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## **Fostering Entrepreneurial Competences and a Sustainable Entrepreneurship Mindset in English for Specific Purposes Courses in Higher Education**

**Abstract:** This study examines how sustainable entrepreneurship training can be integrated into English for specific purposes (ESP) courses in higher education. The training in this study was structured around the EntreComp framework and aligned with the United Nations Sustainable Development Goals (SDGs). Informed by a challenge-based learning approach and the EntreComp framework, 29 first-year business management students participated in a 9-hour climate entrepreneurship training, delivered by a qualified trainer in sustainable entrepreneurship education. Data were collected through two post-intervention surveys combining Likert-scale items and open-ended questions. Responses suggest certain positive patterns in several EntreComp competences, particularly creativity, opportunity recognition, and perseverance. Students also reported increased interest in identifying sustainability-related problems as business opportunities and heightened awareness of the role of entrepreneurship in addressing climate change. The results are based on post-intervention self-reported data and therefore reflect perceived competence development. These findings suggest that ESP contexts can be designed not only to enhance language learning but also to foster entrepreneurial and sustainability competences. The paper concludes with implications for interdisciplinary ESP curriculum design and recommendations for collaborative models that combine language instruction with sustainability-oriented entrepreneurship training.

*Keywords:* business English, challenge-based learning, English for specific purposes, EntreComp, innovation, interdisciplinarity, sustainability, Sustainable Development Goals, sustainable entrepreneurship training

### **Introduction**

Since the adoption of the United Nations' Sustainable Development Goals (SDGs) in 2015, higher education has been called to prepare graduates to address social, economic, and environmental challenges (UN DESA, 2024). Language education, and English for specific purposes (ESP) in particular, is increasingly expected to contribute by embedding sustainability themes into disciplinary curricula. In the last decade, ESP researchers have acknowledged the need to “reappraise ESP courses to better meet emerging academic demands” (Arnó-Macià et al., 2020, p. 72). These demands are increasingly linked to broader societal challenges, such as internationalization and environmental transformations, which require targeted response. The integration of sustainability and entrepreneurship in education has emerged as a response to the complex demands of the 21st century (Lans et al., 2014; Sharma & Monteiro, 2016). Higher education institutions (HEIs) are thus at the forefront of cultivating graduates who are both environmentally conscious and entrepreneurially skilled (Fichter & Tiemann, 2018; Wals, 2014). The evolution of sustainability education has coincided with significant developments in

entrepreneurship training, creating opportunities for innovative pedagogical approaches (Neck & Greene, 2011; Pittaway & Cope, 2007). Research indicates that integrating sustainability into entrepreneurship education enhances students' capacity to develop viable business solutions while considering environmental and social impacts (Kuckertz & Wagner, 2010; Shepherd & Patzelt, 2011). Consequently, there is a growing recognition of the need for educational paradigms that combine entrepreneurial spirit with sustainability values to be integrated horizontally in curricula ranging from engineering to language learning (Christou et al., 2025; Sevilla-Pavón & Nicolaou, 2022).

ESP has traditionally focused on equipping students with the language skills necessary for professional fields (Hutchinson & Waters, 1987), but it also offers a unique platform to go beyond linguistic proficiency and dive into specialized content areas (Belcher, 2009). The intersection of ESP and sustainable entrepreneurship education presents an opportunity for pedagogical innovation (Dlouhá & Pospíšilová, 2018). This dual focus can support the development of transversal skills, which are essential for navigating complex challenges. Studies have demonstrated that contextualizing language learning within meaningful content areas enhances both linguistic acquisition and subject matter understanding (Dalton-Puffer, 2011). While ESP facilitates domain-specific communication competences (Dudley-Evans & St. John, 1998), entrepreneurship education cultivates initiative, problem-solving, and opportunity recognition (Bacigalupo et al., 2016), and sustainability education promotes systems thinking and future-oriented mindsets (Wiek et al., 2011). Within the sector of English for business, “developed to support the communicative functioning of English in professional business contexts” (Rahman, 2015, p. 25), entrepreneurship and sustainability are especially important. By incorporating sustainable entrepreneurship principles into business English curricula, educators can facilitate the development of both language competences and entrepreneurial skills while aligning with recent calls for more integrated and active educational experiences that prepare students for the complexities of modern professional environments.

To highlight the importance of entrepreneurship competences, the European Commission launched the EntreComp framework in 2016 to support citizens in engaging with society, managing their lives and careers, and creating value (Bacigalupo et al., 2016, p.6). EntreComp's comprehensive nature makes it particularly suitable for integration within ESP courses and serves as a basis for developing both language skills and entrepreneurial competences. The listed competences (see Appendix A) align naturally with English for specific purposes pedagogy, which emphasizes practical language skills within professional contexts (Dudley-Evans & St. John, 1998). This structured approach ensures that students develop both the linguistic capabilities and entrepreneurial mindset necessary for addressing sustainability challenges in their future careers. Despite growing interest in interdisciplinary approaches, limited empirical research exists on how ESP courses impact students' entrepreneurial competences and attitudes when integrated with sustainability-driven entrepreneurship education.

To operationalize the integration of sustainable entrepreneurship within an ESP business English course, this study was informed by the challenge-based learning (CBL) methodology, an innovative pedagogical approach that encourages active, student-centered learning. CBL is characterized by its focus on real-world challenges, collaboration, and interdisciplinary problem-solving, which aligns closely with the goals of fostering entrepreneurial competences and sustainability mindsets (Gallagher & Savage, 2023). This methodology places students at the center of the learning process, encouraging them to explore open-ended questions, collaborate in diverse teams, and design actionable solutions to real-life sustainability and entrepreneurial

challenges (Gallagher & Savage, 2023). Drawing on existing research, Gallagher and Savage (2023) explain that CBL is often associated with problem-based learning (PBL) and project-based learning (PjBL), but differs through its lack of predefined content (Binder et al., 2017, cited in Gallagher & Savage, 2023), the involvement of external stakeholders as co-researchers (Membrillo-Hernández et al., 2017, cited in Gallagher & Savage, 2023), and its strong emphasis on sustainability and urgent, real-world solutions (Garay-Rondero et al., 2019; Galdames-Calderón et al., 2024). Informed by this approach, the present study fostered an authentic, hands-on learning experience, where participants had the opportunity to practice key EntreComp competences while addressing meaningful global sustainability issues, with the involvement of an external expert trainer as an interdisciplinary knowledge stakeholder, rather than relying solely on the support of the ESP course instructor. Bobkina and Romero (2025) also note that CBL is strongly related to content-based instruction (CBI), using subject-specific content to promote language learning within an active, context-driven learning environment. In the present study, the implementation of CBL in an ESP course, ESP being closely related to CBI in that both engage students in meaningful language use with the goal of transferring language skills and content to real-life contexts (Brinton, 1993), provided a dynamic framework for bridging content-based knowledge, linguistic skills, and authentic entrepreneurial initiative, enabling students to develop the competences required for their future careers in an interconnected and complex world.

This paper explores the integration of a sustainable entrepreneurship training within ESP courses, specifically business English in higher education, and draws on the EntreComp framework to explore participants' perceived competences and attitudes development following the training. The training intervention entitled "Climate Entrepreneurship Training" (CET) took place in the context of the European project Inno-EU+, which aimed at increasing the innovation and entrepreneurship capacity of the participating universities (Inno-EU+, n.d.). Framed as an exploratory inquiry, this study examines students' self-reported perceptions following participation in the Climate Entrepreneurship Training. As the research design does not include pre-intervention measures or a comparison group, the findings do not claim objective competence development or causal effects. The study therefore focuses on how students perceive their entrepreneurial competences, attitudes, and sustainability awareness after engaging in a challenge-based, entrepreneurship-oriented ESP course.

The following research question has guided this study: *What perceived outcomes do participants report following the Climate Entrepreneurship Training in terms of attitudes and competences within an ESP business English context?*

The study contributes to knowledge by providing empirical data of how students perceive the integration of sustainable entrepreneurship education within ESP higher education curricula in relation to entrepreneurial competences and sustainability-oriented mindsets. The significance of this research lies in its potential to inform curriculum development and pedagogical practice in ESP education, particularly in the context of sustainable entrepreneurship (Bhatia & Bremner, 2012). By examining the intersection of language instruction, sustainability education, and entrepreneurship training, this study adds to the growing body of literature on integrated approaches to language learning in higher education. The findings aim to offer practical insights for educators and institutions seeking to develop programs that address both linguistic and sustainability competences in future business leaders.

## Literature Review

### English for Specific Purposes

Since its emergence in the 1960s, English for specific purposes (ESP) has evolved from a language-focused practice to an interdisciplinary framework that addresses learners' professional and academic needs (Hutchinson & Waters, 1987; Dudley-Evans & St. John, 1998; Hyland, 2022). It emphasizes contextualized communication, authentic materials, and task-based learning (Belcher, 2009; Basturkmen, 2010; Long, 2005). Contemporary ESP pedagogy highlights the importance of needs analysis, reflecting broader movements in applied linguistics toward learner-centered, meaningful instruction (Long, 2005; Paltridge & Starfield, 2013). Furthermore, recent developments have embraced interdisciplinarity, promoting the integration of content knowledge within language instruction to support professional identity formation and global competence. Within sustainability-oriented language education, project-based models have been used to anchor language learning in climate and environmental challenges, allowing learners to engage with disciplinary discourse while addressing real-world issues (Ferry, 2021).

In this context, the incorporation of global issues, such as those represented by the United Nations' SDGs into ESP, has gained momentum. Scholars argue that embedding SDG-related themes in English as a foreign language (EFL) (Tilemachou et al., 2025) and ESP curricula not only enriches the content but also cultivates critical thinking and ethical engagement with real-world challenges (Alcantud-Díaz & Lloret-Catalá, 2023; Aljuaid, 2021). Likewise, the growing interest in business-oriented ESP underscores the need to develop learners' communicative competence within entrepreneurship and corporate contexts (Fitria, 2019; Zhang, 2007). While these developments demonstrate the capacity of ESP to integrate socially-relevant content and interdisciplinary perspectives, limited empirical research has examined ESP courses as sites for the development of entrepreneurial competences, particularly in relation to sustainability-driven challenges.

### Entrepreneurship Education and the EntreComp Framework

Entrepreneurship education can be broadly defined as a set of pedagogical practices aimed at developing learners' ability to identify and pursue opportunities, mobilize resources, manage risk, and create value for society (Neck & Greene, 2011; Pittaway & Cope, 2007). Beyond business creation, it emphasizes transversal competences such as creativity, problem-solving, and collaboration that apply across disciplines (Bacigalupo et al., 2016). Entrepreneurship education has increasingly intersected with ESP, driven by the need to equip learners with both domain-specific language skills and entrepreneurial mindsets suited to today's innovation-driven economies. Recent empirical work (Permadi, 2025) has shown that using entrepreneurship as a framework in ESP learning materials enhances business-oriented communication tasks such as proposal writing, negotiation, and presentations. Scholars have advocated for embedding entrepreneurship-related themes into ESP curricula as a means of enhancing students' communicative abilities, business literacy, and transversal skills such as problem-solving, creativity, and initiative (Dovey, 2006; Ozdemir, 2015; Neck & Greene, 2011). Problem-based approaches have also been mobilized in sustainability-oriented language education to situate learning within complex, real-world cases, foregrounding critical thinking, collaboration, and applied language use (de la Fuente, 2021). While such approaches align with the competence-oriented logic of entrepreneurship education, they have generally been framed

around language and sustainability learning rather than entrepreneurial competence development per se. This integrative approach serves dual pedagogical goals: it supports language acquisition within professional contexts while simultaneously fostering real-world competences relevant to career readiness and enterprise development.

Despite this potential, the integration of entrepreneurship education into ESP remains under-researched. Only a handful of empirical studies explore the pedagogical impact of such integration on learners' development of entrepreneurial attitudes, behaviors, and professional communication strategies (Amir & Suryana, 2018; Ozdemir, 2015). One notable example is the study by Sacco et al. (2014) which examined how global sustainability can be taught in foreign language classrooms using case studies, with Africa as the contextual focus. The case studies, designed for business English, French, and Arabic courses, engaged students in a student-centered activity in which they assumed the role of decision makers, interviewing professionals, analyzing problems, and proposing solutions on various topics, including global sustainability, renewable energy, entrepreneurship, banking, and finance (Sacco & Senne, 2013). While this initiative demonstrates an effective pedagogical model that bridges academic learning with real-world application and fosters professional skills such as critical thinking and proficiency in business language use, there is no evidence that students received prior training or expert guidance to support a step-by-step implementation of the activities. The need for specialized training in the various ESP domains has been identified by Bonar and Keary's systematic review (2026). As interdisciplinary teaching gains prominence in higher education, there is a pressing need to better understand how ESP can serve as a platform for entrepreneurship training that is both linguistically and professionally transformative.

The European Commission's EntreComp framework (Bacigalupo et al., 2016) offers a comprehensive structure for developing and assessing entrepreneurial competences. Organized around three key areas, *Ideas and Opportunities*, *Resources*, and *Into Action*, the framework comprises 15 interconnected competences with descriptors at each level similar to those in the Common European Framework of Reference for Languages (Council of Europe, 2001). This conceptualization positions entrepreneurship not simply as business creation, but as a set of transversal competences that are transferable across domains and educational levels (McCallum et al., 2018). EntreComp introduces a dimension often missing from traditional entrepreneurship education: ethical and sustainable thinking (Bacigalupo et al., 2016; Bernadó & Bratzke, 2024). This inclusion emphasizes the broader societal role of entrepreneurs, not only as economic agents but also as contributors to sustainable development.

Entrepreneurship education research has increasingly adopted competence-oriented frameworks such as EntreComp to examine learners' entrepreneurial development (Bacigalupo et al., 2016; McCallum et al., 2018). However, this body of work is typically situated within business or management education, with limited attention to language-learning contexts or to how entrepreneurial competences might be developed alongside professional communication skills. Yet, ESP is increasingly recognized as a space to develop broader competences beyond vocabulary and genre practice (Belcher, 2009; Paltridge & Starfield, 2013). ESP teachers traditionally focus on communicative competence, while entrepreneurial skills are taught in management programs (Basturkmen, 2010; Hyland, 2022). A practical way forward is to embed communicative tasks with entrepreneurial relevance, such as pitching, negotiation, or teamwork, into ESP, where instructors emphasize language and discourse strategies (Belcher, 2009; Zhang, 2007). Entrepreneurial content can be introduced through adapted materials or collaboration with

subject experts, situating ESP within authentic, challenge-driven contexts that reflect real professional demands.

### **Sustainability in Entrepreneurship Education for ESP**

The integration of sustainability principles into entrepreneurship education reflects a growing awareness that economic growth must be balanced with environmental stewardship and social responsibility. Sustainability-oriented language education has largely been approached through content-based, project-based, and problem-based pedagogies that foreground critical awareness, ethical reflection, and learner engagement (de la Fuente, 2021; Alcantud-Díaz & Lloret-Catalá, 2023). Within these approaches, sustainability functions primarily as meaningful content through which linguistic and intercultural learning is supported, including in professional and business-oriented language courses (Gonglewski & Helm, 2021). Research suggests that coupling sustainability with entrepreneurial training enhances students' ability to design innovative, viable solutions to complex problems (Kuckertz & Wagner, 2010; Shepherd & Patzelt, 2011). Sustainable entrepreneurship has been linked to improved performance across economic, ecological, and social metrics (Habib et al., 2020). In ESP contexts, the integration of sustainability is particularly compelling. It encourages the development of systems thinking and future-oriented mindsets while maintaining a focus on communicative competence and professional discourse (De la Fuente, 2021). In professional language contexts, sustainability has been integrated into business-oriented ESP courses through case-based instruction, enabling learners to engage with environmentally responsible business practices alongside domain-specific language development (Gonglewski & Helm, 2021). Moreover, sustainability themes provide authentic, interdisciplinary content that can deepen learner engagement and linguistic relevance (Aljuaid, 2021; Yu et al., 2024). When embedded within entrepreneurship-focused ESP courses, sustainability can function as both a topic of inquiry and a lens through which students critically reflect on the purpose and consequences of professional communication.

It should be noted that much of the existing evidence on the value of combining sustainability and entrepreneurship training derives from the field of business administration (Kuckertz & Wagner, 2010; Shepherd & Patzelt, 2011). While these studies provide important insights into how sustainability-oriented entrepreneurship fosters complex problem-solving and innovation, they do not originate from the ESP domain. This disciplinary mismatch highlights a gap in the literature: empirical research specifically examining how sustainable entrepreneurship training influences language learning and communicative competence remains scarce. By applying these concepts within an ESP business English context, the present study seeks to extend insights from business and management education into applied linguistics, thereby addressing an underexplored intersection between sustainability, entrepreneurship, and language education. The need for more interdisciplinary and socio-cultural perspectives in business English teaching has been identified by Wen and Zeng's review and bibliometric analysis (2025). By bringing together sustainability-oriented entrepreneurship training and ESP pedagogy, the present study adds empirical insight into how language education can support perceived entrepreneurial competence development, addressing a gap at the intersection of sustainability education, entrepreneurship, and applied linguistics.

### Research Context and Training Design

This research examined a 9-hour specialized training program integrated into a semester-long business English university course. The Climate Entrepreneurship Training (CET) was designed to guide students through a comprehensive idea development process while cultivating essential skills in sustainable entrepreneurship. The initiative was implemented within the framework of Inno-EU+ (<http://univ-tech.eu/inno-eut>), an innovative project funded by the European Institute of Innovation and Technology's Higher Education Initiative (EIT HEI Initiative).

The Climate Entrepreneurship Training (CET) was adapted from the Climate Launchpad methodology (Blazer et al., 2020) and was fully embedded into an ESP Higher Education business English course. This was a first-year, second-semester compulsory degree-level course, designed for students at the Department of Business Management and targeting the B2 level of language proficiency under the Common European Framework of Reference for Languages (CoE, 2021). Upon completion of the course, students are expected to use business-related language effectively across the four skills: listening, speaking, reading, and writing, through activities such as presentations, business pitches, discussions, report writing, and analysis of authentic materials. They are also expected to master relevant lexis in business, entrepreneurship, and sustainability. Additionally, students should be able to create digital content, work collaboratively to solve business and social problems, participate in realistic business communication, and apply principles of social entrepreneurship in group projects. The entire Climate Entrepreneurship Training was conducted in English, so every activity supported language learning. Communicative objectives were integrated throughout the modules, with students practicing persuasive language in pitches, negotiating within team discussions, and producing written outputs such as reports and presentations. In this way, entrepreneurship content functioned as the vehicle for authentic language use, ensuring that students advanced their professional English proficiency while engaging with sustainability-oriented entrepreneurial challenges. The Climate Entrepreneurship Training was delivered by an experienced and qualified expert in sustainable entrepreneurship education, ensuring both the rigor of the content and the credibility of its delivery. The trainer provided step-by-step guidance throughout the intervention and supported the activities leading to the idea development and presentation.

The participants, 29 university students of business management following a business English course, were organized into teams of four, where they collaboratively selected an SDG (United Nations, 2024) that resonated with their interests and aspirations. This initial phase involved conducting comprehensive primary research to thoroughly understand their chosen sustainability challenge. Teams then engaged in detailed problem analysis, identifying key issues, gathering relevant data, and examining existing solutions in the market. This investigative process served as a foundation for developing innovative entrepreneurial solutions that would effectively address their selected sustainability challenge. The CET program comprised nine comprehensive modules designed to build a strong foundation for climate-focused start-ups. The process began with the “Founder's Dream” module, where participants explored team dynamics and identified key driving elements for start-up creation. This was followed by “The Deal” module, which taught students to articulate their business proposition through simple, clear figures. The “Market Segmentation” module guided participants in identifying their beachhead market, a crucial first market segment that will provide the visibility and resources needed for future expansion. Through the “Customer Value Proposition” module, participants learned to

analyze competition and establish their unique selling points. The “Financials & Key Value Drivers” component helped students understand essential financial elements and develop a five-year financial projection for their operations. The “Climate Impact” module was particularly significant as it focused on analyzing the product's environmental impact and identifying ways to demonstrate positive climate outcomes. In the “Customer Discovery” module, participants learned the practical steps of performing customer interviews, developing interview protocols, and gathering crucial customer insights. Before pitching their idea, students created a “dirty prototype” of their idea, i.e., a simplified version of their product using simple materials. The training concluded with “How to Perform Your Pitch,” where participants learned effective data presentation techniques and best practices for conveying their ideas. Finally, students pitched their entrepreneurial idea in front of their peers in the ESP class. The winning team had the opportunity to pitch their idea at the Inno-EU+ local finals, where teams from all classes receiving the CET training presented their idea to win a trip to the Inno-EU+ European Student DemoDay. Table 1 summarizes the titles, thematic focus, and corresponding SDG addressed by each student project.

This process aligned with challenge-based learning as students followed the three main phases of CBL: engage, investigate, and act. By selecting one of the 17 SDGs that resonated with them, they personally connected with a broad challenge (e.g., No Poverty or Zero Hunger), which they narrowed down after investigation and interdisciplinary research in order to find actionable solutions.

**Table 1**

*Summary of Titles, Thematic Focus, and SDG Addressed by Each Project*

<b>Project Title</b>	<b>Topic</b>	<b>SDG addressed</b>
ReGlass	Reuse of glass waste to create phone screen protections	SDG12: Responsible Consumption and Production
Foodsteril	Gadget to sterilize water used to clean food	SDG3: Good Health and Well-being
DeScreen	Student desks integrating a screen	SDG4: Quality Education
b-tech	In-sea waste management system for ships	SDG14: Life Below Water
Redrop	Rainwater collection system for in-house reuse	SDG6: Clean Water and Sanitation
Bloom paper	Recycled paper with seeds to be planted after use	SDG15: Life On Land
Aquadrop	Water collection system for in-house or agricultural use	SDG6: Clean Water and Sanitation

## Methodology

The study adopted a mixed-methods research approach with quantitative and qualitative data collected from 29 students in order to explore participants' self-reported perceptions of attitudes and entrepreneurial competences following the CET.

### Quantitative Data Collection

The study gathered quantitative data through two surveys administered to student participants after completing the CET and pitching their entrepreneurial ideas. The objective of the quantitative analysis was to examine students' perceptions of their gained entrepreneurial competences (Survey 1, see Appendix B) and shifts in skills and attitudes (Survey 2, see Appendix C) following the CET. The two surveys were administered by the instructor of the ESP course and the CET trainer, respectively.

Survey 1 included demographic questions, as well as questions about the students' experience with entrepreneurship training before participating in the CET. Regarding entrepreneurial competences, Survey 1 contained 15 questions that required participants to rate their level of competence. Each question corresponded to one of the 15 EntreComp competences and reflected the three levels of proficiency outlined in the framework: foundation, intermediate, and advanced. The competences were presented as "can do" statements on the survey (Bacigalupo et al., 2016), and students were required to select one of the competence statements without knowing the EntreComp level each statement corresponded to. Finally, Survey 1 included three open-ended questions, asking students to reflect on what they learned from the CET, as well as the most significant benefits and challenges they encountered.

Survey 2 included a range of items designed to assess participants' experiences and perceptions following the CET and any potential shifts in their skills and attitudes in entrepreneurship. It began by asking whether respondents had an entrepreneurial role model in their lives, in order to explore potential influences on their entrepreneurial mindset. Subsequent Likert-type items focused on the impact of the course, including improvements in attitudes toward entrepreneurship, increased desire and perceived ability to start a business, greater awareness of the entrepreneurial process, and enhanced idea generation skills. The questionnaire also addressed participants' interest in identifying business opportunities through problem-solving and their likelihood of launching a start-up in the future. Additionally, it explored their awareness of climate impact and the role of entrepreneurs in addressing climate change.

Overall, the assumption guiding the analysis was that, following the training, students would self-assess their entrepreneurial competence at an intermediate or advanced level, based on the EntreComp framework, and they would demonstrate positive shifts in their skills and attitudes in entrepreneurship.

### Sample

Both surveys were administered to 29 students, representing the entire student body that received the CET. Twenty-eight participants completed Survey 1 while 13 students completed Survey 2. Regarding the students' demographics, nineteen students (67.9%) were female, while nine students (32.1%) were male. The majority of the students (92.9%) were first-year Business

Management students at the Cyprus University of Technology, while 7.1% were second-year students in the same discipline.

### **Findings from Survey 1: Self-assessed Entrepreneurial Competences based on the EntreComp Framework**

Survey 1, administered by the ESP instructor, aimed to capture students' perceived entrepreneurial competence patterns after completing the CET. According to responses, 85.7% had no prior entrepreneurship training, indicating a largely novice group. Post-training, students self-evaluated their competence levels using the EntreComp framework.

#### ***Area 1: Ideas and Opportunities***

Students reported varied levels of competence. In Competence 1.1 (Spotting Opportunities), 46.4% rated themselves at the advanced level, showing confidence in identifying and shaping opportunities. For 1.2 (Creativity), 57.1% selected the advanced level, suggesting strong ability to generate value through ideas.

In 1.3 (Vision), 42.9% identified as intermediate and 39.3% as advanced, indicating perceived progress in forming and communicating a compelling vision. 1.4 (Valuing Ideas) saw 60.7% at the intermediate level, reflecting growing skill in recognizing and maximizing idea value. In contrast, 1.5 (Ethical and Sustainable Thinking) was rated at foundation level by 46.4% of students, though 32.1% reached advanced, demonstrating that a subset could act on ethical and sustainability goals. Overall, the data in Area 1 suggest that students perceived gains in abilities related to spotting opportunities, creativity, and value creation, while also raising awareness of ethical and sustainable considerations.

#### ***Area 2: Resources***

In 2.1 (Self-awareness and Self-efficacy), 39.3% reported advanced-level competence, indicating confidence in using strengths and seeking support when needed. 2.2 (Motivation and Perseverance) was the strongest in this area, with 50% reaching the advanced level, reflecting persistence and drive to create value despite setbacks. For 2.3 (Mobilising Resources), 50% were at intermediate level, showing competence in managing resources, while 28.6% were at foundation and 21.4% at advanced level. Similarly, in 2.4 (Financial and Economic Literacy), 46.4% were at the intermediate level, reflecting adequate understanding of budgeting and funding strategies. In 2.5 (Mobilising Others), most students (46.4%) placed themselves at foundation level, indicating a need for improvement in communicating and rallying others around their ideas. These results suggest students' satisfactory self-positioning in self-awareness and motivation, with room to improve in mobilizing resources, financial literacy, and collaboration.

#### ***Area 3: Into Action***

In 3.1 (Taking the Initiative), 46.4% rated themselves at foundation level and 39.3% at advanced, indicating emerging but uneven confidence in proactive engagement. For 3.2 (Planning and Management), 53.6% assessed themselves at the intermediate level, showing ability to plan and prioritize effectively. 3.3 (Coping with Uncertainty, Ambiguity and Risk) was rated at foundation level by 50% of students, suggesting limited comfort with risk and ambiguity.

Similarly, 3.4 (Working with Others) was rated at foundation level by 50% and at intermediate by 42.9%, indicating developing but still basic teamwork abilities. In 3.5 (Learning Through Experience), 42.9% reported an intermediate level, reflecting perceived emerging capacity to reflect and learn from outcomes. Area 3 results suggest students' sufficient skills in planning and reflective learning, while further support is needed in initiative-taking and managing uncertainty.

Overall, students reported to have reached the advanced level in 4 of the 15 competences: Spotting Opportunities (1.1), Creativity (1.2), Self-awareness and Self-efficacy (2.1), and Motivation and Perseverance (2.2). Six competences were most frequently rated at the intermediate level: Vision (1.3), Valuing Ideas (1.4), Mobilising Resources (2.3), Financial Literacy (2.4), Planning and Management (3.2), and Learning Through Experience (3.5). The remaining five competences, Ethical Thinking (1.5), Mobilising Others (2.5), Taking the Initiative (3.1), Coping with Uncertainty (3.3), and Working with Others (3.4) were most often rated at the foundation level. These results show that, following the training, students made strong self-positioning in creativity, opportunity recognition, and personal motivation. Planning and financial skills are positioned at moderate levels, while collaboration, ethics, and risk management show the greatest scope for improvement. Table 2 provides a summary of students' self-assessed competence levels following the CET.

**Table 2**

*Summary of Student Self-Assessments by EntreComp Competences*

<b>EntreComp Area</b>	<b>Competence</b>	<b>Most Frequent Self-Assessment Level</b>	<b>Notes</b>
Area 1: Ideas and Opportunities	1.1 Spotting Opportunities	Advanced (46.4%)	Strong ability to identify and act on opportunities
	1.2 Creativity	Advanced (57.1%)	High ability to develop innovative ideas
	1.3 Vision	Intermediate (42.9%)	Developing inspiring visions for others
	1.4 Valuing Ideas	Intermediate (60.7%)	Recognizing and leveraging the value of ideas
	1.5 Ethical and Sustainable Thinking	Foundation (46.4%)	Growing but still limited ethical/sustainability awareness
Area 2: Resources	2.1 Self-awareness and Self-efficacy	Advanced (39.3%)	Strong trust in personal abilities
	2.2 Motivation and Perseverance	Advanced (50%)	High perseverance and resilience

	2.3 Mobilising Resources	Intermediate (50%)	Competence in gathering and using resources
	2.4 Financial and Economic Literacy	Intermediate (46.4%)	Competence in managing financial resources
	2.5 Mobilising Others	Foundation (46.4%)	Needs development in engaging others
Area 3: Into Action	3.1 Taking the Initiative	Foundation (46.4%)	Willingness to act, but limited proactive initiative
	3.2 Planning and Management	Intermediate (53.6%)	Ability to plan and organize activities
	3.3 Coping with Uncertainty, Ambiguity, and Risk	Foundation (50%)	Struggle with risk and ambiguity
	3.4 Working with Others	Foundation (50%)	Basic teamwork competence
	3.5 Learning through Experience	Intermediate (42.9%)	Recognition of experiential learning

### Findings from Survey 2: Perceived Entrepreneurial Skills and Attitudes

Survey 2 was administered by the CET trainer and aimed at exploring possible shifts in the students' entrepreneurial skills and attitudes upon completion of the CET. Out of the 13 students who completed Survey 2, only three of them indicated that they have a significant role model in their life who is an entrepreneur or has started their own business. The students' responses to the Likert-scale questions suggest that the CET had a positive impact on their entrepreneurial skills and attitudes. The highest mean was observed in students' interest in identifying problems as business opportunities, while the lowest was in their perceived improvement in the skills needed to start a company. Table 3 demonstrates the mean scores and standard deviations in eight Likert-type questionnaire items ranging from 1-5 whereby 1 meant "strongly disagree" and 5 meant "strongly agree".

**Table 3**

*Mean Scores in Likert-type Questionnaire Items*

Questionnaire item	Mean	Std. Dev.
My attitude towards entrepreneurship has improved	3.85	0.68
My desire to set up a company in the future has increased	3.92	1.11

My skills to start a company have improved	3.54	0.87
I am more aware of the steps to follow to become an entrepreneur	3.92	0.64
I am more capable of generating an entrepreneurial idea	3.92	0.75
I am more interested in identifying problems as business opportunities	4.00	0.81
It is likely for me to launch a start-up project in the future	3.85	1.14
I am more concerned about the climate impact and the role of entrepreneurs in solving climate change	3.92	0.95

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The results from the second survey indicate a generally positive shift in students' attitudes and perceptions related to entrepreneurship following the CET.

### Qualitative Data Collection and Analysis

Qualitative data were gathered through open-ended questions of Survey 1 which aimed to capture the perceptions of the participants on the benefits of the CET and their key learnings. For the qualitative data analysis, the study employed an inductive qualitative data analysis approach to identify emergent themes and patterns addressing the research question (Patton, 2002). The analytical process followed systematic open coding procedures, where significant text segments were identified and coded based on their relevance to the study's primary focus areas. The coding process was iterative, progressing through three main stages: initial descriptive coding of text segments, categorization of codes, and finally, thematic organization. To ensure credibility, the two researchers independently read the data and familiarized themselves with the recurring themes. One researcher conducted the coding, after which both discussed the coding framework and results. When discrepancies arose, they reached a consensus through discussion. The final analytical framework comprised eight major themes:

**Theme 1 - Teamwork and Collaboration Skills:** The entrepreneurship training fostered essential collaborative skills, with participants highlighting various aspects of teamwork. As one participant noted, "*The most important benefit from the training was to learn how to work with other people with the aim to find solutions*" (P23). Students learned "*how to work as a team with other students, who have different but as creative and innovative ideas*" (P10), emphasizing the value of diverse perspectives. The importance of listening skills emerged as a crucial component, with participants learning "*to listen to what other people say to improve and fix mistakes*" (P23). Several participants highlighted how the training enhanced their collaborative abilities, including "*the ability to work in a team*" (P6) and "*learning how to work in a team and listening to all team people's opinions and ideas*" (P26).

**Theme 2 - Problem-solving Skills:** The entrepreneurship training equipped participants with valuable problem-solving capabilities, emphasizing both individual and collaborative approaches to addressing challenges. Participants highlighted how through the training they "*learned how to deal with the problems*" (P7) and "*how to come up with ways to solve problems while earning money*" (P17), demonstrating the practical integration of business viability with problem-solving skills. The collaborative aspect of problem-solving was particularly

emphasized, as one participant noted: *“The most important benefit of the training is the communication with others, thanks to the entrepreneurship training we learn to solve our problems all together”* (P27).

**Theme 3 - Presentation Skills:** The entrepreneurship training significantly enhanced participants' presentation abilities, focusing on both delivery techniques and audience engagement. Students valued learning *“how to present correctly by summarizing our idea, so it can be understandable to others,”* particularly recognizing the importance of communicating effectively with potential *“customers”* (P16). The practice of presenting ideas to peers proved especially beneficial, as it helped participants in *“acknowledging the gaps in our project and improving it as best as possible”* (P11). The training's efficiency also was noted, with one participant emphasizing that *“in only 9 hours I learnt how to present a business, a product and to evaluate my own critical thinking”* (P4).

**Theme 4 - Identifying Opportunities:** The entrepreneurship training enhanced participants' ability to recognize and evaluate business opportunities. Students specifically noted that they *“gained the ability to recognize opportunity”* (P13), suggesting the development of an entrepreneurial mindset. The training was particularly valued for providing *“individuals with the ability to recognize commercial opportunities and skills”* (P25).

**Theme 5 - Creativity:** The entrepreneurship training successfully cultivated participants' creative thinking abilities. Students reported gaining insights into *“creativity, new ideas and how can I achieve them”* (P20), indicating the program's effectiveness in both generating innovative concepts and implementing them practically. The training encouraged unconventional thinking, with participants learning *“to think outside the box”* (P7).

**Theme 6 - Starting-up a Company:** The entrepreneurship training provided valuable practical insights into the process of establishing and running a business. One participant noted that *“the most important benefit of the entrepreneurship training is that I gained experience in the business field”* and *“got a taste of what it's like to get a start-up business running”* (P8), offering them a real-world perspective on entrepreneurship. The program effectively taught both the fundamental aspects of *“creating a start-up”* (P9) and helped develop *“the mindset of it”* (P5), suggesting a comprehensive approach to entrepreneurship education. Students acquired practical knowledge about *“how to start a business, what things do I need to know to start it and how to earn profits and avoid mistakes”* (P22). Importantly, the training provided a realistic view of entrepreneurship, helping participants understand *“how entrepreneurship companies work exactly”* and preparing them for *“the obstacles we may have in the process to start up a company”* (P16).

**Theme 7 - Resilience:** The entrepreneurship training fostered resilience and perseverance among participants, cultivating important psychological attributes for business success. Students learned valuable lessons about patience and persistence, recognizing that *“it takes time to build an idea and make it doable,”* while also appreciating the importance of *“patience and trust in others”* (P8). The training instilled a resilient mindset, with participants learning *“to just keep trying even if something is not working out that well”* (P6).

**Theme 8 - Climate and Sustainability Awareness:** The training significantly enhanced participants' awareness of environmental and social sustainability issues. Students gained valuable insights into *“the impact of social business to the societies but more important to the environment,”* with particular emphasis on *“the 17 UN goals”* which helped them understand their individual responsibility as *“a small part of humanity”* (P9). The program successfully integrated profit-driven thinking with sustainability objectives, as participants learned to develop

business ideas that would “*have profit and in the same time help with 17 goals of sustainable development*” (P24). Students developed skills in identifying and addressing social challenges, learning “*how to find a solution for a social problem and to detect problems that people face in different parts of the world*” (P23). The training fostered collaborative problem-solving around societal issues, with participants learning “*how to think and communicate with others about the problems of our society and the way to end them*” (P5). Participants were equipped to “*generate an innovative idea, which would be able to solve social problems that affect everyone*” (P10), while also learning “*to structure the ideas and try to make the innovation profitable but mainly help the environment*” (P9).

To further contextualize the qualitative findings, the themes that emerged from participants’ open-ended responses were mapped against the EntreComp framework. This comparative analysis aimed to highlight how the learners’ self-reported development aligns with specific entrepreneurial competences, offering a structured lens through which to interpret the learning outcomes. Table 4 presents this alignment, connecting each skill mentioned by participants, such as teamwork, problem-solving, creativity, and resilience, with the corresponding EntreComp areas and competences. This mapping illustrates not only the breadth of competences developed through the training but also the relevance and applicability of the EntreComp framework within an ESP-based entrepreneurship education context.

**Table 4**

*Connection between Skills Mentioned by Students and the EntreComp Competences*

<b>Skill mentioned by participants</b>	<b>EntreComp area and competence</b>
Teamwork & collaboration	Area 3 - Working with others
Problem-solving	Area 3 - Taking the initiative
Presentation skills	Area 1 - Presenting your vision
Creativity	Area 1 - Creativity
Identifying opportunities	Area 1 - Spotting opportunities
Starting up a company	Area 3 - Taking the initiative
Resilience	Area 2 - Motivation and perseverance
Climate & sustainability awareness	Area 1 - Ethical and sustainable thinking

## Discussion

The findings highlight the potential of integrating sustainable entrepreneurship into ESP business English courses to support the development of entrepreneurial competences, attitudes, and transversal skills. Drawing on the EntreComp framework as both a pedagogical guide and analytical lens, the results show positive patterns across the three core areas, *Ideas and Opportunities*, *Resources*, and *Into Action*, while also highlighting areas where students may benefit from continued support and instructional refinement. Importantly, the results should be

interpreted as indicators of how students experienced and evaluated their learning rather than as evidence of measurable competence development.

The quantitative results from Survey 1 indicate that students reported positive outcomes in entrepreneurial self-efficacy following the CET, despite the majority having no prior exposure to entrepreneurship education. Students exhibited notable levels of competence in Creativity, Spotting Opportunities, Self-awareness and Self-efficacy, and Motivation and Perseverance, all competences central to fostering an entrepreneurial mindset and aligning with previous research on competence-based entrepreneurship education (Bacigalupo et al., 2016). These gains are especially relevant in the context of ESP, where the development of professional language often occurs alongside the cultivation of domain-specific knowledge and skills (Basturkmen, 2010; Hyland, 2022). The prominence of creativity, opportunity recognition, and motivation among students' self-assessed competences is consistent with entrepreneurship education research suggesting that ideation-oriented competences are more readily developed through short-term, experiential interventions than action-oriented or leadership-related competences (Pittaway & Cope, 2007; Neck & Greene, 2011). From this perspective, the uneven competence profile observed in the present study does not necessarily indicate a shortcoming of the training but rather reflects well-documented patterns in entrepreneurial learning trajectories.

The lower self-assessments in competences such as Mobilising Others, Working with Others, and Coping with Uncertainty further align with prior research indicating that such competences typically require prolonged exposure, repeated practice, and authentic responsibility in real-world contexts (McCallum et al., 2018).

The results of Survey 2 further support the training's effectiveness in shaping students' attitudes toward entrepreneurship. Participants reported increased interest in identifying problems as opportunities, improved understanding of entrepreneurial processes, and greater climate and sustainability awareness. These findings show early signs of growing entrepreneurial orientation, consistent with prior research emphasizing the attitudinal shifts that occur when students engage with authentic, value-driven business challenges (Kuckertz & Wagner, 2010; McCallum et al., 2018). Interestingly, students expressed more confidence in generating entrepreneurial ideas and recognizing opportunities rather than in their perceived ability to start a company. This divergence may reflect a realistic appraisal of the complexities involved in business creation, especially among novice learners. It may also indicate a critical awareness fostered by the sustainability component of the course, where success is not only defined by financial viability but also by environmental and social responsibility (Bernadó & Bratzke, 2024). The emphasis on sustainable thinking aligns well with EntreComp's inclusion of Ethical and Sustainable Thinking as a core competence, reinforcing the value of incorporating SDG-related content in ESP instruction (Alcantud-Díaz & Lloret-Catalá, 2023). In sustainability-oriented language education, attitudinal outcomes are often framed in terms of ethical awareness, critical reflection, or global citizenship (de la Fuente, 2021; Yu et al., 2024). The present findings extend this line of work by situating sustainability awareness within an entrepreneurial problem-framing perspective, where environmental and social challenges are approached as opportunities for value creation rather than solely as topics for reflection.

The thematic analysis of open-ended responses enriches the quantitative data by revealing how learners experienced and articulated their skill development. Students consistently

highlighted improved teamwork, problem-solving, presentation skills, and resilience, all of which map directly onto the EntreComp framework. This supports claims that entrepreneurship education fosters transversal skills highly valued across professional domains (Dovey, 2006; Bacigalupo et al., 2016). Of particular note is the development of climate and sustainability awareness. Participants not only acknowledged their increased knowledge of the SDGs but also reported a shift in mindset toward generating socially and environmentally impactful ideas. This suggests that entrepreneurship training can effectively function as a vehicle for embedding sustainability principles within ESP, thus responding to recent calls for educational models that promote global citizenship, ethical decision-making, and future-oriented thinking (Wiek et al., 2011).

### **Pedagogical Implications for ESP**

These findings have several implications for ESP pedagogy, particularly in business English contexts. First, they indicate that ESP can function as an effective pedagogical space for integrating entrepreneurship and sustainability content without displacing core language learning objectives. Rather than treating sustainability or entrepreneurship as additional topics, ESP instructors can use them as organizing themes around which professional communication tasks are structured. This includes framing course units around real world challenges aligned with the Sustainable Development Goals and designing language activities that require students to analyze problems, negotiate solutions, and articulate value propositions in English. The use of the EntreComp framework offers ESP practitioners a practical tool for aligning learning objectives, classroom activities, and assessment criteria. While ESP courses traditionally assess linguistic accuracy and communicative effectiveness, EntreComp can be used to make transversal learning goals more explicit. Instructors may, for instance, design rubrics that combine language-focused criteria with descriptors related to collaboration, initiative taking, or ethical and sustainable thinking. This dual focus supports transparency in assessment and helps students reflect on their learning beyond language proficiency alone.

Additionally, the study points to the value of collaboration between language instructors and subject specialists in entrepreneurship or sustainability. In the present context, the involvement of a trained entrepreneurship educator strengthened the authenticity and credibility of the learning experience. For institutions, this suggests that interdisciplinary teaching models, co-teaching arrangements, or guest-led workshops can enrich ESP curricula and reduce the burden on language instructors to act as content experts. Such collaborations can support the development of ESP courses that respond more effectively to contemporary professional demands, where communication, innovation, and sustainability are increasingly interconnected. Moreover, the integration of real-world challenges through methodologies like challenge-based learning appears particularly effective in engaging learners and facilitating applied skill development, mirroring recent trends in task-based, project-based, and content-integrated ESP design (Bobkina, & Romero, 2025; Long, 2005; Paltridge & Starfield, 2013).

Finally, the results support the argument that ESP should not be confined to technical vocabulary and workplace communication but instead used as a platform to develop learners' capacity to act innovatively, ethically, and collaboratively in their professional lives. Repurposing ESP to align with the new realities of an increasingly internationalized world will better prepare students to succeed both in academic and professional contexts (Arnó-Macià et al., 2020). The dual emphasis on entrepreneurship and sustainability thus provides a meaningful and

motivating context for language development, offering students both linguistic and life-relevant outcomes.

### **Conclusion and Future Research**

This study has explored the integration of sustainable entrepreneurship training within an ESP business English course in higher education, using the EntreComp framework as a foundation for competence assessment. The findings from both quantitative and qualitative data offer insights into how students, most of whom had no prior exposure to entrepreneurship education, exhibited positive trends in key entrepreneurial competences, including creativity, opportunity recognition, self-awareness, and perseverance. These are particularly relevant to contemporary professional contexts that demand not only linguistic fluency but also transversal skills such as problem-solving, initiative-taking, and sustainability-oriented thinking. The results also highlight the value of embedding entrepreneurship education within ESP contexts, both to foster entrepreneurial mindsets and to enrich language learning through meaningful, real-world engagement. Furthermore, students' enhanced awareness of climate issues and the role of business in addressing social and environmental challenges indicate that entrepreneurship training can effectively serve as a conduit for embedding the United Nations' Sustainable Development Goals (SDGs) into language curricula. Rather than claiming demonstrable competence gains, this study illustrates how ESP courses can function as pedagogical spaces in which entrepreneurship and sustainability-oriented learning can be meaningfully embedded and experienced by students.

The findings of this study suggest several important directions for future research at the intersection of ESP, entrepreneurship education, and sustainability. First, while this study emphasizes entrepreneurial competences, future research should examine the impact of such interdisciplinary curricula on language acquisition, particularly in relation to professional discourse. Second, comparative studies across disciplines could investigate how the integration of entrepreneurship into ESP functions in fields beyond business, such as engineering, healthcare, or the social sciences, where professional communication also intersects with innovation and sustainability.

Despite its contributions, this study has several limitations that should be acknowledged. The relatively small sample size and context-specific setting may limit the generalizability of the findings beyond the particular cohort studied. Furthermore, the reliance on self-assessment data, particularly in Survey 1, introduces the possibility of response bias, as students may inaccurately evaluate their competences due to overconfidence, lack of self-confidence, or differing interpretations of the EntreComp descriptors. While self-assessment is valuable for capturing perceived growth, it does not substitute for objective performance-based evaluations or instructor-led assessments. Finally, although the course integrated language and entrepreneurship instruction, the study did not directly assess gains in language proficiency, which remains a critical area for future exploration to fully understand the dual benefits of this integrative pedagogical model.

To conclude, by positioning ESP as a space for interdisciplinary learning, this study supports the potential for a broader reconceptualization of English language education as a tool for empowering students not only to communicate professionally, but also to contribute meaningfully to sustainable innovation.

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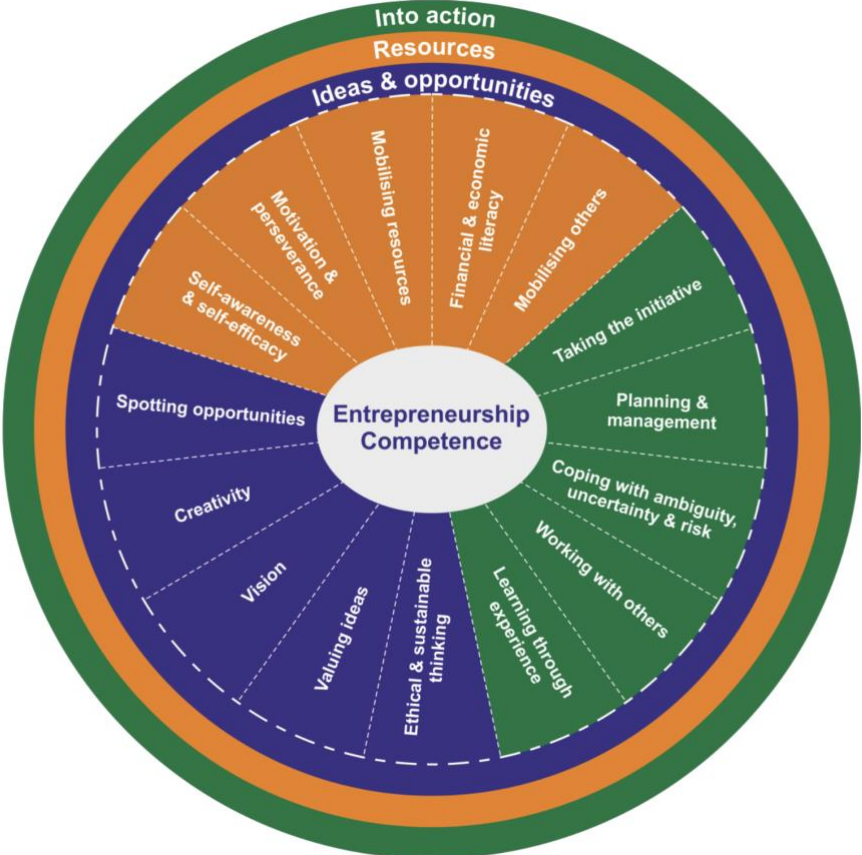
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**Appendix A**  
**EntreComp Framework (2016)**



## Appendix B

### Survey 1

#### CONSENT

I understand the above and agree to participate in this survey. (Yes/No)

#### DEMOGRAPHICS

Gender (Male/Female/Prefer not to say/Other)

Year of studies (First year/Second year/Third year/Fourth year)

Had you attended any entrepreneurship training before the Inno-EU+ training? (Yes/No)

#### ENTREPRENEURSHIP COMPETENCES

After participating in the entrepreneurship training, use the questions in this section to self-assess your entrepreneurial competence level. For each question choose the answer that best describes your ability.

Spotting opportunities:

- I can find opportunities to generate value for others.
- I can recognise opportunities to address needs that have not been met.
- I can seize and shape opportunities to respond to challenges and create value for others.

Creativity:

- I can develop multiple ideas that create value for others.
- I can test and refine ideas that create value for others.
- I can transform ideas into solutions that create value for others.

Vision:

- I can imagine a desirable future.
- I can build an inspiring vision that engages others.
- I can use my vision to guide strategic decision-making.

Valuing ideas:

- I can understand and appreciate the value of ideas.
- I understand that ideas can have different types of value, which can be used in different ways.
- I can develop strategies to make the most of the value generated by ideas.

Ethical and sustainable thinking:

- I can recognise the impact of my choices and behaviours, both within the community and the environment.
- I am driven by ethics and sustainability when making decisions.

I act to make sure that my ethical and sustainability goals are met.

Self-awareness and self-efficacy:

I trust my own ability to generate value for others.

I can make the most of my strengths and weaknesses.

I can compensate for my weaknesses by teaming up with others and by further developing my strengths.

Motivation and perseverance:

I want to follow my passion and create value for others.

I am willing to put effort and resources into following my passion and create value for others.

I can stay focused on my passion and keep creating value despite setbacks.

Mobilising resources:

I can find and use resources responsibly.

I can gather and manage different types of resources to create value for others.

I can define strategies to mobilise the resources I need to generate value for others.

Financial and economic literacy:

I can draw up the budget for a simple activity.

I can find funding options and manage a budget for their value-creating activity.

I can make a plan for the financial sustainability of a value-creating activity.

Mobilising others:

I can communicate my ideas clearly and with enthusiasm.

I can persuade, involve and inspire others in value-creating activities.

I can inspire others and get them on board for value-creating activities.

Taking the initiative:

I am willing to have a go at solving problems that affect my communities.

I can initiate value-creating activities.

I can look for opportunities to take the initiative to add or create value.

Planning and management:

I can define the goals for a simple value-creating activity.

I can create an action plan, which identifies the priorities and milestones to achieve their goals.

I can refine priorities and plans to adjust to changing circumstances.

Coping with uncertainty, ambiguity and risk:

- I am not afraid of making mistakes while trying new things.
- I can evaluate the benefits and risks of alternative options and make choices that reflect my preferences.
- I can weigh up risks and make decisions despite uncertainty and ambiguity.

Working with others:

- I can work in a team to create value.
- I can work together with a wide range of individuals and groups to create value.
- I can build a team and networks based on the needs of my value-creating activity.

Learning through experience:

- I can recognise what I have learnt through taking part in value-creating activities.
- I can reflect and judge my achievements and failures and learn from these.
- I can improve my abilities to create value by building on my previous experiences and interactions with others.

#### BENEFITS AND CHALLENGES

What did you learn from the entrepreneurship training? (Long answer)

In your opinion, what was the most important benefit of the entrepreneurship training? (Long answer)

In your opinion, what was the biggest challenge of the entrepreneurship training? (Long answer)

What suggestions do you have for improving the entrepreneurship training? (Long answer)

### Appendix C Survey 2

- Gender? (Short answer)
- Age? (Short answer)
- University? (Short answer)
- Do you have any previous entrepreneurship experience? (Yes/No)
- If yes, how many years? (Short answer)
- What do you study? (Short answer)
- In which year are you? (Short answer)
- Do you have a significant role model in your life who is an entrepreneur/has started their own business (e.g. father, mother, other caregiver)? (Yes/No)
- After completing this training/entrepreneurial activity, indicate your level of agreement with the following statements (1=Totally disagree / 5=Totally agree)

	1	<u>2</u>	3	4	5
My attitude towards entrepreneurship has improved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My desire to set up a company in the future has increased	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My skills to start a company has improved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am more aware of the <u>steps to follow</u> to become an entrepreneur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am more capable of generating an entrepreneurial idea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am more interested in identifying problems as business opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is likely for me to launch a startup project in the future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am more concerned about the climate impact and the role of entrepreneurs in solving climate change	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Write a sentence that summarizes your experience in this training (Long answer)
- How do you think the course could have been improved? (Long answer)
- Would you recommend this course/activity to a peer? (Yes/No)
- Are you willing to attend other entrepreneurship courses/activities? (Yes/No)

