strong entrepreneurship curriculum should recognize this expanded terrain and move beyond the assumption that creativity will emerge spontaneously. Instead, it should scaffold creative performance through purposeful tasks, tools, and criteria.

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Why a multimodal module approach fits digital business creation

A multimodal module approach fits digital business creation because digital entrepreneurship itself is multimodal. Students creating a digital venture rarely work only with written business plans. They analyze visual trends, design interfaces, produce pitch decks, build short videos, interpret analytics, construct brand narratives, and communicate through social media, landing pages, and online marketplaces. In this context, teaching methods that rely primarily on lecture and written examination underrepresent the actual communicative and creative demands of digital entrepreneurship.

Multimodal pedagogy offers two complementary strengths. First, it broadens representation. Students can encounter entrepreneurial problems through texts, case videos, customer interviews, visual maps, screenshots, data displays, and collaborative whiteboards. Such variety can help students build deeper understanding because they are not confined to one symbolic channel. Second, it broadens expression. Students can show their learning through annotated canvases, short video pitches, wireframes, infographics, content calendars, digital mock-ups, and reflective narratives. This is particularly important in entrepreneurship education, where the ability to communicate a venture idea is inseparable from the ability to think entrepreneurially.

A module-based design strengthens these advantages because it provides pedagogical sequence. Rather than treating entrepreneurship creativity as an unstructured final project, the module breaks digital business creation into connected stages. Each stage can foreground a different combination of modes, resources, and outputs while still contributing to an integrated venture concept. This sequencing is important for novices. Students often struggle not because they lack motivation, but because they do not know how to move from a broad interest area to a validated problem, from a problem to a solution, and from a solution to a coherent digital business proposition. Modules create scaffolding for this progression.

From a learning theory perspective, the approach is also defensible. Multimedia learning research suggests that words and pictures can support deeper learning when designed coherently. Dual coding theory similarly indicates that verbal and nonverbal processing can reinforce meaning construction. Social semiotic perspectives on multimodality further show that different modes have different affordances for meaning making. Applied to entrepreneurship education, these insights suggest that opportunity recognition, ideation, prototype design, and venture communication are likely to improve when students work across modes in structured, purposeful ways rather than relying on text alone.

A proposed multimodal module for digital business creation

A practical multimodal module for digital business creation in higher education can be organized into five stages. Each stage combines entrepreneurial content with multimodal tasks and produces a visible artifact that becomes part of the student's venture portfolio.

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Stage 1 focuses on problem exploration and digital opportunity sensing. Students investigate everyday problems, user frustrations, and digital consumption patterns through observation logs, short field interviews, screenshot collections, and trend mapping. The multimodal emphasis is on combining narrative description with visual evidence. Students may create empathy maps, problem boards, or photo-based issue documentation. The creative goal at this stage is divergence: generating multiple opportunity directions before converging too quickly.

Stage 2 addresses idea generation and value proposition development. Students use brainstorming, mind maps, concept sketches, storyboard sequences, and collaborative discussion boards to generate alternative solutions. Lecturers can deliberately require students to represent the same idea in more than one form, for example a written concept note, a one-minute verbal explanation, and a single-slide visual value proposition. Re-representing an idea across modes can sharpen reasoning because it forces students to clarify assumptions and reduce vagueness. Entrepreneurial creativity grows when students learn to transform fuzzy intuitions into communicable concepts.

Stage 3 centers on digital prototype development. Here the module moves from conceptual to semi-functional representation. Depending on course resources, students can create landing-page mock-ups, interface wireframes, content samples, service blueprints, basic online storefronts, or social media campaign drafts. The educational purpose is not to demand technically perfect products, but to help students externalize ideas in a form that others can interpret and critique. Creative learning is strengthened when ideas become visible and revisable.

Stage 4 focuses on market validation and iterative feedback. Students share prototypes with peers, potential users, mentors, or micro-communities online and gather responses through polls, comment analysis, short usability tests, or analytics from trial content. This stage is essential because entrepreneurial creativity should not be judged only by internal novelty. It must interact with audience response and practical usefulness. Multimodality remains important here because feedback is often generated through comments, visual reactions, screen recordings, metrics, and oral discussion. Students learn that refining a venture involves interpreting signals across multiple forms of evidence.

Stage 5 culminates in digital venture communication and reflective synthesis. Students produce a concise but coherent portfolio that may include a business model canvas, prototype visuals, target-market rationale, validation evidence, and a pitch in live or recorded format. Reflection is important in this final stage. Students should explain not only what they created, but how their idea evolved, what feedback changed their thinking, and which creative decisions were most consequential. Reflection turns a project into a learning process and helps students build metacognitive awareness about entrepreneurial creativity.

Taken together, the five stages move from sensing to making, testing, and communicating. They position multimodality not as a decorative layer but as an organizing principle for learning.

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Because digital business creation itself involves multiple modes, the module aligns pedagogy with practice. It also allows lecturers to integrate entrepreneurship knowledge, creativity development, digital literacy, and authentic assessment in a single structure.

Assessment, lecturer roles, and implementation considerations

Assessment must align with the logic of the module. If entrepreneurial creativity is the target, then assessment cannot be limited to recall-based tests or a single written report. More valid assessment would combine process and product indicators. Product indicators may include originality, usefulness, coherence of value proposition, prototype quality, and persuasiveness of communication. Process indicators may include ideation breadth, responsiveness to feedback, evidence of iteration, collaboration quality, and reflective depth. A portfolio-based model is therefore especially suitable because it allows lecturers to assess creativity as development over time rather than as a one-shot performance.

Lecturers play a crucial role in making the module work. In a multimodal entrepreneurship classroom, the lecturer is less a transmitter of fixed content and more a designer of learning sequences, curator of resources, facilitator of critique, and coach for iteration. This requires digital pedagogical competence. Lecturers need to select tools that are accessible, aligned with learning outcomes, and appropriate to students' technical readiness. They also need to establish clear rubrics so that students understand how multimodal work will be judged. Without explicit criteria, students may assume that attractive visuals alone are sufficient, whereas the educational goal is the integration of creativity, evidence, and entrepreneurial reasoning.

Implementation should also be attentive to inclusion and feasibility. Not all students possess the same level of access to devices, design software, or entrepreneurial experience. A well-designed module therefore uses flexible tools, favors low-cost platforms, and permits multiple forms of expression. For example, a prototype can be represented as a sketched wireframe, a slide-based mock-up, or a no-code landing page depending on available resources. The important issue is not technological sophistication alone, but whether the representation allows students to think, test, and communicate effectively.

Finally, institutions should recognize that multimodal entrepreneurship education is best supported by curricular integration rather than isolated assignments. It works most effectively when courses provide time for project development, formative feedback, peer review, and reflection. In this sense, the proposed module is not merely an activity sequence; it is a curriculum strategy for linking entrepreneurial creativity with contemporary digital business practice in higher education.

Table 1. Core structure of the proposed multimodal module for digital business creation

Stage	Learning focus	Multimodal resources and tasks	Creativity emphasis

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1. Opportunity sensing	Identify user problems and digital opportunities	Observation notes, screenshots, empathy maps, trend boards	Divergent thinking and problem framing
2. Idea generation	Develop alternative venture concepts and value propositions	Mind maps, sketches, concept cards, one-minute verbal pitches	Idea fluency and originality
3. Prototype creation	Externalize the idea into a visible digital concept	Wireframes, landing-page mock-ups, sample content, brand boards	Elaboration and solution clarity
4. Validation and iteration	Collect feedback and refine the concept	Polls, comment analysis, screen recordings, peer critique sheets	Usefulness and adaptive revision
5. Venture communication	Present the business model and learning journey	Pitch deck, short video pitch, canvas, reflective portfolio	Integrated creative communication

The proposed multimodal module for digital business creation is organized into five interrelated stages that progressively foster entrepreneurial creativity in higher education. The first stage, opportunity sensing, encourages students to identify real user problems and emerging digital opportunities through observation notes, screenshots, empathy maps, and trend boards, thereby strengthening divergent thinking and problem framing. The second stage, idea generation, supports students in developing multiple venture concepts and value propositions through mind maps, sketches, concept cards, and short verbal pitches, with a strong emphasis on idea fluency and originality. In the third stage, prototype creation, students transform abstract ideas into visible digital concepts using wireframes, landing-page mock-ups, sample content, and brand boards, which promotes elaboration and solution clarity. The fourth stage, validation and iteration, enables students to gather feedback from peers and potential users through polls, comment analysis, screen recordings, and critique sheets, helping them refine ideas based on usefulness and adaptive revision. Finally, the venture communication stage requires students to present their business model and learning journey through a pitch deck, short video pitch, business model canvas, and reflective portfolio, integrating creative communication with entrepreneurial reasoning. Taken together, these stages illustrate how a multimodal approach can scaffold the process of digital business creation while systematically nurturing different dimensions of entrepreneurial creativity.

Conclusion

Digital entrepreneurship education in higher education must respond to a reality in which business ideas are increasingly conceived, expressed, tested, and scaled through multimodal digital environments. Under these conditions, entrepreneurial creativity should be treated as a core curricular outcome rather than a peripheral trait. A multimodal module approach provides a strong

pedagogical response because it combines structured sequencing with multiple forms of representation, expression, feedback, and validation. The article has argued that this approach is especially valuable for digital business creation because it mirrors the communicative logic of contemporary ventures. Students learn not only to think about entrepreneurship, but also to visualize opportunities, prototype solutions, interpret user responses, and communicate value persuasively. When these experiences are organized into modules, creativity becomes more teachable, more observable, and more assessable. For higher education institutions, the implication is clear. Entrepreneurship courses should be redesigned around authentic venture activity supported by multimodal resources and portfolio-based assessment. For lecturers, the challenge is to facilitate creative inquiry, not merely deliver entrepreneurial terminology. For students, the benefit is a more realistic pathway from classroom learning to digital business action. Future empirical studies can test the effectiveness of this framework in different disciplines, institutions, and student populations, but conceptually the case is strong: fostering entrepreneurial creativity in the digital era requires pedagogy that is as dynamic, representationally rich, and iterative as entrepreneurship itself.

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