

Integrating Entrepreneurship and Innovation Methods into Higher Education: Insights from a Train-the-Trainers Approach

Petter Ahlström, University West

Mette Lindahl Thomassen, VIA University College

Ann Svensson, University West, ann.svensson@hv.se

Abstract. Higher Education Institutions (HEIs) are increasingly expected to foster entrepreneurship, innovation, and sustainability across disciplines, yet many struggle to integrate such pedagogies into existing curricula. This paper examines how a structured train-the-trainers approach can support the mainstreaming of entrepreneurship and innovation methods without requiring extensive curricular redesign. Situated within the Sustain4Future project, the study explores a train-the-trainers course piloted both online across European universities and locally at a Swedish university. Drawing on literature on entrepreneurship education, innovation pedagogy, and professional learning, entrepreneurship is conceptualized as the development of entrepreneurial mindsets rather than venture creation alone. Using a qualitative case study approach, empirical material consists of workshop observations, participant reflections, and course adaptation documents. Preliminary findings suggest that the train-the-trainers format lowers barriers to adoption by increasing pedagogical confidence and reframing innovation methods as tools for engagement and real-world relevance. Persisting challenges include time constraints, assessment alignment, and the need for institutional support. The paper contributes insights into faculty development as a driver of systemic pedagogical change.

Keywords: *Entrepreneurship Education, Professional Development, Train the Trainer approach, Work Integrated Learning, Sustainable Pedagogical Change*

Introduction

Higher Education Institutions (HEIs) are increasingly expected to contribute to sustainable societal development by equipping students with entrepreneurial and innovation-related competencies. "While the necessity of embedding entrepreneurship across disciplines is clear, a critical gap exists in understanding how structured train-the-trainers' initiatives can move beyond technical skill transfer to address the deep-seated entrepreneurial outsidership that currently reinforces disciplinary silos (Neergård & Roald, 2025). Research has yet to fully explain how institutional support can effectively transform this sense of exclusion into the insidership and triple professionalism required for faculty to authentically adapt and deliver entrepreneurship education within their own subject areas. This paper addresses these challenges by exploring: *How HEIs can support the integration of entrepreneurship and innovation methods into existing courses through a structured train-the-trainers approach?*

To explore this topic, we first dive into what is known about educator training in entrepreneurship education in theory, and in extension position our understanding of capacity building for sustainable Entrepreneurship Education (EE). Then a comparative case study is conducted on two train the trainer (TTT) programs conducted with in the international 'Sustainability for Future' project, to exemplify how capacity building is done in practice and study benefits and barriers.

Theory

The field of EE has increasingly recognized that educators, not just curricula, are central to achieving meaningful entrepreneurial learning outcomes. Early conceptualizations positioned entrepreneurship education primarily as content-driven instruction focused on venture creation, but contemporary research emphasizes educator competence, pedagogical orientation, and professional identity as decisive components for successful EE implementation (Neck & Corbett, 2018). Studies consistently show that educators often enter the field of EE serendipitously, without formal preparation, and tend to lack confidence in their entrepreneurial competence or legitimacy as entrepreneurship educators (Lane & Mountford-Brown, 2025).

Professional development initiatives have therefore emerged as a necessary mechanism for equipping educators with appropriate mindsets, methods, and pedagogical tools. Research highlights that such training must go beyond skills transmission and instead engage educators in experiential and reflective processes that mirror the entrepreneurial learning they are meant to facilitate (Jin & Roald, 2025; 2025a). Jin and Roald's (2025) educator-centered development model, structured around inspiration, immersion, and implementation, demonstrates measurable increases in educators' competence and confidence to integrate entrepreneurial elements into their teaching.

A recurring theme within the literature is the distinction between entrepreneurial insiders and outsiders, a conceptual divide highlighting educators' differing levels of perceived legitimacy and comfort with entrepreneurship (Neergård & Roald, 2025). Many educators, especially outside business disciplines, self-identify as "outsiders," lacking both the practical entrepreneurial experience and disciplinary alignment they believe necessary. This outsider identity is tightly linked to experiences of imposter syndrome, which can hinder educators' willingness to implement entrepreneurial teaching practices (Lane & Mountford-Brown, 2025).

Conversely, literature shows that targeted training interventions can shift perceptions and practices. Training university educators through structured, experiential programs significantly enhances not only knowledge but also emotional engagement and identity transformation, critical elements for sustained pedagogical change (Jin & Roald, 2025). Evidence from both large-scale and small-scale programs underscores, that experiential methods ("learning by doing"), reflective dialogue, and safe learning environments are central to empowering educators across disciplines to adopt entrepreneurial pedagogy effectively (Arntzen-Nordqvist & Emilsen, 2026; Dwijayanti et al., 2026). Thus, current research reveals a maturing understanding: effective entrepreneurship educator training is multidimensional, identity-forming, experiential, and deeply contextual. It must help educators reconceptualize entrepreneurship as relevant to their disciplines while also equipping them with pedagogical tools aligned with entrepreneurial learning principles. In extension, capacity building in entrepreneurship education can be understood as a process aimed at strengthening the ability of educators, and, by extension, institutions, to deliver high-quality, embedded, and contextually meaningful EE. This understanding aligns with broader educational capacity-building frameworks, but the EE literature contributes unique nuances.

First, educator capacity is not solely a matter of skills or knowledge; it is embedded in professional identity, legitimacy, and agency. Research shows that building capacity requires addressing psychological dimensions such as imposterism, perceived legitimacy, and disciplinary identity (Lane & Mountford-Brown, 2025; Neergård & Roald, 2025). For entrepreneurship to be authentically integrated across disciplines, educators must see themselves as capable contributors to

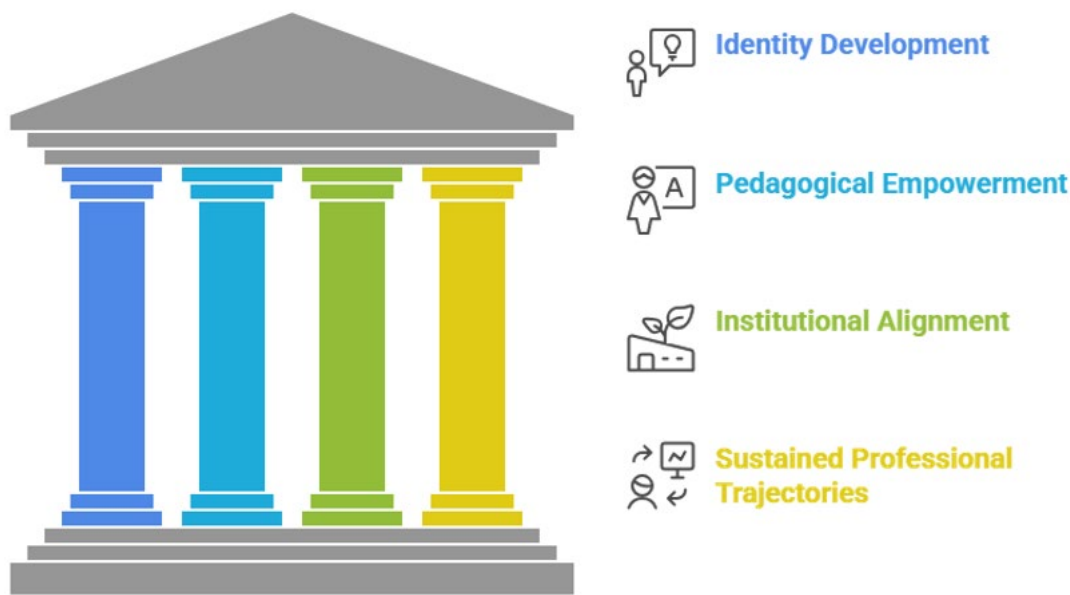
entrepreneurial learning, even when their disciplinary background lies outside business. Second, capacity building must be viewed as an institutional, not just individual, endeavor. Studies show that educators' adoption of entrepreneurship pedagogies is strongly influenced by institutional cultures, collaborative networks, and access to supportive communities (Ruskovaara et al., 2015). Networking and collaboration with external stakeholders have been shown to enhance educators' confidence, resource base, and diverse pedagogical approaches. This suggests that capacity building in EE is relational and system-based.

Third, capacity building benefits from structured, theory-based, experiential approaches to professional development. Train-the-trainer models, where educators from various disciplines undergo entrepreneurship-focused development, have proven especially effective in fostering embedded entrepreneurship education (Arntzen-Nordqvist & Emilsen, 2026; Jin & Roald, 2025). These models emphasize adaptable pedagogical strategies, translational competence (i.e., transferring entrepreneurial concepts into diverse disciplinary contexts), and reflective practice. Fourth, capacity building should be conceptualized as a long-term developmental trajectory. Oksanen et al. (2023) show that teachers' engagement with entrepreneurship education evolves over time in distinct stages, from early experimentation to deeper forms of professionalization (Oksanen et al., 2023). This staged progression underscores the need for differentiated support, continuous professional development, and sustained institutional reinforcement.

Lastly, capacity building involves enhancing the system's ability to integrate entrepreneurship and innovation methods into teaching with fidelity, creativity, and contextual responsiveness. This includes fostering pedagogical agility, embracing uncertainty, and cultivating practices that support experiential and active learning (Arntzen-Nordqvist & Emilsen, 2026). Taken together, these insights position capacity building as a comprehensive, multi-level process involving:

- Identity development, shifting from outsider to insider
- Pedagogical empowerment, experiential and reflective learning
- Institutional alignment, supportive cultures and networks
- Sustained professional trajectories, long-term development pathways for educators within sustainable entrepreneurship.

This expanded understanding underscores why a Train-the-Trainers model, designed to integrate identity, pedagogy, and institutional support, holds particular promise for scaling entrepreneurship and innovation competencies within higher education. Inspiring the following theoretical model of capacity building for sustainable entrepreneurship education in HEI.



Made with Napkin

Figure 1: Foundations of Sustainable Entrepreneurship Education in HEI.

The four pillars of this model are used in the analysis of our empirical cases, to study how the two TTT modules support capacity building for sustainable entrepreneurship. In the following methods section it is explained how.

Research method

This study explores how higher education institutions (HEIs) can support the integration of entrepreneurship and innovation methods into existing courses through a structured Train-The-Trainer approach (TTT). To address this question, the methodological design combines a theory-informed analytical framework with a comparative case study of two international TTT programmes. The methodological choices and analytical steps are outlined below.

A qualitative, exploratory research design was adopted to investigate how capacity building for sustainable entrepreneurship education is conceptualised in theory and enacted in practice. The study proceeds in two phases. First the theoretical grounding is founded on a review of literature on educator training in EE and corresponding models of capacity building informed the conceptual foundation of the study. This established a theoretical lens for analysing the role of identity development, pedagogical empowerment, institutional alignment, and sustained professional trajectories in the professional development of educators. Then a comparative case study of two TTT programmes developed within the international *Sustainability for Future* (s4f, 2026) project served as empirical cases. A comparative case study design was selected to examine similarities and differences across programmes, and to identify benefits, challenges, and contextual conditions that shape capacity-building processes in HEIs.

As analytical framework the analysis is guided by the model Foundations of Sustainable Entrepreneurship Education in HEIs, which conceptualises capacity building across four interrelated dimensions, Identity development, Pedagogical empowerment, Institutional alignment, and Sustained professional trajectories. This model offers a structured lens for assessing how TTT initiatives translate theoretical principles into practical educator training.

The empirical cases used to explore capacity building in practice are two selected TTT programs were carried out in 2025 and 2026 as part of the *Sustainability for Future* project involving multiple international HEIs. Both programs aimed to build educator capacity for embedding entrepreneurship, innovation, and sustainability principles into existing curricula, but differed in delivery format, participant profiles, and institutional contexts. These variations provided a suitable basis for comparative analysis.

Data collection

For data collection, two types of empirical material form the basis of the analysis. First course descriptions and program documentation are used, as they offer insight into intended learning outcomes, pedagogical designs, and institutional framing of each TTT program. Second participant evaluations/feedback are used to gain a participant perspective. Educator reflections collected through post program evaluations provide information about perceived learning outcomes, barriers, benefits, and anticipated application of EE methods. These evaluations include both qualitative comments and structured survey items. Together, these data sources allow for examining both the design intentions and the experienced impact of the TTT programs through data triangulation (Denzin, 1978).

Analysis method

The data is analysed using thematic coding (Braun & Clarke, 2006) guided deductively by the four dimensions of the theoretical model. The analysis proceeded in three steps:

1. Coding of program documentation to identify how each TTT initiative addresses identity, pedagogy, institutional support, and professional trajectories.
2. Coding of participant evaluations to capture educator experiences, perceived barriers, and enabling factors.
3. Cross-case comparison to synthesize how the two programs supported (or failed to support) capacity-building elements, and to identify patterns relevant for HEIs aiming to integrate E&I methods into existing courses.

Throughout the analysis, the theoretical model served as a structuring device while allowing for inductive insights where empirical data extended or challenged the predefined categories.

In the following, the two cases are presented along with the results of the analysis.

Results - Two cases of educator training

In the following two cases of educator training which is analysed using the theoretical model of capacity building for sustainable entrepreneurship education in HEI, derived in the theory section.

Case 1: Teach&RISE (online)

The Teach&RISE online competence development course is based on Sustainability for future's 5 step guide to educational design for sustainable entrepreneurship and innovation. The growing demand for sustainable and entrepreneurial solutions to global challenges places new expectations on higher education. Educators are increasingly required to design learning experiences that combine disciplinary knowledge with innovation, sustainability awareness, international outlooks, and ecosystem engagement. The Teach&RISE framework, responds to this need by offering a structured yet adaptable competence development model for higher education.

Inspired by the didactical relationship model (Hiim & Hippe, 1998), the framework translates educational theory into a practical five-step guide that supports the design of learning activities. It is an entry level guide designed for toning existing courses or developing new courses within sustainable entrepreneurship or innovation. These new developments are referred to as experiments, to signal that educational development is an iterative process. The framework is underpinned by four foundational focal points that guide learning objectives and activities across all five steps:

1. *Entrepreneurial competence*; developing the ability to identify opportunities, creating value, and transform ideas into viable solutions.
2. *Sustainability competence*; enabling critical understanding and application of environmental, social, and economic sustainability principles.
3. *International competence*; fostering intercultural awareness, global perspectives, and international collaboration skills.
4. *Local ecosystem engagement*; strengthening students' ability to interact with and contribute to regional innovation and entrepreneurial ecosystems.

These pillars ensure that competence development is holistic, forward-looking, and embedded in real-world contexts. In the following, the five steps to educational design for sustainable entrepreneurship are introduced.

Step 1: Considering Students' Learning Prerequisites

The first step focuses on understanding students' prerequisites as the foundation for meaningful learning design. Educators are encouraged to assess students' prior knowledge, skills, experiences, and attitudes, as well as their level of education and progression within the programme.

A strong emphasis is placed on diversity, equality, and inclusion (DEI). By recognising diverse backgrounds, identities, and learning needs, the framework promotes inclusive learning environments where all students can engage and progress. Strategic scaffolding and differentiated support are used to ensure that learning activities are challenging yet accessible.

Step 2: Identifying Contextual Opportunities and Barriers

Step two broadens the focus from the learner to the educational and organisational context.

Learning designs are shaped by institutional frameworks, local ecosystems, and available resources. Educators are encouraged to map both opportunities (such as partnerships, expertise, and curricular integration) and barriers (such as regulations, timing constraints, or limited resources).

This step supports alignment between learning activities and institutional strategies while promoting active engagement with local stakeholders, including businesses, public actors, and civil society.

Contextual awareness is seen as a key driver for sustainable and locally anchored impact.

Step 3: Formulating Meaningful Learning Objectives

Clear and well-aligned learning objectives form the backbone of effective competence development. In the Teach&RISE Framework, learning objectives are formulated using Bloom's revised taxonomy and calibrated to students' readiness and progression (Anderson & Krathwohl, 2001).

Objectives are explicitly linked to the four competence pillars and span cognitive levels from remembering and understanding to analysing, evaluating, and creating. This ensures that students not only acquire knowledge, but also apply, reflect on, and co-create innovative and sustainable solutions.

Step 4: Designing Learning Activities and Resources

In step four, learning objectives are translated into concrete learning activities and supported by relevant resources. Activities may be educator-led or student-initiated and can take place both inside and outside formal teaching settings.

A central design principle is the balance between degrees of freedom and scaffolding. Students are gradually given more responsibility for their learning through guided autonomy, while educators provide structured support that fades as competence increases. Reflection of questions, tools, and resources are used to make learning processes explicit and to strengthen student ownership.

Step 5: Designing for Formative and Summative Evaluation

The final step integrates evaluation as a core element of the learning design. The framework emphasizes the complementary roles of formative evaluation, which supports learning during the process, and summative evaluation, which assesses the achievement of learning objectives at the end. Reflection activities, feedback, and assessment rubrics can be used to clarify expectations, promote self-assessment, and ensure transparency. Evaluation is thus not only a measure of performance, but a learning activity that strengthens reflection and competence development.

The Teach&RISE online TTT course is comprised of 3 workshops. During the first workshop we address foundations and the framework. In the first session participants are introduced to the learning theory behind the Teach&RISE framework. Then they explore the first four steps of the framework for educational development and is guided through the associated resources and worksheets. For each step there are additional inspirational resources, such as articles, tools or examples, and a worksheet related to the topic. The worksheets are designed to help educators contextualize the framework to fit their specific context, where they design learning experiments for. Between workshop 1 and workshop 2 you are expected to design a learning experiment. These experiments can range from developing new courses to testing new tools anything that helps evolve your teaching practice with a focus on promoting sustainability and developing entrepreneurial competence. During the second workshop “Sharing Your Learning Experiment”, participants will be invited to share your own learning experiment, supported by the Teach&RISE framework. The session focuses on collegial dialogue and peer feedback in a supportive, non-judgmental environment. The final workshop “Reflection and Future Directions” is placed at the end of the semester, where the learning experiments have been conducted. Here participants reconvene to share experiences, reflect on outcomes, and explore opportunities for further development.

During the workshops collegial support, curious dialogue, and constructive feedback is emphasised. It is based on the philosophy that learning experiments are meant to be iterative and getting it right the first time is not the goal. Instead, we encourage reflective practice and continuous improvement. Despite the attempt to create a safe space for development, a reluctance to share during the online workshops was experienced. This could have been interpreted as a lack of engagement, had it not been for the highly interesting learning designs developed and reflected upon in the worksheets handed in at the end of the course. With this introduction to the online case this section continues with the deductive analysis of data based on capacity building framework.

Identity development

A key contribution of the Teach&RISE online course lies in supporting educators’ and facilitators’ identity development, specifically the transition from perceiving oneself as an outsider to

sustainability, entrepreneurship, or innovation education, to acting as a confident insider within these domains. One participant reflects: *“I am just starting to teach as a doctoral candidate and even though it was difficult for me to participate in the beginning, this workshop pushed me to explore learning and teaching possibilities at the very beginning of my journey.”*

This shift is enabled through three mechanisms: (1) Legitimation through structure, where the five-step framework provides a shared knowledge base, language, conceptual clarity, and recognised pedagogical logic. This reduces uncertainty and positions participants as legitimate actors who operate within an established educational paradigm rather than on the margins. (2) Practice-based belonging, by engaging participants in developing authentic learning design, with ecosystem interaction, and evaluation practices, the course creates opportunities for legitimate peripheral participation, gradually moving participants toward full participation in professional communities of practice. (3) Narrative reconstruction, through reflection activities embedded across the steps encourage participants to reinterpret their professional biographies, shifting from “I am not an entrepreneurship educator” to “I am developing a role within sustainable entrepreneurship/innovation education.”. Through these processes, the course supports professional identity formation, where participants begin to see themselves as capable contributors to sustainability-oriented entrepreneurial education rather than external observers or reluctant adopters.

Pedagogical empowerment

Pedagogical empowerment in the Teach&RISE online course emerges from the combination of experiential engagement and structured reflection. One participant reflects: *“What this learning experiment really brought to the fore was the need for flexibility, empathy, and authenticity in teaching. The close, peer-oriented approach, depending on mutual respect, on the idea that “we are all in this together,” is something I will carry forward. Real-life examples, videos, and open discussion remain core in my teaching practice. At the same time, I intend to polish my method of teaching by adding more student-centered and independent work, giving learners more responsibility for their learning.”*

Rather than transmitting predefined teaching models, the framework positions educators as designers of learning experiences. This empowers participants by engaging them in real design challenges. Step 1-4 requires participants to work with their own students, curricula, and institutional conditions, making learning highly situated and relevant. The reflection questions facilitated through the work sheets in each step invite participants to critically examine assumptions about learners, sustainability, entrepreneurship, and their own teaching role. Reflection thus becomes a tool for sensemaking rather than compliance. Further, the framework promotes balancing scaffolding and student autonomy.

Another participant reflects: *“I adapted the level of scaffolding during the teamwork. Initially, I provided more structure, but as students gained confidence, I shifted toward autonomy. This adaptation encouraged deeper reflection and ownership of learning. I also introduced a brief mini-lecture on SDGs and value-chain sustainability after observing initial confusion. Additionally, I extended the peer feedback segment because students found it helpful and requested more time. These adaptations were effective and contributed to higher-quality business model iterations.”*

This pedagogical principle is mirrored in the online course where initial support is followed by increasing degrees of freedom. This not only strengthens pedagogical competence but also builds confidence in managing complexity and uncertainty. Pedagogical empowerment therefore unfolds

as a shift from implementation to intentional design, enabling educators to make informed, reflective, and context-sensitive pedagogical choices.

The last two pillars *Institutional alignment* and *Sustained professional trajectories* are not in the same way directly facilitated through the online course. Here the focus is on individual development, supporting educators to become change agents by adjusting existing or developing new learning designs. However, it does not facilitate systemic institutional support or ensure sustained professional trajectories for educators engaged in this work. The embedment of sustainable entrepreneurship and innovation thus rely on the educators. As one participant reflects *"We will keep all adjustments we have provided. Moreover, we will try to extend the topics of entrepreneurship and sustainability in the course curriculum."*

'We, being the educators, having to champion this change in curriculum. In this way, despite being effective with regards to individual competence development, the online course falls short on promoting capacity building on a multilevel, as advocated for in our theoretical framework.

Case 2: Teach&RISE (local training of academic and non-academic staff in Sweden)

Course description: The local interpretation of Teach&RISE at University West in Sweden took place as an "TTT" structured workshop series of four iterative training sessions. Invited student participants to this learning activities were graduate Master students and PhD candidates, academic and non-academic staff.

The Case included four sequential working sessions with personal take home assignments in purpose to start reflecting and interpret learning outcomes between sessions. All staff members at the department of Economic and IT, University West and local partners within the Sustain for Future project were invited. That includes also the departments of Engineering and Nursing through participant programs of the project and representatives from Innovatum Science Park in Trollhättan, partner in the entrepreneurial ecosystem of the Sustain for Future project. Approximately 80 persons invited and 20 who finally participated during the period of December 2025 and April 2026 (four occasions). The sessions were introduced by local project management at each time, and the session were lead / trained by project representatives Drivhuset. Last session was at Entrepreneurial Regional Centre, Yes Box (Yes Box, 2026), in Gothenburg where the examination of student trained assignment took place and a mentoring session to invite and bridge the student to continue venture or value creation process if interested. Results show great interpretations of personal context involved, from international business application by an international student and company owner to a new way of thinking in administrative and managerial working processes in an international project (Stars EU) by a non-academic senior participant staff member.

The local learning set-up or design

University West, Trollhättan, Sweden is one of the partners at Sustain for Future project. The Teach&RISE program has in a Swedish context been implemented through a special entrepreneurial teaching design called the Loopa-method by the Cassette (Figure 2).

To understand the teaching design and interpretation of Teach&RISE in the Swedish context the structure of TTT and Loopa-method must be explained. The Loop method can shortly be described as the methodological basis of the Cassette, an agile approach to value creation designed for contexts characterized by high uncertainty. That means a learning environment where the outcome and appropriate solution are not appropriate solution are not defined in advance. Loopa takes place

The process of Loopa takes place when the goal is not fixed in the beginning along with objectives and plans guide the work goal-seeking process in contrast to traditional goal-oriented processes, where predefined objectives and plans guide the work are set. The stakeholder's goal-seeking processes require an iterative learning procedure, experimentation, and continuous interaction with stakeholders involved (ben Salem et al., 2022). Its selves where development activities are guided by feedback and learning rather than by fixed plans (ben Salem et al., 2022).

The core of the Loop method its integrational mix of academic insights from entrepreneurship research and agile development practices such as effectuation theory (Sarasvathy, 2001), customer development (Blank, 2013), and lean startup principles (Ries, 2011). The theoretical foundations of the Loop method se the mechanisms of emphasize experimentation, stakeholder interaction, and adaptive decision-making as crucial for managing innovation in condition under uncertainty with an entrepreneurial mindset.

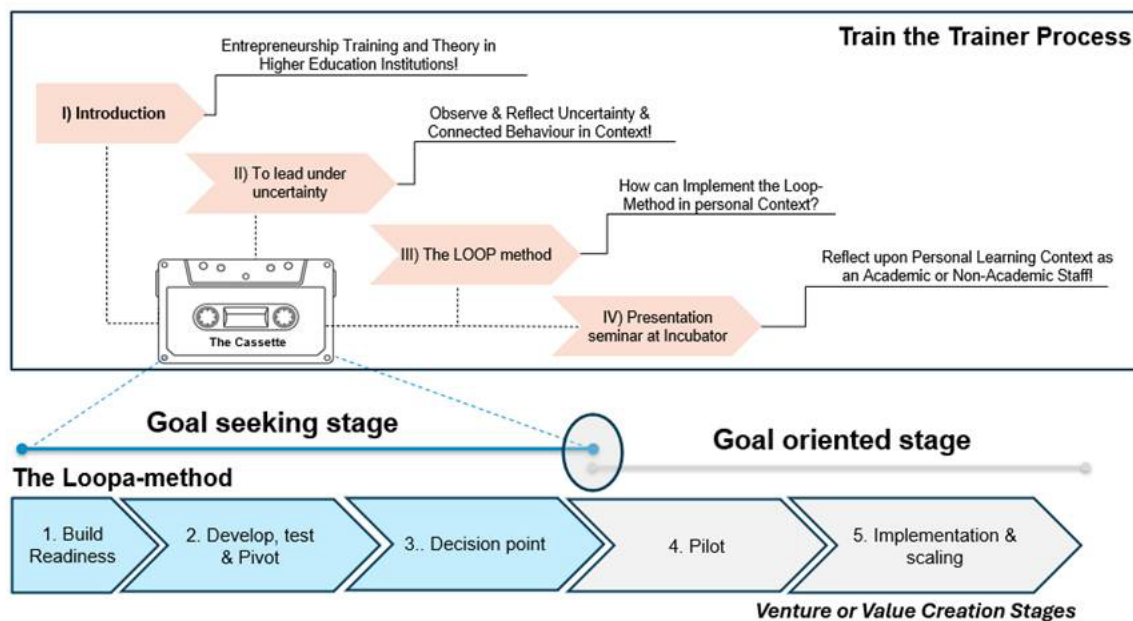


Figure 2. Local implementation of Entrepreneurial Training through Loop-method in Higher Education Institutions, Sweden Case, inspired of Ahlström, P., Svensson A., Ben Salem, M., Fogelqvist A. (2026), "The Cassette", Workshop, "Train The Trainer", 11 February, Sustain for Future, University West, Trollhättan, Sweden

TTT Process could at a local context be seen as a four-step designed learning process into entrepreneurial thinking in Higer Education Institution. This designed learning activities involves in total 10 hours teacher led training. The learning process starts with session number I.

"Introduction". This occasion introduce the academic field of entrepreneurship and learning in higher education with purpose to give both a broad overview of the field of knowledge domain and a deeper knowledge about its specific interpretation of the context of the participants learning environment as academic (teachers or researchers) or non-academic (undergraduate, graduate, PhD students or non-teaching) staff members. This occasion has the ambition to inspire and help the student to start reflecting over their own understanding and context. In the end of session students are asked to start reflecting about what it means in the context of their own. Next session number II. "To lead under uncertainty" involves training to understand but also reflect how to lead under environmental conditions of uncertainty. This session ends up with a request to both observe and

reflect about the uncertainty and connected behaviour in own context, a result who will start the discussion of next session.

The third session, number III. “The Loop-Method”, explained in detail in the following, is about given the students the tools and strengthen them in implement entrepreneurial skills in the working context of their own. The end of that session leads to a home assignment ready to present at the last time. The assignment asked for is how the participant student will or could implement the Loop-Method in the personal working context. The last working session of TTT process number IV. “Presentation seminar at Incubator” is the final occasion of this learning process. The idea is to put all learning in perspective to make the student trained to reflect upon personal learning context as their role as, in this case, a student (graduate and PhD student), academic or non-academic staff. This takes place in an incubator environment in order to inspire the student to continue the entrepreneurial process, if interested, by mentoring them into the incubator environment as such but also make sure they understand there is an entrepreneurial ecosystem therefore them when, if or when, supporting them to take the step further to personal venture or value creation development. This mentoring face approximately about 1 hour of time and creates a bridge to the next level of learning progress for those of interest.

Train the Trainer process and the Loopa-method is connected in the illustration as a Cassette (Figure 2). That means that the entrepreneurial learning process in Higher Education Institution context (academic and non-academic Swedish staff members) is interpreted through the idea of getting the use of knowledge, both in theory and practice, delivered in a pre-defined iterative process illustrated by the Cassette to out in a “Tape Recorder”. In this sense you should see the Tape Recorder as the symbol for learning environment or context. With this metaphor we will have a designed learning process where the Cassette is the standard message but put in different contexts.

Identity development (shifting from outsider to insider)

The course created a structured environment where participants from diverse professional backgrounds engaged with shared concepts and practices, supporting a gradual shift from peripheral participation toward a more confident insider role in entrepreneurship-oriented teaching. Several participants reported that the sessions helped them recognize new perspectives on their professional identity and increased their sense of legitimacy within the educational context. For others, these shifts appeared more subtle, suggesting that identity development occurs at varying rates and may require continued engagement beyond the initial training. Overall, the course highlighted how exposure to structured, experiential learning can make educators more aware of their potential to adopt new roles and integrate entrepreneurial thinking into their work.

Pedagogical empowerment (experiential and reflective learning)

The course combined lectures with interactive exercises across three sessions, introducing methods such as goal-seeking and complementary approaches. Participants engaged actively in discussions and reflective exercises, allowing them to connect the content to their own professional experiences. For many, this process raised awareness of alternative pedagogical strategies and illuminated new ways of approaching teaching. While some participants quickly began to envision practical applications in their contexts, others appeared to benefit more from the reflective exposure, gaining insight that may inform future practice. This variation underscores the importance of combining experiential activities with opportunities for reflection to accommodate diverse learning trajectories. The train-the-trainer design aimed to support not only short-term skill acquisition but also longer-term professional development. Many participants expressed interest in applying the methods in

their own settings and acknowledged that the training offered new ways of thinking about their teaching roles. At the same time, the translation of these intentions into sustained practice remains to be seen. The course laid out the groundwork for continued capacity building, suggesting that follow-up support and opportunities for practice could help participants consolidate their learning and foster long-term engagement with entrepreneurship-oriented pedagogies.

Institutional alignment (supportive cultures and networks)

The mixed composition of academic and non-academic participants created opportunities for internal and cross-institutional dialogue and collaboration. These interactions facilitated a broader understanding of how entrepreneurial methods can be adapted across different professional contexts and highlighted the value of diverse perspectives in shaping training approaches. Although immediate collaborations were limited to informal exchanges, participants noted the potential for ongoing networking and support. The course thus functioned as a bridge between different institutional cultures, promoting shared understanding while revealing the complexities of embedding new pedagogical approaches within existing structures.

Sustained professional trajectories (long-term development pathways)

The local TTT showed positive results in terms of addressing the other pillars described above. However, it is obvious that the course does not facilitate sustained professional trajectories. This can risk disengagement from the participants due to lack of institutionalized incentives. Consequently, the foundation for capacity building I not fully achieved.

Summary of findings

This paper examined two implementations of the Teach&RISE framework, an online competence development course (Case 1) and a locally embedded train-the-trainer (TTT) programme in Sweden (Case 2), to explore how different learning designs contribute to capacity building for sustainable entrepreneurship and innovation in higher education. The analysis was conducted deductively using a multi-pillar capacity building framework, focusing on identity development, pedagogical empowerment, institutional alignment, and sustained professional trajectories. Across both cases, Teach&RISE supported participants' professional identity development, particularly the transition from perceiving themselves as outsiders to sustainability- or entrepreneurship-oriented education toward acting as emerging insiders.

In the online case, identity development was strongly supported through the structured five-step framework, which legitimised participants' engagement by providing shared language, pedagogical logic, and recognised educational principles. Reflection activities enabled narrative reconstruction, allowing participants, especially early-career educators, to reframe their professional identities from hesitant adopters to capable contributors within sustainable entrepreneurship and innovation education. While online sessions were characterised by some reluctance to share openly, written reflections and learning designs demonstrated deep engagement and identity shifts that were not always visible in synchronous interaction.

In the local Swedish case, identity development emerged through participation in a shared, place-based learning environment that combined academic, non-academic staff, and students. The Loopa-method and incubator setting helped normalise experimentation and uncertainty, supporting gradual movement from peripheral participation toward stronger insider positioning. However, identity shifts varied across participants and appeared more implicit for some, indicating that identity development is uneven and may require longer-term reinforcement beyond initial training.

Both cases demonstrated strong pedagogical empowerment, though through different mechanisms. In Case 1, empowerment emerged through the framework's emphasis on educators as designers of learning experiments rather than implementers of predefined methods. Participants engaged directly with their own curricula, students, and institutional constraints, making learning highly situated. Reflection worksheets functioned as sensemaking tools, encouraging critical examination of assumptions about learners, scaffolding, sustainability, and entrepreneurship. A recurring finding was increased confidence in balancing structure and autonomy, with participants adapting scaffolding responsively based on student needs. This process mirrored the framework's own pedagogy and strengthened educators' capacity to navigate complexity and uncertainty. In Case 2, pedagogical empowerment was driven by experiential and reflective learning embedded in the Loopa-method. The goal-seeking, iterative logic of the Cassette supported participants in exploring alternative pedagogical strategies for contexts characterised by uncertainty. Participants reported increased awareness of entrepreneurial and innovation-oriented approaches applicable not only in teaching but also in administrative and project-based work. While some participants quickly translated insights into envisioned practice, others primarily gained reflective awareness, suggesting that pedagogical empowerment unfolded along different trajectories depending on role, experience, and context.

Institutional alignment was unevenly supported across the two cases. The online course primarily targeted individual competence development and positioned participants as potential change agents within their institutions. While participants expressed intentions to adjust curricula and extend sustainability and entrepreneurship content, institutional support structures were largely absent. As a result, responsibility for embedding change rested with individual educators, limiting multi-level capacity building.

The local Swedish case showed stronger, but still partial, alignment with institutional and ecosystem contexts. The involvement of multiple departments and external partners, including a science park and incubator, facilitated cross-institutional dialogue and exposed participants to broader innovation ecosystems. Although immediate collaboration outcomes were modest, the programme functioned as a cultural bridge, highlighting both the potential and the complexity of embedding entrepreneurial pedagogy within existing institutional structures.

Across both cases, sustained professional trajectories remained weakly supported. Neither implementation provided formalised follow-up, institutional incentives, or long-term career pathways for educators and staff engaging in sustainable entrepreneurship and innovation education. This represents a critical limitation from a capacity-building perspective, as the risk of disengagement remains once the structured programme ends. While both cases successfully laid foundations for individual development and short-term practice changes, the absence of institutionalised reinforcement mechanisms constrains long-term sustainability and scaling. Taken together, the findings suggest that Teach&RISE is effective in fostering individual identity development and pedagogical empowerment across diverse formats and contexts. Structured frameworks, experiential learning, and reflection are key enablers of confidence, legitimacy, and design capability. However, capacity building remains largely individualised, with limited support for institutional embedding and sustained professional trajectories. Achieving multi-level capacity building for sustainable entrepreneurship and innovation in higher education thus requires complementary organisational strategies, leadership support, and incentive structures to extend the impact beyond individual educators.

Discussion

This study contributes theoretically by deriving and applying a framework for analysing capacity building in sustainable entrepreneurship education as a multilevel and developmental process. Rather than treating capacity building as a narrow outcome of competence acquisition, the framework conceptualises it as an interconnected set of trajectories unfolding across individual, organisational and institutional levels. The framework focuses on four analytically distinct yet interrelated dimensions: identity development, pedagogical empowerment, institutional alignment, and sustained professional trajectories.

First, identity development captures how educators shift from positioning themselves as outsiders to sustainable entrepreneurship education towards adopting an insider identity. This dimension highlights the role of legitimacy, confidence and professional belonging in enabling educators to engage meaningfully with sustainability-oriented innovation and entrepreneurship. Capacity building, from this perspective, involves not only learning new content or methods, but also renegotiating professional self-understandings and roles within academic communities. *Second*, pedagogical empowerment refers to educators' development of the confidence and capability to design and facilitate experiential and reflective learning processes. This includes the ability to translate abstract sustainability challenges into meaningful educational experiences, to work with uncertainty, and to engage learners as co-creators of knowledge. Pedagogical empowerment thus links individual competence development to teaching practices that are characteristic of sustainable entrepreneurship education. *Third*, institutional alignment addresses the organisational and institutional conditions that enable, or constrain, capacity building beyond the individual level. This dimension focuses on the presence of supportive cultures, leadership engagement, interdisciplinary networks and institutional narratives that legitimise sustainable entrepreneurship education. Capacity building is here understood as a collective accomplishment that depends on alignment between individual initiatives and organisational structures. *Fourth and finally*, sustained professional trajectories capture the temporal dimension of capacity building. Rather than viewing train-the-trainer courses as isolated interventions, this dimension foregrounds long-term development pathways, including access to communities of practice, opportunities for continued experimentation, and institutional incentives that sustain engagement over time. Capacity building is thus conceptualised as an ongoing process rather than a short-term outcome.

Together, these four dimensions constitute a multilevel analytical framework that allows for a nuanced examination of how capacity building is initiated, supported and sustained in different educational contexts. In the present study, the framework is used to analyse and compare two train-the-trainer courses, one delivered online and one onsite, enabling an exploration of how different delivery formats activate, or fail to activate, capacity-building processes across levels. In relation to practical implications, the comparison between the online and onsite courses revealed notable differences in how capacity building was enacted across levels. While both formats supported individual-level learning, such as increased awareness of sustainability-oriented entrepreneurship, pedagogical methods and reflective teaching practices, the onsite course more consistently promoted multilevel capacity building.

In particular, the onsite course facilitated stronger networking inside and outside of the HEI. These dynamics appeared to support not only individual learning but also organisational-level processes, such as the emergence of shared vocabularies, joint teaching initiatives and alignment with departmental strategies. Physical co-presence enabled spontaneous dialogue and trust-building,

which are difficult to fully replicate in online environments, and which seem crucial for translating individual learning into collective action.

By contrast, the online course primarily supported individual competence development, with fewer observable spill-over effects into organisational or institutional levels. While online formats offer flexibility and scalability, the findings suggest that additional design elements are needed to intentionally connect individual learning to organisational structures and institutional agendas. Based on this, one practical implication is the value of deliberately involving additional institutional stakeholders in capacity-building initiatives. This could include programme leaders, department heads, educational developers and external partners such as regional innovation ecosystems. Their involvement may help bridge levels by aligning course content with organisational priorities and institutional strategies, thereby increasing the likelihood that newly developed competences are mobilised in practice. Another practical implication concerns recognition and incentives. For capacity building to extend beyond the individual level, educators must experience that engagement in sustainable entrepreneurship education is valued institutionally. Here, impact ranking frameworks may serve as a lever. By explicitly recognising and crediting educators' contributions to sustainability-oriented entrepreneurship education, institutions may incentivise deeper engagement and legitimise the time and resources required to integrate sustainability across curricula. Such recognition could strengthen institutional-level capacity building by embedding sustainable entrepreneurship education within performance metrics, promotion criteria and strategic priorities.

Several limitations should be considered when interpreting the findings. *First*, the empirical material is primarily based on observations during course activities and participants' self-reporting. While this provides rich insights into perceived learning and emerging capacities, the study does not observe or measure the subsequent practical impact on the courses that participants teach, nor on student learning outcomes. As such, conclusions about longer-term effects remain tentative. *Second*, the study design does not allow for causal claims regarding the effectiveness of online versus onsite formats. Differences observed between the two courses may also be influenced by contextual factors such as participant composition, institutional affiliation or prior experience with sustainability and entrepreneurship education. *Third*, the authors' positioning as insiders must be acknowledged. As trainers involved in the competence development courses, we had unique access to the field and were able to capture nuanced dynamics that might be difficult for external researchers to observe. At the same time, this insider position may introduce bias in both observations and interpretation. Our dual role may have influenced participants' self-reporting, particularly in terms of critical reflection on course limitations. While reflexivity has been applied throughout the research process, this remains an important constraint on the objectivity of the findings.

Conclusion

This paper examines how a structured TTT approach can support capacity building for sustainable entrepreneurship. Based on literature, the study conceptualized capacity building as a multilevel and developmental process encompassing identity development, pedagogical empowerment, institutional alignment, and sustained professional trajectories. Drawing on this conceptualization of capacity building, a comparative case study of two Teach&RISE implementations, one online and one locally embedded at a Swedish university, was conducted.

The findings demonstrate that TTT initiatives can effectively strengthen individual educators' capacity to engage with entrepreneurship and innovation as transversal pedagogical approaches across disciplines. In both cases, participants reported increased confidence, legitimacy, and agency in designing experiential and sustainability-oriented learning activities within their own educational contexts. Particularly strong effects were observed in relation to identity development and pedagogical empowerment, where structured frameworks, experiential learning, and reflective practice helped educators reframe entrepreneurship from a specialized domain to a relevant and actionable pedagogical lens.

However, the comparison also highlights important limitations. While the online course proved effective in supporting individual competence development and experimentation, it showed limited capacity to activate institutional alignment and sustain professional trajectories beyond the individual level. By contrast, the locally embedded TTT format more consistently fostered multilevel capacity building through cross-functional participation, physical co-presence, ecosystem engagement, and informal networking. These findings suggest that while scalable online formats lower access barriers, on-site and contextually embedded designs are better positioned to connect individual learning to organizational and institutional change.

The study contributes to entrepreneurship education research by advancing a theoretically informed framework for analyzing capacity building as a dynamic, multilevel process rather than a narrow outcome of skills acquisition. Practically, it offers evidence-based insights for higher education institutions seeking mainstream entrepreneurship and innovation pedagogy through faculty development. The findings underscore the importance of combining structured pedagogical frameworks with institutional anchoring, stakeholder involvement, and long-term support mechanisms.

Future research should examine the longitudinal effects of TTT initiatives on teaching practices, student learning outcomes, and institutional change to further understand how capacity building for sustainable entrepreneurship education can be scaled and sustained across higher education systems.

References

- Anderson, L. W., & Krathwohl, D. R. (Eds.). (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. Longman.
https://quincycollege.edu/wp-content/uploads/Anderson-and-Krathwohl_Revised-Blooms-Taxonomy.pdf
- Arntzen-Nordqvist, M., & Emilsen, M. S. (2026). Implementing entrepreneurship education across disciplines: Train-the-trainer to enhance students' entrepreneurial skills and mindset. In *Reframing entrepreneurship education* (pp. 94–113).
- ben Salem Dynehäll, M., & Lärk Ståhlberg, A. (2024). *Loopa: Business Development for Entrepreneurs*. Liber, People Printing.
- ben Salem Dynehäll, M., Denti, L., & Lärk Ståhlberg, A. (2022). *What Agile? A Handbook for How to Do It in Practice*. Liber.
- ben Salem Dynehäll, M., & Denti, L. (2020). *TOOKIG: Leading in Uncertainty*. Liber.
- Blank, S. (2020). The four steps to the epiphany: successful strategies for products that win. John Wiley & Sons
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>

Dwijayanti, R., Sugeng, B., Suharsono, N., Rahayu, W. P., & Marlina, N. (2026). Adopting 21st-century learning in entrepreneurship education: The role of teachers' professional commitment. *Multidisciplinary Reviews*, 9(8), 2026345.

Hiim, H., & Hippe, E. (1998). Læring gjennom opplevelse, forståelse og handling: En studiebok i didaktikk (2 ed.). Oslo: Universitetsforlaget.

Jin, F., & Roald, G. M. (2025). From outsiders to insiders: Empowering university teachers to foster the next generation of entrepreneurial graduates. *Education Sciences*, 15(12), 1643.

Jin, F., & Roald, G. M. (2025). Training university educators to foster embedded entrepreneurship education: An evaluation. *Cogent Education*, 12(1), 2564255.

Lane, A. M., & Mountford-Brown, V. (2025). Situating imposter syndrome in the experience of becoming and being an entrepreneurship educator. *Education + Training*, 67(4), 507–523.

Neck, H. M., & Corbett, A. C. (2018). The scholarship of teaching and learning entrepreneurship. *Entrepreneurship Education and Pedagogy*, 1(1), 8–41.

Neergård, G. B., & Roald, G. M. (2025). Competent to teach? Educators' perceptions of entrepreneurship. *International Journal of Entrepreneurial Behavior & Research*, 31(8), 2027–2048.

Oksanen, L., Oikkonen, E., & Pihkala, T. (2023). Adopting entrepreneurship education-Teachers' professional development. *Entrepreneurship Education and Pedagogy*, 6(2), 276–298.

Ries, E. (2011). *The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses*. Crown Currency.

Ruskovaara, E., Pihkala, T., Seikkula-Leino, J., & Järvinen, M. R. (2015). Broadening the resource base for entrepreneurship education through teachers' networking activities. *Teaching and Teacher Education*, 47, 62–70.

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.

Sustainability4Future, (2026), <https://www.linkedin.com/company/sustainability-for-future?trk=blended-typeahead>

Yes Box, (2026), <https://www.yesboxgoteborg.se/>