



TRANSFORMING SOCIAL ECONOMY LEARNING

Integrating Teaching Digital Technologies through DVC Labs in SE studies

Partner(s): All Partners, delivered by Stimmuli

11/09/2025



This material is published under Creative Commons AttributionNon commercial-Sharealike 4.0 license. <https://creativecommons.org/licenses/by-nc-sa/4.0/legalcode>.



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

PROJECT

Name	DigiSE5.0
Coordinator	Rzeszowska Agencja Rozwoju Regionalnego S.A.
Erasmus+ Project	2024-1-PL01-KA220-HED-000252300
Project Start	September 2024
Duration	30 months
Website	digise5.eu

DELIVERABLE

Number - Title	WP2 - Integrating Teaching Digital Technologies through DVC Labs in SE studies
Lead partner	STIM
Authors	Kyraztopoulos E. Stergios
Contributors	Galani Christina

Document Version Control

Date	Submitted by	Reviewed by	Version (Notes)
15/05/2025	Stimmuli	N/A.	1

A MESSAGE FROM THE PARTNERS

*“As a consortium composed of diverse organizations, we have come together around a common conviction: that **inclusive, values-driven, and digitally fluent learning environments** are not just desirable, but necessary for shaping resilient and just societies.*

It reflects the energy and expertise of many individuals who brought their knowledge, curiosity, and lived experience to a collective process of research, dialogue, and design. In embracing the principles of openness, experimentation, and co-creation, we aim not only to propose models of transformation but to embody them in the way we work and learn together.”

This work is the outcome of deep collaboration across borders and disciplines.

Sincerely,
The DigiSE5.0 Team

PREFACE

Social Economy represents a distinct field of economic activity situated beyond the binary of state and market. It is designed to address both social exclusion and structural unemployment by leveraging underutilized human and material resources within local communities. This sector operates on principles of solidarity, collective ownership, and participatory governance, while promoting the circulation of knowledge and the development of cooperative institutional frameworks.

In this light, Social Economy enterprises emerge not only as agents of social cohesion but also as vehicles for civic innovation, especially in contexts where public systems and market mechanisms fall short.

DigiSE5.0 is a project that supports Social Economy faculties in their digital transformation¹ by introducing innovative, competence-based educational methodologies and is divided in five (5) major Work Packages. Central to this initiative are Digital Value Creation² Labs (DVCLabs) and Living Labs³, designed to enhance digital skills, creativity, and entrepreneurial capacities of both students and educators. Through blended learning activities and meaningful collaboration with Tech4Good⁴ stakeholders, DigiSE5.0 seeks to equip future social entrepreneurs with practical tools to drive sustainable and socially impactful digital innovation

This document constitutes a key outcome of Work Package 2 (henceforward referred to as: WP2) of the **DigiSE5.0** initiative, an **Erasmus+ KA2 Strategic Cooperation Partnership** dedicated to transforming Social Economy education through innovative pedagogical practices and digital empowerment, adhering to the norms of multilateralism and social improvement.

¹ Amanda **Piepponen**, Paavo **Ritala**, Joonas **Keränen**, Päivi **Maijanen**, Digital transformation of the value proposition: A single case study in the media industry, *Journal of Business Research*, Volume 150, 2022, Pages 311-325, ISSN 0148-2963, <https://doi.org/10.1016/j.jbusres.2022.05.017>. (<https://www.sciencedirect.com/science/article/pii/S0148296322004404>)

² **Rubalcaba**, L., **Strokosch**, K., **Hansen**, A. V., **Røhnebæk**, M., & **Liefoghe**, C. (2022). Insights on Value Co-Creation, Living Labs and Innovation in the Public Sector. *Administrative Sciences*, 12(1), 42. <https://doi.org/10.3390/admsci12010042>.

³ **Van den Heuvel**, R., **Braun**, S., **de Bruin**, M., & **Daniëls**, R. (2021). *A closer look at living labs and higher education using a scoping review*. *Technology Innovation Management Review*, 11(9/10), 31–44, https://www.researchgate.net/publication/358501858_A_Closer_Look_at_Living_Labs_and_Higher_Education_using_a_Scoping_Review.

⁴ **Ritter**, W. F. (2024). The history of landfills and landfill gas management in the U.S. *Academia Environmental Sciences and Sustainability*, 1(1). <https://doi.org/10.20935/AcadEnvSci6163>.

The ongoing transition toward digitalization has become an uncontrollable and omnipresent phenomenon, reshaping nearly every aspect of societal, economic, and educational life across Europe and beyond. This irreversible digital shift is exemplified by substantial transformations observed throughout the European Union, notably in sectors such as public governance, healthcare, education, and commerce.

For instance, Estonia⁵ has fully embraced e-governance, providing nearly all governmental services digitally, thereby enhancing transparency, efficiency, and citizen engagement. Likewise, digital education platforms, significantly expanded during the COVID-19 pandemic, have permanently altered pedagogical models and learning modalities, compelling institutions to adopt hybrid or fully online curricula.

At the economic level, digital marketplaces and platforms have fundamentally redefined how businesses interact with consumers and operate across borders, evidenced by the rapid growth of digitally-enabled SMEs facilitated by initiatives such as the EU's Digital Innovation Hubs⁶. These examples collectively illustrate how digitalization is no longer merely an option or supplementary pathway but has emerged as a defining characteristic of Europe's contemporary reality, profoundly influencing interactions, institutions, and policy frameworks.

At the intersection of digital literacy, social innovation⁷, and educational transformation, WP2 is strategically designed to support higher education institutions in embedding Digital Value Creation Labs (DVCLabs) as essential components of curricula, fostering meaningful digital engagement, collaboration, and social impact.

In aligning closely with prominent European policy frameworks, WP2 actively supports the objectives outlined by the **Digital Education Action Plan 2021–2027**⁸, which emphasizes the development of inclusive and digitally competent educational environments and stands as a key guiding document, which identifies digital literacy and capacity-building as essential pillars for Europe's educational future. It stresses the urgency of fostering inclusive digital competencies and promoting innovative digital pedagogies across educational settings, thus

⁵ Data extracted from: <https://e-estonia.com/estonia-100-digital-government-services/>.

⁶ For more information, see here: <https://digital-strategy.ec.europa.eu/en/policies/edihs>.

⁷ **Cho**, M.-H., & **Yi**, C.-G. (2022). Adaptive Social Innovation Derived from Digital Economy and Its Impact on Society and Policy. *Sustainability*, 14(6), 3408. <https://doi.org/10.3390/su14063408>.

⁸ European **Commission**, *Digital Education Action Plan 2021–2027: Resetting education and training for the digital age*.

Available online: <https://education.ec.europa.eu/focus-topics/digital-education/action-plan>.

preparing learners, educators, and institutions to navigate—and thrive in—an increasingly digitalized society; the **Social Economy Action Plan** (2021)⁹, advocating for skill-building and digital innovation¹⁰ in social economy ecosystems and explicitly encouraging capacity-building initiatives that enable social enterprises and educational institutions to embrace digital transitions, ensuring that the social economy sector is adequately equipped to address contemporary societal challenges; and the ambitious digital transformation goals articulated in Europe's vision for the **Digital Decade 2030**¹¹, which underscores the necessity of nurturing digital empowerment across sectors, through digital empowerment, equitable access to digital opportunities, and strategic digitalization across all economic and societal domains as foundational to Europe's resilience and prosperity in the coming decade

Thus, the present study not only offers theoretical insights and practical pathways for implementing DVCLabs within academic settings but also represents a tangible response to European strategic commitments, which aspires to drive systemic change towards an educational landscape that fully embraces the values and potential of the digital and social economy transition.

HOW TO READ THE DOCUMENT

This document is not a conventional report, but a strategic resource for multiple stakeholders committed to the digital and pedagogical transformation of Social Economy education. Whether you are an educator, student, policymaker, practitioner, or simply an interested observer, the value of this study lies in its capacity to catalyze reflection, action, and systemic change within and beyond academic institutions.

For every Social Economy **educator** or **university lecturer**, this document is a pedagogical roadmap to infuse innovation into teaching. You will find theoretical

⁹ European **Commission**, *Social Economy Action Plan (2021)*.

Available online: https://employment-social-affairs.ec.europa.eu/policies-and-activities/eu-employment-policies/social-economy-and-inclusive-entrepreneurship/social-economy-action-plan_en.

¹⁰ Digital Innovation: Connotations, Characteristics, Value Creation, and Prospects, 11 Pages, Posted: 21 Jan 2025, Jun Cui, **SolBridge International School of Business**, Date Written: December 04, 2024.

¹¹ European **Commission**, *Europe's Digital Decade: digital targets for 2030*.

Available online: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/europes-digital-decade-digital-targets-2030_en.

scaffolding (Part A) that draws on theories of social constructivism and experiential learning, while applied frameworks assist you in launching DVCLabs within your courses. The case studies of Part B and practical templates provide real content that can be immediately applied to curriculum revision, project-based module development, or establishment of new partnerships with digital actors.

In the event that you are a **student** in Social Economy, management, or civic innovation curricula, this study can assist you in learning how different applications of multilateral tools empower you to create change. It will inspire you to go beyond academic theory and confront real-life problems, thus developing collaborative, technological, and entrepreneurial skills in the SE ecosystem. This document is meant to help you explore new opportunities for co-creation, hackathons, and interdisciplinary innovation labs.

If you are a **policymaker** or **public official** in higher education or the social economy, this study provides insight into how higher education institutions can implement inclusive transitions. The best practices and case studies highlight ways to support SE stakeholders through funding, regulation, and collaboration among various actors. This document addresses your role in connecting education, innovation, and social cohesion at both national and supranational (Ed. EU) levels.

If you represent a **Social Economy enterprise, cooperative, or Tech4Good initiative**, this study lays the groundwork for working with academic institutions. The research emphasizes how your expertise and real-life issues can fit into teaching frameworks, improving the relevance and impact of Social Economy studies.

If you are involved in **Vocational Education and Training (VET)** or **lifelong learning**, this document presents useful methods that can shape training for adult learners, upskilling programs, and digital inclusion strategies. It is of the utmost importance to note, that the teaching logic and skills-based models can be adjusted for various educational levels and learning formats.

If you are **new to the field of Social Economy** or coming from a different academic background, the glossary and introductory sections will help you understand. As you explore the theoretical models, comparative cases, and practical frameworks, you will discover how Social Economy education, when improved through digital means, can offer solutions to deep-rooted societal issues. This is a space for engaged learners and participants from all sectors.

Table of Contents

DELIVERABLE.....	2
Document Version Control.....	2
A MESSAGE FROM THE PARTNERS	3
PREFACE	4
HOW TO READ THE DOCUMENT	6
PART I	11
INTRODUCTION.....	12
PART A.....	16
GLOSSARY	17
THEORETICAL AND PEDAGOGICAL FRAMEWORKS.....	23
➤ Social Constructivism: Core Concepts and Key Theorists	23
➤ Experiential Learning Theory	27
➤ Integrating Social Constructivism and Experiential Learning	30
➤ Action-Oriented Education	35
➤ Application in Higher Education and Social Economy	36
➤ Fostering Digital Transition through DVCLs and Collaboration	37
➤ Competence-Based Education	38
➤ CBE in Higher Education Context.....	39
➤ Role in Social Economy Education and Digital Skills Development	41
COMPARATIVE ANALYSIS OF THEORISTS, THREE VOICES IN A CONVERGING FIELD	43
PART II	47
PURPOSE AND SCOPE OF PART II.....	48
RESEARCH DESIGN AND THE RESEARCH GUIDE: OPERATIONALIZING THEORETICAL CONSTRUCTS	48
COMPONENTS OF THE GUIDE AND RESEARCH LOGIC	49
PART B.....	50
INTRODUCTION.....	51
APPLICATION OF DVC AND LLS IN UNIVERSITY CURRICULA AND SE SECTOR	52
DIGITAL VALUE CREATION (DVC) AND LIVING LABS (LLS) INTEGRATION IN NATIONAL HE CURRICULA.....	52
• POLAND.....	52

• GREECE	54
• ITALY	55
• BELGIUM	55
DIGITAL DEVELOPMENT AND COOPERATION BETWEEN ACADEMIA WITH TECH4GOOD ECOSYSTEM - CHALLENGES & OPPORTUNITIES	57
• POLAND	57
• GREECE	58
• ITALY	59
• POLAND	59
• GREECE	60
• ITALY	61
• BELGIUM	62
IDENTIFIED GOOD PRACTICES IN PARTNER COUNTRIES	63
Template for collecting and presenting the Case Studies.....	65
GOOD PRACTICES FROM POLAND	67
GOOD PRACTICES FROM GREECE	94
GOOD PRACTICES FROM ITALY	109
GOOD PRACTICES FROM BELGIUM	126
INTERNATIONAL PRACTICES	137
FROM GOOD PRACTICES TO IN-DEPTH CASE STUDIES	152
• UNIVERSITY OF THE AEGEAN – “CONCEPTS AND SKILLS IN DIGITAL INNOVATION AND THE SOCIAL AND SOLIDARITY ECONOMY” (GREECE) ..	152
• KALOMATHE – ONLINE SOCIAL ECONOMY EDUCATION PLATFORM (GREECE)	153
• UNIVERSITY OF GENOA – SAVONA CAMPUS LIVING LAB “SMART CITY” (ITALY)	154
• TEACH-BEASTS – TEACHING TO BE AWARE STUDENTS (MULTINATIONAL WITH APPLICATION TO ITALY)	155
• GRATY FOUNDATION – GAME-BASED LEARNING FOR SOCIAL INCLUSION (POLAND)	156
• OPTEA FOUNDATION – DIGITAL COMPETENCE FOR DISABLED JOBSEEKERS (POLAND)	157
• FARI – AI FOR THE COMMON GOOD (BELGIUM)	158

- **DIGISEII – DIGITAL TRANSITION SUPPORT FOR SOCIAL ENTERPRISES (BELGIUM & EU)**.....159
 - Comparative Analysis of the Case Studies**.....160
 - SPRAWNIWPRACY.PL – AN ONLINE PLATFORM SUPPORTING THE PROFESSIONAL ACTIVATION OF PEOPLE WITH DISABILITIES163
 - GRATY FOUNDATION - GAME-BASED LEARNING.....172
 - CAMPUS OF SAVONA "LIVING LAB SMART CITY"179
 - TEACH-BEASTS – TEACHING TO BE AWARE STUDENTS.....185
 - EDUCATIONAL PLATFORM KALOMATHE192
 - TRAINING AND LIFELONG CENTRE OF THE UNIVERSITY OF THE AEGEAN198
 - FARI - AI FOR THE COMMON GOOD.....206
 - DigiSEII.....215
 - Endnotes224

PART I

INTRODUCTION

A priori, the importance of this study stems from a critical challenge faced by SE education today: the persistent digital divide. Despite widespread digital advancement, higher education institutions¹² (HEIs) focused *ad litteram* on SE curricula often fail to effectively incorporate essential digital competencies. It is of the utmost importance to note the fact that based on the project's narrative and application form¹³ on p.47, the WP's main goal is to develop *a comprehensive Study on Digital Value Creation Labs for familiarizing SE faculties and educators with enablers and challenges of SE digital transition.*

According to the "Study on benchmarking the socio-economic performance of the EU social economy" at least 11.5 million people – 6.3% of the employed population – are occupied in the social economy. Across the 27 Member States, the social economy includes more than 4.3 million entities. It is also estimated that there are more than 246 000 social enterprises. The report underlines also that there are social economy organizations in all EU countries, though some operate outside the radar. What changes across EU Member States is how much such entities are acknowledged by policymakers, the general public and grassroots organizations - and recognize themselves - as part of the social economy. Currently, only a few Member States have national statistics specifically measuring the social economy, including different types of social economy organizations, employment, the number of volunteers and the value added¹⁴.

The *ad hoc* mismatch between academic offerings and the practical digital skills demanded by the evolving economic landscape remains evident. Central to this challenge is the notable lack of practical, stakeholder-engaged, and project-based

¹² Bendik **Bygstad**, Egil **Øvrelid**, Sten **Ludvigsen**, Morten **Dæhlen**, From dual digitalization to digital learning space: Exploring the digital transformation of higher education, *Computers & Education*, Volume 182, 2022, 104463, ISSN 0360-1315, <https://doi.org/10.1016/j.compedu.2022.104463>.
<https://www.sciencedirect.com/science/article/pii/S0360131522000343>).

¹³ This deliverable has been developed and disseminated within the framework of the **Erasmus+ Programme** of the European Union. As such, its authors were required to submit a comprehensive project proposal detailing the initiative's objectives, activities, and expected outcomes. Please note that the full proposal text is not publicly accessible.

¹⁴ **European Commission**, "Study on benchmarking the socio-economic performance of the EU social economy", European Innovation Council and SMEs Executive Agency, 19 September 2024, https://eisma.ec.europa.eu/news/study-benchmarking-socio-economic-performance-eu-social-economy-now-published-2024-09-19_en.

learning environments, such as Digital Value Creation¹⁵ Labs (DVCLabs). HEIs, positioned uniquely at the intersection of academia and real-world application, bear the responsibility of bridging this critical gap, equipping future social entrepreneurs to effectively participate in the digital economy.

Given the transformative ambitions outlined above, it is essential to clearly identify those who stand to benefit from and actively contribute to this educational innovation. The following section explicitly details the target groups and stakeholders who are pivotal in implementing and advancing the integration of DVCLabs. Understanding these audiences will ensure that the recommendations and strategies presented are directly aligned with the needs, expectations, and capabilities of those most integral to achieving meaningful digital transformation in SE education.

In concreto, the following graph showcases the major target groups and/or stakeholders:



The present study addresses a wide spectrum of actors who are positioned to benefit from its insights, frameworks, and proposed transformations in Social Economy education. Educators from SE-related faculties stand to gain structured

¹⁵ **Gouveia, S., de la Iglesia, D.H., Abrantes, J.L., Rivero, A.J.L.** (2024). Value Creation and Strategic Management in the Era of Digital Transformation: A Bibliometric Analysis and Systematic Literature Review. In: de la **Iglesia, D.H., de Paz Santana, J.F., López Rivero, A.J.** (eds) *New Trends in Disruptive Technologies, Tech Ethics, and Artificial Intelligence*. DiTTEt 2024. *Advances in Intelligent Systems and Computing*, vol 1459. Springer, Cham. https://doi.org/10.1007/978-3-031-66635-3_15. & Woroch, Robert & Strobel, Gero. (2021). UNDERSTANDING VALUE CREATION IN DIGITAL COMPANIES - A TAXONOMY OF IOT-ENABLED BUSINESS MODELS.

guidance on how to update their teaching methodologies to better reflect the demands of a digitally evolving economy¹⁶.

Ex officio, for university professors, researchers, and administrative staff working in SE, economics, business, and digitalization, the study offers a strategic lens to rethink curricular design, interdisciplinary collaboration, and stakeholder integration—contributing to both pedagogical renewal and institutional relevance. Undergraduate and postgraduate students within SE programmes are indirectly supported by the study’s call for more participatory, applied, and digitally enriched learning environments, which can enhance their readiness for emerging career paths in social innovation and ethical entrepreneurship.

The broader public interested in SE and digital innovation benefits from the



Figure 1: Stakeholders/Target-Groups Map

study's emphasis on open access, social inclusion, and the democratization of digital education, aligning with civil society's interest in accessible knowledge and community-driven solutions. Policymakers in economic sectors, higher education governance, and national education authorities may use the study's conclusions to inform strategic reforms, funding allocations, and

national frameworks for digital transition in education. Similarly, adult educators and Vocational Education and Training (VET) providers are offered a reference point for adapting competence-based, socially meaningful digital education into lifelong learning programmes¹⁷. Finally, SE professionals—including social

¹⁶ Degen, K., Lutzens, R., Beschorner, P. et al. Public education data at the crossroads of public and private value creation: Orchestration tensions and stakeholder visions in Germany's emerging national digital education ecosystem. *Electron Markets* 35, 19 (2025). <https://doi.org/10.1007/s12525-024-00752-w>.

¹⁷ Britain, S. and Liber, O. (2004) A Framework for the Pedagogical Evaluation of Virtual Learning Environments, JISC-commissioned report. Available online: http://www.jisc.ac.uk/uploaded_documents/jtap-041.doc.

entrepreneurs¹⁸, representatives from cooperatives, associations, SEEs, and Tech4Good ventures—can draw from the study’s analysis to identify collaborative opportunities with academia, co-develop relevant skill-building pathways, and better understand how educational institutions can support innovation in their field. Collectively, these target groups represent an interconnected system of change agents whose shared participation is critical to realizing the inclusive, future-oriented vision this study promotes.

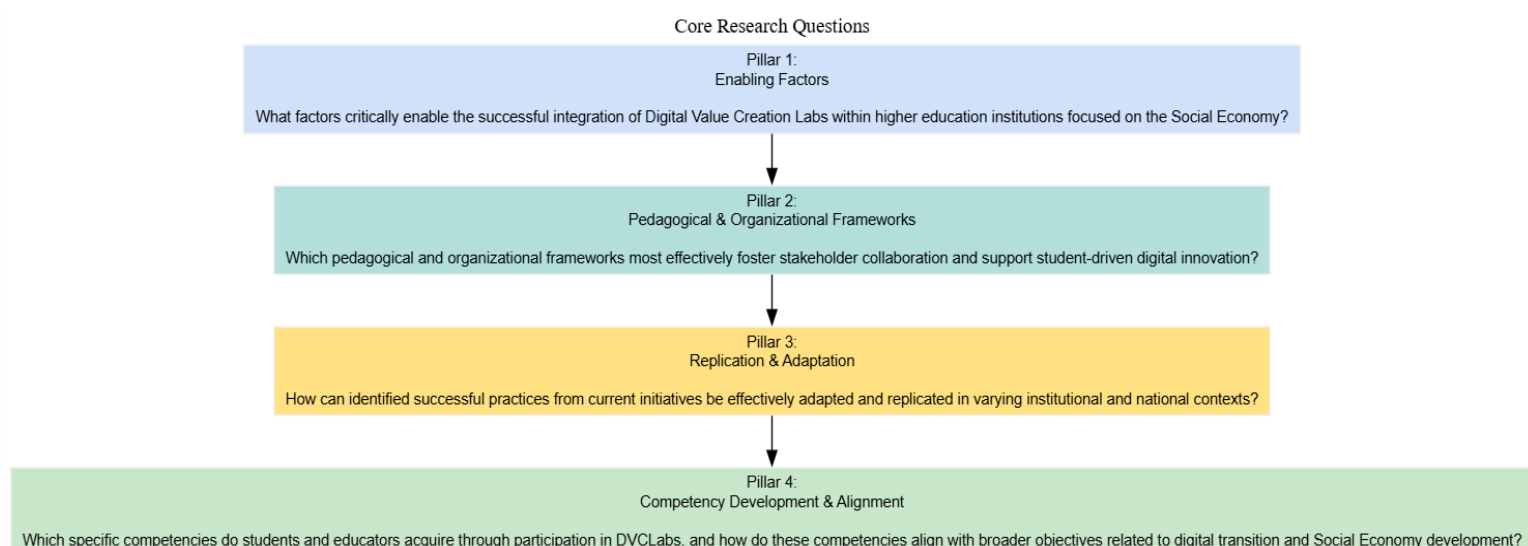


Figure 2: Major Research Questions

To illustrate the conceptual architecture of this inquiry, the core research questions are presented visually as a sequential pillar structure—each representing a foundation of the study’s analytical progression.

¹⁸ Loukopoulos, A., Taylor, M., Sotiropoulou, A., Hvalic Erzetic, B., Mikolič, S., Slavič, I. P., & Manti, A. (2022). *Social entrepreneurship education enhancement through innovative training pedagogies across Europe*. *Irish Journal of Management*, 41(2), 135–154.

PART A

GLOSSARY

• Ad hoc	For this specific purpose; created for a particular situation.
• Ad litteram	Literally.
• A priori	From the former; based on theoretical deduction rather than experience.
• À propos	Appropriate; relevant; by the way.
• Consensus	General Agreement.
• Corpus	Body (as in a body of work, or collection).
• De facto	In fact; in practice (even if not formally recognized).
• De jure	By law; legally recognized.
• Ergo	Therefore.
• Ex ante	Before the event; based on forecasts or predictions.
• Ex hypothesi	Based on the hypothesis; from the assumption.
• Ex officio	By virtue of one's office or official position.
• Ex post	After the event; based on actual results.
• Ex post facto	After the fact; Retroactively.
• In abstracto	In the abstract; in theory.
• In concreto	In the concrete; in practice.
• Ipsa facto	By the fact itself; as a direct consequence.
• Lato sensu	In the broad sense.
• Modus operandi	Way of operating; method of working.
• Mutatis mutandis	With necessary changes having been made.
• Status quo	The existing state of affairs.
• Stricto sensu	In the strict sense.

Table 1: Latin Phrases, used in the text.

<p>➤ Digital Value Creation</p>	<p>Digital Value Creation refers to the process of using digital technologies—such as data platforms, software tools, or online services¹⁹—to generate meaningful outcomes that serve economic, social, or environmental goals. In the context of education and the social economy, it involves equipping individuals with the ability to design, implement, and evaluate digital solutions²⁰ that create public or social value, not just profit.</p> <p>All in all, it is the process of leveraging digital technologies and strategies to enhance the value delivered to stakeholders. In essence, <i>“digital value creation” involves using digital tools and capabilities to optimize processes, improve efficiency, create innovative products or services, and ultimately generate more value for customers and the business²¹”</i>.</p> <p>This concept extends beyond private-sector competitiveness; in social enterprises and nonprofits, digital value creation also means amplifying social impact and public value. For example, employing data platforms or mobile apps can help a social enterprise co-create</p>
--	---

¹⁹ Christoph **Buck**, Laura **Heim**, Katrin **Körner-Wyrтки**, Anna **Krombacher**, Maximilian **Röglinger**, Making the most of digital social innovation: An exploration into success factors, *Journal of Business Research*, Volume 190, 2025, 115215, ISSN 0148-2963, <https://doi.org/10.1016/j.jbusres.2025.115215>.

(<https://www.sciencedirect.com/science/article/pii/S0148296325000384>)

²⁰ Thomas **Trabert**, Sebastian **Beiner**, Claudia **Lehmann**, Steffen Kinkel, Digital Value Creation in sociotechnical Systems: Identification of challenges and recommendations for human work in manufacturing SMEs, *Procedia Computer Science*, Volume 200, 2022, Pages 471-481, ISSN 1877-0509, <https://doi.org/10.1016/j.procs.2022.01.245>.

(<https://www.sciencedirect.com/science/article/pii/S187705092200254X>)

²¹ **Trabert**, Thomas & **Beiner**, Sebastian & **Lehmann**, Claudia & **Kinkel**, Steffen. (2022). Digital Value Creation in sociotechnical Systems. *Procedia Computer Science*. 200. 471-481. 10.1016/j.procs.2022.01.245.

	value with marginalized communities, scaling up outreach and engagement.
➤ Digital Value Creation Labs	Digital Value Creation Labs are structured, collaborative learning environments—often embedded within higher education institutions—where students, educators, and external stakeholders co-create digital solutions to real-world challenges. DVCLabs combine interdisciplinary learning, stakeholder engagement, and hands-on project work, enabling learners to acquire digital competencies while addressing issues relevant to the Social Economy. They serve as incubators of participatory innovation, where educational content is directly linked to digital civic action and entrepreneurial experimentation.
➤ Living Labs²²	Living Labs are open, user-centered innovation ecosystems that involve the co-creation, testing, and validation of new services, technologies, or models in real-life settings. They engage a variety of actors—citizens, businesses, public institutions, and academia—in a collaborative process of design and experimentation ²³ . In educational contexts, Living Labs are pedagogical frameworks that enable students to learn through direct involvement with community stakeholders and real-world problems, blurring the boundary between classroom

²² Elie **Abi Saad**, Marine **Agogué**, Living Labs in science-industry collaborations: Roles, design, and application patterns, *Technovation*, Volume 135, 2024, 103066, ISSN 0166-4972, <https://doi.org/10.1016/j.technovation.2024.103066>.

(<https://www.sciencedirect.com/science/article/pii/S0166497224001160>)

²³ Mokter **Hossain**, Seppo **Leminen**, Mika **Westerlund**, A systematic review of living lab literature, *Journal of Cleaner Production*, Volume 213, 2019, Pages 976-988, ISSN 0959-6526, <https://doi.org/10.1016/j.jclepro.2018.12.257>.

(<https://www.sciencedirect.com/science/article/pii/S0959652618339830>)

	<p>and society. In practical terms, a Living Lab is often described as a physical or virtual space where public-private-people partnerships (the “4Ps”) come together to co-create, prototype, validate, and test new technologies, services, products, or systems in real-life contexts²⁴.</p>
<p>➤ Tech4Good Ecosystem</p>	<p>The Tech4Good ecosystem comprises individuals, organizations, platforms, and initiatives that use technology to achieve positive social and environmental outcomes. This includes civic tech collectives, digital cooperatives, impact-driven startups, NGOs, ethical developers, and social enterprises committed to open-source, inclusive, and responsible technological development. In the DigiSE5.0 context, these actors are essential partners in bringing practical relevance and ethical grounding to student-led digital innovation²⁵.</p>
<p>➤ Digital Social Innovation</p>	<p>Digital Social Innovation is the process of designing and deploying digital tools or platforms to address societal challenges—such as inequality, climate change, or democratic participation—through collaborative and often decentralized approaches²⁶. DSI is grounded in principles of openness, inclusivity, and empowerment,</p>

²⁴ **Westerlund**, M., Leminen, S., & **Habib**, C. (2018). Key constructs and a definition of living labs as innovation platforms. *Technology Innovation Management Review*, 8(12), 51–62. <https://doi.org/10.22215/timreview/1205>.

²⁵ **Tech for good**: What it means and how we can deliver on it, Mar 21, 2023, <https://www.weforum.org/stories/2023/03/tech-for-good-what-does-it-mean-and-how-can-we-deliver-on-it/>.

²⁶ Esin **Mukul**, Gülçin **Büyükoçkan**, Digital transformation in education: A systematic review of education 4.0, *Technological Forecasting and Social Change*, Volume 194, 2023, 122664, ISSN 0040-1625, <https://doi.org/10.1016/j.techfore.2023.122664>. (<https://www.sciencedirect.com/science/article/pii/S0040162523003499>)

	emphasizing the use of technology <i>with</i> and <i>by</i> communities, rather than <i>for</i> them. It represents an emerging field where social impact and digital transformation intersect, supported by networks of public, academic, and grassroots actors.
--	---

Table 2: Major Definitions

Social Economy is commonly presented through the established literature as a continuous endeavour and an evolving landscape, in which organizations strive to fulfill social missions in economically sustainable [ways](#).

Digital transformation has become a catalyst in this realm, giving rise to the notion of **digital value creation** – the process of leveraging digital technologies and strategies to enhance the value delivered to stakeholders. In [essence](#), “digital value creation” involves using digital tools and capabilities to optimize processes, improve efficiency, create innovative products or services, and ultimately generate more value for customers and the business²⁷. This concept extends beyond private-sector competitiveness; in social enterprises and nonprofits, digital value creation also means amplifying social impact and public value. For example, employing data platforms or mobile apps can help a social enterprise co-create value with marginalized communities, scaling up outreach and engagement.

Such **digital social innovation** – defined as the use of digital technologies to develop novel solutions (products, services, processes) for addressing societal needs – merges technological innovation with social value creation. Recent research emphasizes that successful digital social innovations require not just technology, but also supportive cultural, organizational, and ecosystem factors²⁸. In fact, a systematic study by Buck et al. identified a broad set of success factors for digital social innovation initiatives, underlining the interdisciplinary and collaborative effort needed to “make the most” of digital innovation for social good²⁹.

²⁷ **Trabert**, Thomas & **Beiner**, Sebastian & **Lehmann**, Claudia & **Kinkel**, Steffen. (2022). Digital Value Creation in sociotechnical Systems. *Procedia Computer Science*. 200. 471-481. [10.1016/j.procs.2022.01.245](https://doi.org/10.1016/j.procs.2022.01.245).

²⁸ **Gouveia S, de la Iglesia DH, Abrantes JL, López Rivero AJ**. Transforming Strategy and Value Creation Through Digitalization? *Administrative Sciences*. 2024; 14(11):307. <https://doi.org/10.3390/admsci14110307>

²⁹ Christoph **Buck** et al. (2025). Making the most of digital social innovation: An exploration into success factors. *Journal of Business Research*, 190, 115215. DOI: 10.1016/j.jbusres.2025.115215, <https://ideas.repec.org/a/eee/jbrese/v190y2025ics0148296325000384.html>.

Parallel to digitalization, **Living Labs (LLs)** have emerged as a prominent approach to collaborative innovation, offering a framework well-suited for the social economy. LLs are broadly defined as *user-centered, open-innovation ecosystems that operate in real-life environments*. In practical terms, a Living Lab is often described as a **physical or virtual space where public-private-people partnerships (the “4Ps”) come together to co-create, prototype, validate, and test new technologies, services, products, or systems in real-life contexts**³⁰.

These multi-stakeholder [networks](#) include firms, public agencies, universities, civil society organizations, and end users, all collaborating as co-innovators. Such inclusive, *in vivo* experimentation environments are distinctly characterized by the active role of users and communities in the innovation process. Indeed, as Hossain et al. note, Living Labs epitomize the quadruple-helix model of innovation, emphasizing cross-sector partnerships and user involvement as key drivers³¹. This participatory ethos aligns closely with social economy values, where co-operation and community engagement are paramount. Notably, in the European context, Living Labs are seen as instruments to **increase citizen participation and social cohesion**, mobilizing diverse stakeholders to tackle societal challenges collectively. They have been applied across domains – from urban sustainability to healthcare and education – to develop solutions that address public needs while grounding innovation in local contexts and user experiences.

Bringing these concepts together, **digital value creation and Living Labs are complementary facets of social innovation in the digital age**. On one hand, digital technologies provide new avenues for social economy organizations to create and capture value – not only economic value, but also social and environmental value. On the other hand, Living Labs provide the methodological and organizational framework to realize this potential through co-creation and experimentation with the community. A social enterprise, for instance, might use a Living Lab approach to develop a digital platform in collaboration with its beneficiaries, ensuring the solution is human-centered and truly beneficial. This

³⁰ **Westerlund, M., Leminen, S., & Habib, C.** (2018). Key constructs and a definition of living labs as innovation platforms. *Technology Innovation Management Review*, 8(12), 51–62.

<https://doi.org/10.22215/timreview/1205>

³¹ Mokter **Hossain**, Seppo **Leminen**, Mika **Westerlund**, A systematic review of living lab literature, *Journal of Cleaner Production*, Volume 213, 2019, Pages 976-988, ISSN 0959-6526, <https://doi.org/10.1016/j.jclepro.2018.12.257>.

(<https://www.sciencedirect.com/science/article/pii/S0959652618339830>)

integrative approach helps bridge the gap between technological possibilities and societal needs. Early evidence from research indicates that when social innovators engage users via living-lab style experimentation, they can refine digital solutions for greater local relevance and empowerment. In manufacturing and other industries, studies have similarly found that human-centric design and worker participation (principles akin to Living Labs) are key to overcoming challenges in digital value creation.

Thus, for the social economy, **digital value creation** and **Living Labs** together offer a path to sustainable innovation: digital tools enable scale and efficiency in creating social value, while living lab processes ensure that innovation remains user-driven, inclusive, and grounded in real-world impact. The following chapters will delve deeper into these concepts, exploring theoretical underpinnings and practical applications that illustrate how social economy actors can harness digital innovation and living-lab methodologies to amplify their mission-driven impact.

THEORETICAL AND PEDAGOGICAL FRAMEWORKS³²

➤ Social Constructivism: Core Concepts and Key Theorists

Social constructivism is a theoretical perspective on learning that emphasizes the *lato sensu* role of social and cultural context in the construction of knowledge. In contrast to traditional views of learning as passive absorption, constructivism posits that learners actively build their own understanding by connecting new information to prior knowledge and experience. Social constructivism, in particular, highlights that this knowledge construction is fundamentally shaped by interactions with others and the surrounding culture. Learning is viewed as an active process of meaning-making in which individuals reflect on experience and engage in dialogue, rather than merely receiving transmitted facts.

This literature review defines the concept of social constructivism and discusses key theorists who have shaped it – notably Lev Vygotsky³³ and Jean Piaget – as well as others. Furthermore, it examines how social constructivist theory is linked to experiential learning, a framework that centers on learning through concrete

³² For more information please consult: **CEDEFOP**. National Qualifications Framework Developments in Europe, 2017.

³³ **Storm**, A. (2024, September 16). Social Constructivist Theory: Understanding Vygotsky's Social Constructivism in Education. *Thinkific Blog*. Retrieved from <https://www.thinkific.com/blog/social-constructivist-theory/>, Social Constructivism: Vygotsky's Theory, <https://edpsych.pressbooks.sunycreate.cloud/chapter/social-constructivism-vygotskys-theory/>.

experience and reflection³⁴. The hereunto review highlights the epistemological foundations of these ideas, the cognitive processes involved, and the pedagogical implications of integrating social constructivist and experiential learning approaches in educational contexts.

Social constructivism evolved out of the broader constructivist paradigm in psychology and education. **Constructivist theory** in general holds that learners do not passively absorb knowledge; instead, they actively construct it by integrating new information with their existing cognitive structures (schema) through experience. Knowledge, from a constructivist viewpoint, is not an objective commodity delivered by a teacher, but a personal and interpretative creation of the learner. Importantly, learning is **situated** – it occurs in a context and is influenced by the learner’s prior understanding and the environment. Social constructivism extends this idea by asserting that *social interaction* and *cultural tools* (e.g. language) are central to how knowledge is constructed. In other words, learning is not only an active, personal process, but also a **collaborative** and **culturally mediated** activity. As Simina³⁵ (2012) succinctly defines, social constructivism focuses on “the social and cultural context which shapes the construction of knowledge,” grounded in the assumption that learning is active and based on experience and reflection.



Figure 3: Lev Vygotsky

Lev Vygotsky (1896–1934) is widely regarded as the seminal figure in social constructivist theory. A Soviet psychologist, Vygotsky argued that individual cognition is intrinsically linked to social context. He observed that every higher-order cognitive function appears twice in a child’s development: first interpersonally (between people) and then intrapersonally (within the individual). In Vygotsky’s view, cognitive development is scaffolded by social interactions – knowledge is first co-constructed through dialogue or joint activity with more experienced others, and later internalized by the individual. He famously stated that “*learning is a necessary and universal aspect*

³⁴ **Bednar, A. K., Cunningham, D., Duffy, T. M., & Perry, J. D.** (1992). Theory and practice: How do we link? In T. M. **Duffy** & D. H. **Jonassen** (Eds.), *Constructivism and the technology of instruction: A conversation* (pp. 17–34). Hillsdale, NJ: Lawrence Erlbaum, <https://www.taylorfrancis.com/chapters/edit/10.4324/9780203461976-4/theory-practice-anne-bednar-donald-cunningham-thomas-duffy-david-perry>.

³⁵ **Simina, V. K.** (2012). Socio-Constructivist Models of Learning. In N. M. Seel (Ed.), *Encyclopedia of the Sciences of Learning* (pp. 3128–3131). Springer, Boston, MA, https://www.researchgate.net/publication/302385670_Socio-Constructivist_Models_of_Learning.

of the process of developing culturally organized, specifically human psychological functions” (Vygotsky, 1978, p. 90). One of Vygotsky’s³⁶ key contributions is the concept of the **Zone of Proximal Development (ZPD)** – the gap between what a learner can do alone versus what they can achieve with guidance or in collaboration with peers. According to Vygotsky, “the level of potential development (the ZPD) is the level at which learning takes place...it comprises cognitive structures that are still maturing, but which can only mature under the guidance of or in collaboration with others”. This idea encapsulates social constructivism: learning is a **collaborative process** that unlocks new cognitive capabilities. Moreover, Vygotsky underscored the role of language and culture as the frameworks through which humans interpret their world; thus, knowledge is **co-constructed** via shared language and cultural meanings. In short, Vygotsky’s social constructivism contends that knowledge is not simply constructed *within* the individual, but *between* individuals in social settings.



Figure 4: Jean Piaget

Jean Piaget (1896–1980), though not a “social” constructivist, is another foundational theorist in constructivism. Piaget’s theory of cognitive development is often termed **cognitive constructivism**. He proposed that children progress through stages of cognitive development by actively exploring and manipulating their environment, thereby constructing new knowledge through the dual processes of **assimilation** (fitting new information into existing schemas) and **accommodation** (adjusting schemas when new information cannot fit). Piaget saw learning as driven by the learner’s internal cognitive processes; he emphasized how learners make sense of experiences based on their current developmental stage and prior knowledge. While Piaget acknowledged that interaction with the environment (objects, events) is crucial for learning, he gave less emphasis to social interaction as a factor in cognitive change. In fact, Vygotsky’s work directly responded to Piaget by rejecting the notion that learning could be divorced from its social context. Vygotsky accepted Piaget’s insight that learners construct understanding actively, but critiqued Piaget (and other cognitivists like Perry) for “overlook[ing] the essentially social nature” of human learning. Thus, **Piaget and Vygotsky** together provide a complementary picture: Piaget highlights how individuals construct knowledge through interacting with

³⁶ **Vygotsky**, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press. (Original work published 1930s), <https://www.jstor.org/stable/j.ctvjf9vz4>.

the world (a largely individual cognitive process), whereas Vygotsky highlights how this construction is profoundly shaped and amplified through social interaction and cultural mediation.

Beyond Vygotsky and Piaget, other theorists have contributed perspectives to constructivism. For example, **Jerome Bruner** built upon Vygotskian ideas to introduce the notion of **scaffolding** – the tailored support that teachers or peers provide to help a learner progress within their ZPD. **John Dewey (1859–1952)**, though earlier than the formal constructivist school, advocated an educational philosophy that closely aligns: Dewey emphasized learning through experience, inquiry, and reflection in a social democracy, presaging many constructivist principles. Indeed, Dewey’s work on experiential education in the early 20th century is often seen as laying groundwork for constructivist and experiential learning theories (Dewey, 1938)³⁷.

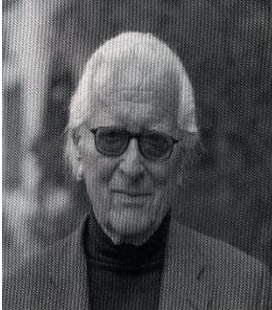


Figure 5: Jerome Bruner



Figure 6: Ernst von Glasersfeld

theorists like **Ernst von Glasersfeld** developed **radical constructivism**, which argues that knowledge is entirely the construction of the individual mind with *no objective reality* that can be known – instead, reality is understood as subjectively perceived and continuously reinvented by the learner. While radical constructivism is an extreme epistemological stance, its core idea (that all knowledge is filtered through personal experience and thus “constructed”) is consistent with the broader constructivist claim. In summary, social constructivism and its related constructivist theories share several **core principles**:

- **Active Construction of Knowledge:** Learners actively construct new knowledge by building on their prior knowledge, beliefs, and experiences, rather than simply absorbing information. Learning is *not* a passive reception of facts; it involves the learner’s mental engagement and sense-making.
- **Social Interaction and Collaboration:** Learning is fundamentally a *social* activity. Interacting with teachers, peers, and other members of a community enables learners to test their ideas, hear alternative perspectives, and co-create understanding. Knowledge thus emerges

³⁷ Dewey, J. (1938). *Experience and Education*. New York: Collier Books, <https://www.schoolofeducators.com/wp-content/uploads/2011/12/EXPERIENCE-EDUCATION-JOHN-DEWEY.pdf>.

through collaboration and dialogue – in Vygotsky’s terms, it is *co-constructed* through shared activities and language.

- **Situated and Culturally Mediated Learning:** All learning is situated in a cultural context and facilitated by language and tools. Vygotsky showed that language and culture shape how we think and what we know; they “impos[e] culturally defined sense and meaning on the world”. Thus, what a person learns and how they interpret it are influenced by their social environment and cultural background.
- **Learner-Centered and Developmentally Oriented:** Constructivism places the learner (and their developmental stage or prior knowledge) at the center of the learning process. New information is interpreted relative to what the learner already knows. Because each individual’s experiences differ, the knowledge each constructs is unique to them. This learner-centered approach aligns instruction to the learner’s current abilities and readiness (as reflected in concepts like ZPD).
- **Learning as an Active, Ongoing Process:** Constructivist theory asserts that learning involves active inquiry, exploration, and reflection. It is not a one-time transfer of information but a continuous process of *meaning-making*. Learners benefit from engaging multiple senses and participating in authentic tasks; they learn best by **doing** and then thinking about what they have done. This active engagement leads to deeper understanding and retention, as opposed to rote memorization.

➤ **Experiential Learning Theory**

Experiential learning is a -à propos- paradigm of learning and teaching that foregrounds *experience* and *reflection* as the primary sources of knowledge and skill acquisition. In experiential learning, learners learn by *doing* – by directly experiencing an activity or phenomenon – and then reflecting on those experiences to draw lessons, form new concepts, and apply the insights to future situations.



Figure 7: David A. Kolb

This approach is famously captured by **David A. Kolb’s**³⁸ experiential learning cycle, which describes learning as a cyclic process involving **Concrete Experience, Reflective Observation, Abstract Conceptualization,** and **Active**

³⁸ **Kolb, D. A.** (1984). *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs, NJ: Prentice Hall, https://www.researchgate.net/publication/235701029_Experiential_Learning_Experience_As_The_Source_Of_Learning_And_Development.

Experimentation. Kolb (1984) defined experiential learning as “*the process whereby knowledge is created through the transformation of experience*”. In other words, experience alone does not automatically equal learning; rather, it is the *reflection and abstraction* from experience – and the testing of those abstractions in new experiences – that lead to genuine knowledge creation. Kolb’s model was influenced by earlier thinkers like John Dewey, Kurt Lewin, and Jean Piaget, and it helped to formalize how engaging with real-world tasks could promote learning in educational settings (Kolb, 1984).

According to Kolb’s experiential learning theory, several assumptions underlie the learning process: (1) *Learning is a process, not an outcome* – knowledge is continually derived and reformed through experience. (2) *Learning is driven by experience* – encountering and actively engaging with concrete situations is the

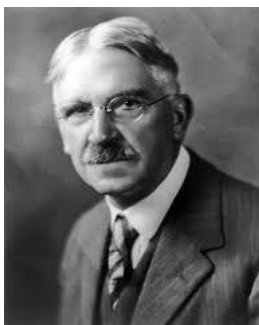


Figure 8: John Dewey

fuel for learning. (3) *Learning requires resolving dialectic tensions* – for example, balancing action and reflection, or feeling and thinking, as one moves through the stages of the cycle. (Kolb describes learning as a holistic process that integrates these dualities.) (4) *Learning is holistic and integrative* – it involves the whole person, including their thoughts, feelings, and actions, in a unified process. (5) *Learning requires interaction with the*

environment – the learner must engage with their surroundings and context, not just with abstract ideas in isolation. (6) *Learning creates knowledge* – rather than merely recalling facts, the learner’s active processing of experience leads to new knowledge and skills. These assumptions echo constructivist ideas: notably, the emphasis on active engagement, the role of prior knowledge (each new experience is interpreted in light of past experiences), and the notion that learning is an adaptive process of making sense of the world.

The roots of experiential learning theory can be traced to **John Dewey’s** principle of “learning by doing (Ed. the officially unofficial approach of the EU³⁹)” Dewey (1938) argued that education should ground abstract knowledge in genuine experiences, enabling learners to connect theory with practice. He believed reflection on experience was crucial for transforming mere activity into meaningful learning. Similarly, **Jean Piaget’s** work (e.g., *The Origins of Intelligence in Children*, 1936) suggested that children learn by interacting with their

³⁹ For more information on the terminology “learning by doing”, please visit: <https://www.cedefop.europa.eu/en/tools/vet-glossary/glossary/praxislernen>.

environment – testing hypotheses in action and then accommodating their mental models accordingly. Piaget’s influence is explicitly acknowledged by Kolb; in fact, Piaget’s idea that intellectual growth involves a continual interplay between assimilation of new information and accommodation of mental structures is mirrored in Kolb’s cycle (e.g., moving from concrete experience to abstract conceptualization involves interpreting the experience and possibly changing one’s understanding). **Lev Vygotsky’s** socio-cultural theory also intersects with experiential learning: while Vygotsky himself did not develop a formal “experiential learning” model, his emphasis on social context implies that experiences gain meaning through guidance and collaboration. For instance, an apprenticeship or group project can be seen as an experiential learning situation where novices learn through shared activity with experts/peers, consistent with Vygotsky’s ZPD concept.

It is therefore not surprising that constructivist scholars have drawn close connections between experiential learning and social constructivism. Mughal⁴⁰ and Zafar (2011) note that the works of Dewey, Piaget, and Kolb **“have greatly contributed to the constructivist view of experiential learning.”** These authors explain that the constructivist school of thought sees learning through experience as a process in which individuals *gain and construct knowledge by interacting with their environment through a set of perceived experiences*. In this view, learners are considered the *constructors of their own knowledge*, which they continuously generate via their interactions with the social and physical world and by reflecting on those experiences. Notably, Mughal and Zafar (2011) also critique Kolb’s model for being overly individualistic – focusing on the learner’s personal reflection on past experience – and lacking explicit attention to the social **cognition** that can occur during experiential learning. Constructivists like Vygotsky would argue that experiences are often richest when they involve social mediation, such as conversation, collaboration, or mentorship during and after the experience. This critique paves the way to our next section: understanding how social constructivism and experiential learning complement each other, and what this means for knowledge (epistemology), for how learning happens in the mind (cognitive processes), and for teaching practice (pedagogy).

⁴⁰ **Mughal, F., & Zafar, A.** (2011). Experiential Learning from a Constructivist Perspective: Reconceptualizing the Kolbian Cycle. *International Journal of Learning and Development*, 1(2), 27–37. DOI: 10.5296/ijld.v1i2.1179, <https://eprints.lancs.ac.uk/id/eprint/62024/1/952.pdf>.

➤ Integrating Social Constructivism and Experiential Learning

Epistemological Foundations: Both social constructivism and experiential learning rest on an epistemology that contrasts with strict objectivism. Rather than viewing knowledge as a fixed entity that exists independent of the learner, these frameworks see knowledge as *constructed* through human activity and interpretation. In social constructivism, reality and truth are understood as *socially negotiated* and context-dependent. What we come to “know” is shaped by our cultural context, language, and interactions. As the social constructivist view holds, “*our reality is subjective and socially constructed*”. Knowledge, therefore, is not absolute; it is provisional and co-created by communities of learners and practitioners. Experiential learning similarly posits that knowledge emerges from an individual’s engagement with the world. David Kolb’s definition explicitly frames knowledge creation as a transformative *process* tied to experience. This implies a shift from a **positivist** epistemology (where knowledge is discovered and transmitted) to a **constructivist** epistemology (where knowledge is invented or built by the learner). In practical terms, a student learning science in a constructivist, experiential classroom is not thought of as absorbing an objective body of facts, but rather as actively constructing scientific understanding by doing experiments, discussing findings with peers, and situating new concepts within their existing knowledge framework.

It is important to note that while **cognitive constructivism** (à la Piaget) emphasizes the personal construction of knowledge, **social constructivism** stresses that even this personal knowledge is socially and culturally mediated. Vygotsky argued that human cognitive structures are essentially *social* in nature – language and social interaction fundamentally shape how and what we know. Thus, epistemologically, social constructivism suggests that what we take as “knowledge” is really a product of communities: through dialogue, debate, and shared activities, people agree (at least temporarily) on meanings and valid ideas. Experiential learning contributes a complementary insight: knowledge is *embodied* and *experience-based*. Knowing *how* to do something (e.g. ride a bicycle, solve a real problem, conduct a lab procedure) is acquired by active practice and cannot be fully captured in abstract description. In summary, both frameworks reject the notion of knowledge as a **neutral commodity** delivered from teacher to student; instead, knowledge is **constructed by learners**. Social constructivism highlights the collective, cultural process of construction (knowledge as a *social artifact*), while experiential learning highlights the personal, concrete process of construction (knowledge as *personal discovery from experience*). Together, they

provide a robust epistemological justification for active, student-centered, and context-rich learning approaches.

Cognitive Processes in Learning: Integrating social constructivist and experiential perspectives yields a rich picture of how learning occurs in the mind. From a constructivist standpoint, learning involves processes like **schema formation and adaptation** (in Piaget’s terms) and **internalization** of external activities (in Vygotsky’s terms). When learners encounter new experiences (through experiments, projects, or other hands-on activities), they engage in cognitive processing to make sense of these events⁴¹. For example, a student in a science class might conduct a hands-on experiment (Concrete Experience) and then think about the results (Reflective Observation), comparing the outcome to prior expectations. This reflective process often involves what Piaget called *equilibration*: the learner might experience a cognitive conflict if results don’t match their preconceived notions, prompting them to adjust their mental model (a process akin to accommodation). In a social context, this cognitive adjustment is further enriched by discourse: talking through one’s observations with peers or instructors can introduce new viewpoints that challenge or refine the learner’s understanding. Vygotsky’s theory provides insight here with the mechanism of **social mediation**: through collaborative discussion, questioning, and explanation, learners extend their cognitive abilities. As the GSI Teaching Center summarizes Vygotsky’s view, “*learning is a collaborative process*” that involves guided interaction, and functions that first appear socially can be internalized by the individual.

A concrete example of cognitive processes at work is the **Zone of Proximal Development** in action. Imagine a student struggling to solve a complex math problem (beyond their current ability). Through an experiential learning activity like a group problem-solving session, the student can collaborate with peers or receive hints from a teacher. In the process, they participate in solving the problem and *experience* a successful strategy. The social constructivist interpretation is that the student, within this supported interaction, can perform at a higher cognitive level than alone; they co-construct the solution with others. Cognitively, the student is exposed to new methods of reasoning or problem-solving (perhaps hearing a peer explain their thought process). This external

⁴¹ **Piaget, J.** (1966). *The Psychology of Intelligence*. Totowa, NJ: Littlefield, Adams. (Original work published 1947), <https://www.taylorfrancis.com/books/mono/10.4324/9780203164730/psychology-intelligence-malcolm-piercy-berlyne-jean-piaget>.

support is gradually internalized: the next time, the student may solve a similar problem independently, having appropriated the strategy. Thus, through experience *and* social guidance, the learner's cognitive repertoire grows. Kolb's experiential cycle also emphasizes the role of **reflection** and **abstract conceptualization** – these are cognitive processes where the learner generalizes from experience, forming concepts or principles. Reflection can be done privately, but it is often potentiated by discussion (e.g., a debrief after a simulation, where students articulate what they learned). Language plays a key role in this phase: putting experiences into words helps solidify and organize thoughts. According to social constructivists, language is not just a communication tool but a cognitive tool that structures thinking. Hence, encouraging learners to discuss, write about, or present their experiential learning helps deepen their cognitive processing and integrate the new knowledge. Another cognitive aspect is **metacognition** – learners monitoring and directing their own learning process – which is encouraged in experiential learning through cycles of planning, doing, observing results, and reflecting. In a social context, learners can also learn metacognitive strategies from each other (e.g. one student might demonstrate how they double-check their work or question their assumptions)⁴². In summary, the cognitive processes central to constructivism (like assimilation/accommodation, scaffolding and internalization of skills, reflective abstraction) are inherently supported by experiential learning activities. Providing concrete experiences gives the raw material for cognition, and providing social interaction offers the scaffolding and discourse needed to elevate and consolidate cognitive development.

Pedagogical Implications: Combining social constructivism with experiential learning leads to powerful pedagogical approaches. In educational practice, this integration suggests that teachers should create learning environments where students are **actively engaged**, often collaboratively, in meaningful tasks that relate to real life. Some key pedagogical strategies and implications include:

- **Learner-Centered Instruction:** Educators adopt the role of facilitators or guides rather than mere transmitters of knowledge. They design activities that put learners at the center – for example, open-ended investigations, problem-based learning scenarios, lab experiments, or community projects. The teacher's role is to provide appropriate resources, ask probing questions, and offer scaffolding to support learners within their ZPD. This

⁴² **Beckett, D., & Hager, P.** (2000). Making Judgments as the Basis for Workplace Learning: Towards an Epistemology of Practice", *International Journal of Lifelong Education* 19 (4), p.300-311.

approach aligns with Vygotsky's notion that guidance is critical: a teacher might demonstrate a skill or provide a hint to move the learner along, then step back as competence grows. It also resonates with Dewey's idea that teachers should carefully craft experiences from which students can learn.

- **Collaborative Learning:** Group work and peer learning are emphasized to leverage the social nature of knowledge construction. **Collaborative learning methods** (such as group discussions, team projects, peer review exercises, and cooperative problem-solving) enable students to articulate their ideas, challenge each other's thinking, and build knowledge together. Research on social constructivism indicates that when learners engage in dialogue and peer interaction, they often achieve a deeper understanding than working in isolation. In practice, teachers facilitate this by organizing students into small groups and structuring tasks that require interaction. For instance, a *group investigation* approach might have teams of students research subtopics and teach each other, which both motivates and requires them to internalize the material deeply. The teacher remains actively involved as a moderator – guiding the discussion, ensuring productive collaboration, and connecting student contributions to key concepts (a process sometimes called “orchestration” of discourse).
- **Authentic and Contextualized Tasks:** Learning activities are often designed to be authentic, mirroring real-world challenges or contexts. This is an implication of both experiential and social constructivist theories: learners make sense of abstract ideas better when they encounter them in a context that is meaningful and relevant. For example, rather than teaching physics solely through formulas on a board, an instructor might have students build and test model bridges (experiencing forces, failure, and redesign) to understand concepts like tension and compression. The authenticity provides concrete experiences to ground understanding, and if done collaboratively, students also engage in the kind of social negotiation of meaning that constructivism advocates. **Situated learning** and **community of practice** models (Lave & Wenger, 1991) also align here, suggesting that learning is maximized when it happens in the context of the culture and activity it belongs to – for instance, learning biology by doing the work of a biologist in a lab group.
- **Integration of Reflection and Discourse:** A crucial pedagogical practice is to include structured reflection and discussion around experiences. Teachers encourage learners to reflect on what happened, analyze why

outcomes occurred as they did, and connect the experience to theoretical concepts. This can be done through class discussions, reflective journals, or debrief sessions. From a constructivist standpoint, reflection is where learners *construct meaning* from the raw material of experience. Social constructivism adds that doing this reflection in a social setting – i.e., through dialogue – can greatly enrich the process. Students articulate their understanding and also hear others’ perspectives, which may reveal gaps or extensions to their own thinking. Techniques like **Socratic questioning**, think-pair-share, or group presentations can facilitate this. Importantly, the teacher can introduce academic concepts or vocabulary during reflection to help students conceptualize their experience in the discipline’s terms (connecting experiential knowledge with formal knowledge). This echoes the idea of the teacher mediating between the student’s personal experience and the broader knowledge community’s understanding⁴³.

- **Adaptive Scaffolding:** In a socially constructivist experiential classroom, teachers continuously assess learners’ current understanding and provide timely support. This could be hints, feedback, or additional challenges to push learners just beyond their current competence (optimally within the ZPD). The scaffolding is gradually removed as students gain mastery. Peers can also scaffold one another – for example, in mixed-ability groups, more experienced students might naturally take on a tutoring role, explaining concepts to others. This peer tutoring is doubly beneficial: it reinforces the tutor’s knowledge and helps the tutee progress, exemplifying Vygotsky’s idea that interaction can lead development. The **implication for teachers** is to create a classroom culture where students feel comfortable collaborating and asking for help, and where mistakes are treated as learning opportunities. By carefully structuring group dynamics and intervening when necessary, instructors guide the collective knowledge-building without micromanaging it.

Ex post facto, social constructivism and experiential learning together offer a rich framework for understanding and improving educational practice. Social constructivist theory, rooted in the insights of Vygotsky and others, teaches us that learning is inherently a social, cultural process of constructing meaning – we learn through others, through language, and through the shared construction of

⁴³ **Boud, D., & Walker, D.** (1991). „Experience and Learning: Reflection at Work“. Geelong, Victoria: Deakin University Press, (ERIC Document Reproduction Service No.384 696).

knowledge. Experiential learning theory, as articulated by Kolb and inspired by Dewey and Piaget, reminds us that genuine understanding arises from active engagement and reflection – we learn by doing and then thinking about what we have done. Both perspectives challenge the traditional transmission model of education and instead place learners at the center of an active learning process. The epistemological stance is that knowledge is not fixed and delivered, but dynamic and created; the cognitive view is that learners must grapple with experiences and ideas (often collaboratively) to form understanding; the pedagogical implication is that educators should design learning environments rich in interaction, inquiry, and reflection. By integrating social constructivism with experiential learning, educators can facilitate learning experiences that are both deeply personal and richly communal. In such environments, students build knowledge in a way that is meaningful to them and validated through collaboration – preparing them not only to master content, but to become lifelong learners capable of critical thinking, problem-solving, and cooperating with others to create new knowledge.

➤ **Action-Oriented Education**⁴⁴

Definition and Pedagogical Context

Ex hypothesi, action-oriented education is an approach that emphasizes learning through concrete actions, real-world tasks, and experiential processes. According to UNESCO’s education framework, in action-oriented learning “learners engage in action and reflect on their experiences in terms of the intended learning process and personal development”. This approach draws on Kolb’s experiential learning cycle, where students have a **concrete experience**, then **observe and reflect**, **form abstract concepts**, and finally **apply** those concepts in new situations. Rather than passively receiving information, students become active “social agents” tackling authentic tasks, aligning with theories of **action learning** and **learning-by-doing**. It is evident that an action-oriented paradigm shifts the educator’s role to a facilitator or coach, guiding reflection and application of knowledge, rather than a one-way transmitter of content. Research suggests this pedagogy enhances self-directed capabilities in learners – improving their ability for self-planning, monitoring, reflection, and evaluation of their own learning

⁴⁴ **Sadovska, V., Rastorgueva, N., Migliorini, P., & Melin, M.** (2024). *Engagement of stakeholders in action-oriented education for sustainability: A study of motivations and benefits and development of a process model*. *Journal of Agricultural Education and Extension*. (Advance online publication), <https://www.tandfonline.com/doi/full/10.1080/1389224X.2024.2415607>.

process. Ergo, action-oriented education situates knowledge in real-world context, thereby organically integrating theory with practice.

➤ **Application in Higher Education and Social Economy**

In higher education, action-oriented strategies have gained prominence as part of a learner-centered shift in pedagogy. Universities increasingly incorporate **project-based learning, service-learning, and internships** as core components of curricula, all of which are action-oriented. These methods motivate students through engaging, relevant projects and collaborative problem-solving, bridging academic concepts with practical application⁴⁵. It is evident that this approach not only deepens conceptual understanding but also develops transferable skills such as critical thinking, teamwork, and innovation. In vocational and professional education, an action-oriented teaching method “combines ‘knowledge’ and ‘practice’... to mobilize all students’ enthusiasm for learning,” ultimately improving students’ comprehensive abilities and hands-on skills.

Social Economy faculties – which prepare students to work in cooperatives, non-profits, social enterprises and related sectors – have found action-oriented education particularly valuable. SE disciplines inherently address complex social challenges and community needs, which are best learned through active engagement and **learning by doing**. Rather than teaching social innovation and digital transformation through lectures alone, SE programs use real cases and field projects where students act as change-makers. **According to the EU’s social economy education initiatives, there is a need for “innovative, multidisciplinary approaches for knowledge co-creation, co-teaching and co-learning” in inclusive, collaborative environments.** Action-oriented education meets this need by bringing students into direct contact with communities and enterprises, allowing them to practice social innovation in context. For example, the SE4Ces project introduced “SE Living-Labs as spaces for interaction, collaboration and knowledge co-creation between all stakeholders (HEIs, social economy organizations, students, teachers, community members)”. Such living-lab environments are archetypes of action-oriented pedagogy: students collaborate with multiple stakeholders on real societal problems, from planning through implementation. It is evident that these experiences enrich students’ learning and also produce tangible value for the community, reinforcing the social mission of SE education. By engaging with real social economy projects (e.g.

⁴⁵ **Burnette, Diane M.** “The Renewal of Competency-Based Education: A Review of the Literature.” *The Journal of Continuing Higher Education* 64 (2) (2016): 84-93. <https://doi.org/10.1080/07377363.2016.1177704>.

developing a digital platform for a cooperative or analyzing data for a community program), learners build not only factual knowledge but also a sense of civic responsibility and professional identity.

➤ **Fostering Digital Transition through DVCLs and Collaboration**

A key challenge for Social Economy faculties today is equipping students with **digital skills for managing the digital transition** in their organizations. Action-oriented education plays a pivotal role here. **Digital Value Creation Labs (DVCLs)** are an emerging educational model that exemplifies action orientation in the digital context. In a DVCL, students work in interdisciplinary teams to create digital solutions (such as apps, data-driven services, or online social initiatives) that generate value for social economy stakeholders. These labs are essentially a form of **living laboratory** or incubator embedded in the curriculum. Learners take the driver's seat in projects – identifying community needs, iterating prototypes, and implementing digital tools – while instructors act as coaches guiding the process. According to the pedagogical model of the Laurea Digital Living Lab, this is “not just learning but rather an action- or working environment” where “*students participate in real-life digital development projects*”, requiring them to set goals, work with diverse stakeholders, manage time, and deliver concrete outcomes. Such an environment mirrors DVCL principles, as it immerses students in authentic digital transformation tasks. It is evident that this hands-on approach greatly enhances digital competences: students must apply technical knowledge (like using digital platforms, data analytics, or social media tools) and soft skills (communication, teamwork) in tandem to achieve project goals. Over the course of several projects, learners build a portfolio of experiences and markedly improve their confidence and capacity to drive digital innovation.

Moreover, action-oriented education in DVCLs fosters **multistakeholder collaboration** and **transdisciplinarity**, which are crucial for digital transition in the social economy. SE initiatives at the intersection of technology and society often involve a variety of actors – for instance, a project to develop a community crowdfunding app might involve IT experts, social entrepreneurs, local government, and end-users. Action-oriented learning prepares students to work across these boundaries. They learn to communicate with professionals from different fields and co-create knowledge, reflecting a transdisciplinary mindset. This collaborative ethos is reinforced by embedding stakeholders directly into the learning process (e.g. as project partners or mentors), blurring the line between the classroom and the community. *According to a recent study on stakeholder engagement in sustainability education, action-oriented collaborative education offers*

benefits for all parties, and can lead to “real effects” in practice, including changes in organizational processes and new opportunities identified through student projects. In the context of a SE faculty, this means students’ digital projects can directly contribute to the digital transformation of social enterprises or NGOs, while those external partners provide feedback and real-world insight. It is evident that action-oriented education thus positions SE faculties as **active hubs of innovation**, not only teaching about digital transition but actively driving it. By operating DVCLs and similar experiential programs, faculties model the adaptability and creativity that the digital age demands, and students graduate with the know-how to implement technology in socially constructive ways. In summary, action-oriented education – through learner-centered, project-based, and collaborative strategies – equips Social Economy students to become **proactive agents of digital transition**, linking their academic learning with impactful action in society.

➤ **Competence-Based Education⁴⁶**

Definition and Key Features

Competence-Based Education⁴⁷ (CBE), also known as competency-based or competency-driven education, is an educational model that centers on the **outcomes of learning** – specifically, the demonstrable competencies (knowledge, skills, and attitudes) that learners acquire. Rather than structuring education mainly by time spent in class or by a fixed curriculum, CBE⁴⁸ is organized around clear **learning outcomes** and mastery of competencies. In a competency-based approach, progress is **criterion-referenced**: students advance or earn credit once they have shown evidence of mastering the required competencies, regardless of the time or place of learning. According to the UNESCO-UNEVOC definition, CBE “focuses on learners demonstrating the knowledge, skills and attitudes in highly specific units regardless of time, place, or pace of learning, usually in authentic contexts”. This implies that learning is often personalized and self-paced – for example, a student who can quickly demonstrate proficiency in a

⁴⁶ Curry, Lynn, and Marcia **Docherty**. “Implementing Competency-Based Education.” Collected Essays on Learning and Teaching 10 (2017): 61-73. <https://files.eric.ed.gov/fulltext/EJ1147189.pdf>.

⁴⁷ **Tuxworth**, Eric. “Competence Based Education and Training: Background and Origins.” In *Competency-based education and Training*, 18-31: Routledge, 2005.

⁴⁸ **Holmes**, A. G. D., **Polman Tuin**, M., & **Turner**, S. L. (2021). *Competence and competency in higher education, simple terms yet with complex meanings: Theoretical and practical issues for university teachers and assessors implementing CBE*. *Educational Process: International Journal*, 10(3), 39–52, https://www.researchgate.net/publication/353279749_Competence_and_competency_in_higher_education_simple_terms_yet_with_complex_meanings_Theoretical_and_practical_issues_for_university_teachers_and_assessors_implementing_Competency-Based_Education_CBE.

skill can move ahead, while another who needs more time receives support until they meet the competency standard⁴⁹.

Five essential elements commonly guide the design of competency-based programs. **First**, the competencies and tasks to be learned are usually identified in consultation with experts in the field or occupation, ensuring that the curriculum is relevant to real-world requirements. **Second**, learners are given multiple opportunities to develop each competency and are evaluated on clear performance criteria for each outcome. **Third**, assessment is primarily based on actual demonstration of ability – what students can *do* – rather than abstract knowledge alone. In other words, students must perform tasks or produce work that evidences the competency (e.g. a project, portfolio, or practical exam), aligning assessment with practical application. **Fourth**, transparent standards (often occupational standards or competency frameworks) define what constitutes mastery, and learners are made aware of these expectations from the start⁵⁰. **Fifth**, student progression is contingent on demonstrated mastery: learners only advance or graduate once they have attained all specified competencies. This structure ensures no critical skills are bypassed; it aims to guarantee that every graduate meets a consistent profile of abilities. As Açıkgöz and Babadoğan (2021) note, *CBE thus “focuses on the demonstration of competence” for student progress, using formative assessments and support to eliminate learning gaps at each stage*. It is evident that by design, CBE is closely aligned with **mastery learning** and **outcome-based education** principles, emphasizing quality and consistency of learning outcomes for all students⁵¹.

➤ **CBE in Higher Education Context**

In the context of higher education, competency-based education represents a shift from traditional content-oriented teaching to a more **pragmatic, learner-centered paradigm**. Universities and colleges adopting CBE restructure programs to clearly articulate the competencies (or graduate attributes) students

⁴⁹ **Torres**, Aubrey **Scheopner**, Jessica **Brett**, and Joshua **Cox**. “Competency-Based Learning: Definitions, Policies, and Implementation.” Regional Educational Laboratory Northeast & Islands (2015). <https://files.eric.ed.gov/fulltext/ED558117.pdf>.

⁵⁰ **Albanese**, Mark A, George **Mejicano**, W Marshall **Anderson**, and Larry **Gruppen**. “Building a Competency-Based Curriculum: The Agony and the Ecstasy”. *Advances in Health Sciences Education*, 15 (3) (2010): 439-54. <https://doi.org/10.1007/s10459-008-9118-2>.

⁵¹ **UNESCO**. (2017). *Education for sustainable development goals: Learning objectives*. Paris: United Nations Educational, Scientific and Cultural Organization, <https://unesdoc.unesco.org/ark:/48223/pf0000247444>. | **Açıkgöz**, T., & **Babadoğan**, M. C. (2021). Competency-based education: Theory and practice. *Psycho-Educational Research Reviews*, 10(3), 67–95.

must acquire – for instance, analytical reasoning, laboratory techniques, communication proficiency⁵², or specific professional skills – and then align curricula, teaching methods, and assessments to those outcomes. According to educational scholars, this approach has roots in educational reforms aiming to improve relevance and accountability in education. It is closely linked to the **Bologna Process** in Europe and similar outcomes-based frameworks globally, which encourage defining programs by learning outcomes and competencies. CBE also finds strong resonance with **student-centered learning** philosophies. *Leaders in the field argue that CBE often goes hand-in-hand with personalized and student-centered learning, as it requires instructors to meet each student where they are and guide them to mastery through individualized feedback (Le et al., 2014; Patrick et al., 2013).* Unlike one-size-fits-all pedagogies, a competency-based approach acknowledges that students learn at different paces and have different needs; thus many CBE programs incorporate adaptive learning technology, mentorship, or flexible scheduling to accommodate these differences⁵³.

Implementing CBE in higher education brings both opportunities and challenges. On one hand, it provides **clarity and coherence**: students know exactly what capabilities they are expected to develop, and assessments are transparently linked to those goals. This alignment can increase the practical relevance of academic programs, as competencies can be defined in collaboration with industry, professional bodies, or societal needs. For example, a healthcare management degree might ensure competencies in health policy analysis, ethics, data management, and teamwork, each assessed through real or simulated tasks. Indeed, CBE's philosophy holds that *"almost all learners can learn equally well if they receive the kind of instruction they need"*, placing responsibility on institutions to provide supportive instruction until competencies are mastered. It is evident that such an approach can improve quality: gaps in understanding are identified through continuous assessment, and remediation is provided, so that graduates do not leave with latent deficiencies in key areas. Studies have noted that CBE aims to reduce achievement gaps by ensuring all students reach the required standard, thereby promoting equity. On the other hand, higher education

⁵² **UNESCO-UNEVOC.** (2020). Competency-based education (CBE). In *TVETipedia Glossary*. Retrieved from <https://unevoc.unesco.org/home/TVETipedia+Glossary> (original work by Commonwealth of Learning, *Open and Distance Learning: Key Terms and Definitions*, 2015, rev. 2020).

⁵³ **Ayalew, M. Z., Getahun, D. A., & Negasi, R. D.** (2024). *Faculty and academic leaders' conceptions of competence and competence-based education*. *Cogent Education*, 11(1), <https://www.tandfonline.com/doi/full/10.1080/2331186X.2024.2372187>.

institutions must adapt significantly to implement CBE: curriculum design becomes more complex, faculty roles shift towards coaching and continuous assessment, and robust systems are needed to track individual competencies. Despite these challenges, the trend toward competence-based curricula is growing, especially in professional and adult education programs where demonstrating job-ready skills is paramount (Gervais, 2016; Kelchen, 2015). Many universities now blend CBE elements with traditional structures – for instance, using **competency frameworks** within courses or integrating digital badges and portfolios that reflect competency attainment⁵⁴.

➤ **Role in Social Economy Education and Digital Skills Development**

Competence-based education is particularly pertinent for Social Economy faculties and their mission to prepare graduates for the **digital transition**. Social economy organizations (cooperatives, social enterprises, NGOs, etc.) operate in a rapidly changing environment where digital technologies and innovation are increasingly vital for achieving social impact and efficiency. However, there is often a skills gap: professionals in this sector need a combination of digital capabilities and social/entrepreneurial competences to manage technology-driven projects, analyze data for social outcomes, or lead digital transformation initiatives in their communities. CBE provides a framework to intentionally cultivate these competencies in students. By designing curricula around the **competence profile** of a modern social economy practitioner, faculties can ensure graduates have mastery in areas such as digital literacy, social innovation, project management, collaborative leadership, and ethical use of technology. For example, a Master’s program in Social Entrepreneurship might define competencies like *“using digital tools to scale social innovations”* or *“data-driven decision-making for community development”* and embed these throughout the coursework and practical assignments. **According to the European Commission**, social economy actors indeed require a broad mix of skills “ranging from basic skills, such as literacy, numeracy and digital literacy, to vocational or technical skills as well as entrepreneurial, organizational and managerial skills”⁵⁵. A competence-based approach directly addresses this need by structuring learning around such skill sets.

⁵⁴ **Gervais**, Jennifer. “The Operational Definition of Competency-Based Education.” *The Journal of Competency-Based Education* 1, no. 2 (2016): 98-106. <https://onlinelibrary.wiley.com/doi/pdf/10.1002/cbe2.1011>.

⁵⁵ **European Commission**. (2023). Skills & social economy (European Year of Skills initiative). Retrieved from <https://social-economy-gateway.ec.europa.eu/topics-focus/skills-social-economy-en>.

In practical terms, applying CBE in social economy education often means close collaboration with industry and community stakeholders to define relevant competencies (reflecting **multistakeholder input**) and to provide authentic learning opportunities. This mirrors one of the core principles of CBE that tasks and standards should be informed by occupational reality. In the case of digital skills, Social Economy faculties might work with technology partners or successful social enterprises to identify which digital tools (e.g. crowdfunding platforms, collaborative software, data visualization, digital marketing) and related skills are most crucial. Those competencies can then be taught and assessed in context – for instance, students might need to demonstrate the ability to build a basic web presence for a nonprofit or analyze social media metrics for a campaign as part of their competency requirements⁵⁶. **Learner-centered, competence-based strategies** also allow students to bring in prior knowledge or informal learning in digital areas; for example, a student with volunteer experience in managing a community Facebook page might more rapidly demonstrate certain digital communication competencies and progress to more advanced ones, while others may need additional training. The flexibility of CBE in recognizing different learning pathways is valuable in this regard, as many social economy students are adult learners or come from diverse backgrounds with varied strengths.

Importantly, competence-based education aligns well with the concept of **Digital Value Creation Labs (DVCLs)** and other experiential setups mentioned earlier. While action-oriented education provides the *method* (learning through action), CBE provides the *framework* to ensure those actions build specific, measurable capabilities. In a DVCL environment, for example, students might collaborate on a project to develop a digital solution for a social enterprise (action-oriented learning). The competence-based lens ensures that throughout this project, there are defined competencies being targeted – such as “Prototyping a digital service to meet user needs” or “Conducting stakeholder analysis and co-design.” Students would be assessed on these competencies (perhaps via rubrics evaluating their project outcomes and teamwork) and would receive feedback or coaching to reach the required level of proficiency. This fusion of CBE with hands-on labs guarantees that the time students spend in innovative projects translates to concrete skill development and not just a collection of experiences. It also makes the outcomes of **transdisciplinary teamwork** explicit: for instance, a

⁵⁶ **Hodge**, Steven. “The Origins of Competency-Based Training.” *Australian journal of adult learning*, 47 (2) (2007): 179-209. <https://files.eric.ed.gov/fulltext/EJ797578.pdf>.

competency might be “Ability to integrate knowledge from information technology, business, and social sciences to solve a community problem,” reflecting the interdisciplinary nature of social economy challenges. By naming and assessing such competencies, SE faculties affirm the value of transdisciplinary learning and ensure students consciously develop the ability to bridge disciplines – a trait crucial for managing digital transition where technology must be blended with social insight⁵⁷.

Finally, competence-based education positions Social Economy faculties as **organizations driving change** in their own right. By adopting CBE, these faculties become more agile and responsive to external skill demands. They can update competency frameworks regularly in response to emerging digital trends (for example, adding competencies on data privacy, AI tools for social good, or digital accessibility standards). This responsiveness helps keep the curriculum future-proof and aligned with the **Digital Transition** agenda. It is evident that when a faculty clearly defines the digital and transversal competences it wants to instill, it can better form partnerships and attract resources for those areas (such as specialized training software, or collaborations with tech companies aimed at social impact). In summary, competence-based education provides a rigorous, outcome-focused foundation for Social Economy programs, ensuring that graduates are not only knowledgeable about social values and economic theory but also equipped with **practical digital skills and competencies** to lead and innovate. By integrating learner-centered and competency-driven approaches – often supported by interdisciplinary projects in DVCLs – SE faculties can create a learning ecosystem that produces digitally competent, socially conscious graduates ready to navigate and propel the digital transition in the social economy⁵⁸.

COMPARATIVE ANALYSIS OF THEORISTS, THREE VOICES IN A CONVERGING FIELD

In the evolving discourse around the social economy, particularly in its intersection with digital transformation, three figures stand out as influential

⁵⁷ **Laurea University of Applied Sciences**. (n.d.). Digital Living Lab – Way of Working. [Web page]. Retrieved 2025, May 20 from <https://www.digitallivinglab.com/way-of-working>.

⁵⁸ **Klein-Collins**, Rebecca. “Sharpening Our Focus on Learning: The Rise of Competency-Based Approaches to Degree Completion.” Occasional Paper 20 (2013), <https://learningoutcomesassessment.org/documents/Occasional%20Paper%2020.pdf>.

thinkers and practitioners: Geoff Mulgan, Nathan Schneider, and Rory Ridley-Duff. While all three share a commitment to reimagining economic and institutional structures for social good, their approaches diverge in scope, emphasis, and epistemological grounding. Mulgan foregrounds systems-level policy innovation, Schneider centers on democratic digital infrastructures, and Ridley-Duff advances cooperative theory and practice. Comparing their contributions allows us to map key currents in contemporary thought on the social economy while exposing conceptual and methodological gaps that DigiSE5.0 can address through pedagogy and participatory innovation.

Geoff Mulgan, drawing from his work at Nesta and in UK public policy, operates from a macro-systems perspective. He emphasizes the role of public institutions in scaling social innovation and shaping collective intelligence systems. His work often revolves around governance, strategic foresight, and public sector innovation. In *The Process of Social Innovation*, he outlines a comprehensive model detailing how social innovations emerge, diffuse, and become embedded within societal structures. Mulgan advocates for a systemic approach where governments and public institutions play pivotal roles in fostering environments conducive to innovation.

Mulgan is particularly concerned with **how social innovation can be institutionalized and made sustainable through policy frameworks**⁵⁹, with digital technologies seen as enablers of democratic participation and collective problem-solving⁶⁰. While Mulgan provides a robust framework for institutionalizing social innovation, there is limited exploration of grassroots digital initiatives and how they can be integrated into larger policy frameworks.

Nathan Schneider, in contrast, approaches the social economy from a **bottom-up, infrastructural perspective**. His work on platform cooperativism explores how digital platforms can be owned and governed by their users. He is fundamentally concerned with **democratic ownership models** and the ethics of digital architecture, particularly in contrast to the extractive logic of Silicon Valley. In *Ours to Hack and to Own*, co-edited with Trebor Scholz, Schneider introduces the concept of platform cooperativism, advocating for digital platforms that are owned and governed by their users. Further, in his article *An Internet of Ownership*, Schneider delves into the practicalities of implementing cooperative principles in digital infrastructures, emphasizing the importance of designing platforms that

⁵⁹ **Scholz**, T. An Introduction to Platform Cooperativism.

⁶⁰ **Mulgan**, Geoff. (2019). Social Innovation: How Societies Find the Power to Change. 10.2307/j.ctvs89dd3.

inherently support democratic governance⁶¹. This model challenges the dominant extractive practices of platform capitalism, proposing alternatives that prioritize democratic participation and equitable value distribution. Schneider views the internet not just as a tool for social change, but as a contested space that must itself be democratized through participatory governance and cooperative legal structures⁶².

Rory Ridley-Duff, an academic theorist and practitioner in cooperative studies, is perhaps the most pedagogically focused among the three. His work emphasizes **the cooperative model as an alternative to both neoliberal and statist forms of economic organization**, particularly through his development of the FairShares Model. Ridley-Duff operates at the intersection of theory, organizational design, and adult education, offering a **values-based framework for participatory enterprise** that is particularly aligned with educational reform and curriculum transformation⁶³.

Ridley-Duff's development of the FairShares Model presents a multi-stakeholder approach to enterprise ownership, ensuring that various contributors—founders, workers, users, and investors—have equitable stakes and governance rights. This model aims to democratize enterprise structures, aligning them more closely with the values of the social economy. While the FairShares Model offers a compelling framework, there is a need for more case studies and longitudinal research to assess its practical implementation and impact across different sectors.

Mulgan's work acknowledges the importance of digital technologies but tends to treat them as **instruments for system-level coordination**, innovation scaling, and data-driven governance. He has contributed to the **Digital Social Innovation (DSI)** discourse, emphasizing the role of platforms, open data, and collective intelligence in reimagining social services and policy design. However, his focus often remains abstract, with limited application to the micro-practices of learning or grassroots empowerment.

Schneider, by contrast, is centrally concerned with the digital layer of the social economy. His advocacy for platform cooperatives and democratic digital infrastructures provides a compelling **counter-narrative to venture-capital-**

⁶¹ **Roelants**, B., Eum, H., **Esim**, S., **Novkovic**, S., & **Katajamäki**, W. (Eds.). (2019). *Cooperatives and the World of Work* (1st ed.). Routledge. <https://doi.org/10.4324/9780429285936>.

⁶² **Schneider**, N. (2018). *Everything for everyone: The Radical Tradition That Is Shaping the Next Economy*. Bold Type Books.

⁶³ **Ridley-Duff**, Rory & **Bull**, Mike. (2015). *Understanding Social Enterprise: Theory and Practice* (Sample Chapter).

driven tech development, making his work particularly relevant to DigiSE5.0's interest in Tech4Good ecosystems and ethical innovation practices.

Ridley-Duff incorporates digital transformation into cooperative education and governance but does not focus explicitly on technological design. Instead, his frameworks help define the **values and decision-making structures** that should govern socio-digital enterprises, making his contributions essential to curriculum design in fields that integrate social economy with digital entrepreneurship.

A comparative reading of the three thinkers reveals important gaps and complementarities. Mulgan provides the **strategic vision and systems-level justification** for integrating digital tools into SE reform, but lacks the pedagogical depth or grassroots mechanisms to realize it within institutions. Schneider offers a **critical infrastructure lens** and practical pathways for cooperative tech development, yet his work often assumes a level of digital literacy and institutional readiness that DigiSE5.0 seeks to develop. Ridley-Duff's focus on **education, governance, and values-driven enterprise** fills the gap in methodology and learning design, though with a limited focus on digital implementation.

For DigiSE5.0, this triangulation is instructive. Mulgan gives the policy rationale; Schneider the digital ethics and infrastructure; Ridley-Duff the curricular logic and governance models. Together, they articulate **a full-spectrum case for integrating Digital Value Creation Labs (DVCLabs)** into SE education—spaces where students can both reflect critically on digital systems (à la Schneider), engage in values-based innovation (via Ridley-Duff), and align with broader policy and system goals (from Mulgan).

The combined insights of Mulgan, Schneider, and Ridley-Duff offer a multidimensional foundation for DigiSE5.0's WP2 Study. This synthesis helps bridge the divide between policy ambition and classroom reality, between digital tools and social ownership, and between curriculum design and collective empowerment, as **micro-infrastructures for a just digital transition**. In doing so, DigiSE5.0 not only builds on these thinkers' contributions—but also extends them into actionable, institutional change.

PART II

PURPOSE AND SCOPE OF PART II

In Part I of this study, the theoretical and pedagogical foundations – Social Constructivism, Experiential Learning, Action-Oriented Education, and Competence-Based Education – that underpin the DigiSE5.0 educational philosophy were established. Part II, “*The Bridge*,” now builds a conceptual and methodological connection between those foundations and the practical good practices and case studies that will follow in Part B.

The present section operates as the conceptual and methodological *bridge* of the Study, linking the theoretical scaffolding established in Part A with the empirical and pedagogical outputs documented in Part B. Its principal aim is to articulate how the theoretical constructs—pedagogical, conceptual, and strategic—were operationalized through a research design that is aligned with the field realities of higher education in Social Economy and digital transition.

This connection is not an *ad hoc* juxtaposition but rather a deliberate synthesis, informed by the Research Guide developed *ex officio* by the WP2 lead partner, Stimmuli. The section elucidates the rationale, structure, and strategic function of the research process, showcasing how the foundational ideas of Digital Value Creation Labs (DVCLabs) and Living Labs (LLs) were translated into investigable fields and measurable constructs.

The hereunto section proves that the Study is not merely confirmatory, but a holistic effort that reflects conceptual design and implementation logic. It connects the above-mentioned theoretical approaches with operational realities of stakeholders and institutions. It provides clear insights on the choices made during the research and answers to the multilateral question: “Why certain practices were included, what assumptions were challenged and how tools were adapted?”.

RESEARCH DESIGN AND THE RESEARCH GUIDE: OPERATIONALIZING THEORETICAL CONSTRUCTS

The Research Guide, annexed to this Study, functioned as both an analytical and procedural *modus operandi*. It delineated the principles by which the research team transitioned from a *lato sensu* understanding of digital transformation to a *stricto sensu* investigative framework capable of capturing the nuances of implementation, practice, and replication within SE faculties.

At its core, the Guide sought to reflect the theoretical positions described in Part A—chiefly those derived from socio-constructivist and action-oriented pedagogical models—through four integrated components: (1) a desk-based literature review; (2) the identification and mapping of ≥ 20 good practices; (3) the in-depth analysis of 8 case studies; and (4) the triangulation of findings through semi-structured interviews and stakeholder consultations.

In order to effectively identify the national practices from all participating counties, the following questions have been answered:

1. Does the practice promote collaborative learning?
2. Does it involve experiential, real-world tasks?
3. Is it action-oriented toward social good?
4. Are key competencies clearly targeted and developed?

Each of these components was developed not only with methodological rigor but also with a commitment to participatory inquiry, capturing the *status quo* of SE education while engaging directly with change agents across academia, policy, and the Tech4Good ecosystem. The Guide did not operate solely theoretically, but rather aimed to recontextualize theory in practice, ensuring that research was anchored in lived realities and institutional contexts.

COMPONENTS OF THE GUIDE AND RESEARCH LOGIC

The Guide's design was not merely instrumental but reflective of epistemological commitments: that applied research in education must embrace both structured and emergent forms of inquiry.

Thus, the Guide integrated fixed parameters (e.g., indicators, thematic clusters) with iterative tools (e.g., semi-structured interviews, consultation workshops) to allow for *consensus* building and discovery.

Specifically, the Guide included:

- A template for good practice mapping, collecting both programmatic data and qualitative insights;
- A case study protocol, grounded in selection criteria but informed *à propos* by emerging themes during the analysis phase;
- An interview guide co-developed with partners, designed to elicit narratives, values, and unintended outcomes;
- A validation process, whereby stakeholder feedback was collected and integrated into the evolving findings and recommendations.

PART B

INTRODUCTION

Building upon the conceptual and methodological foundation previously established, Part B of this Study proceeds with an empirical exploration of how the principles and models discussed—particularly those concerning DVCLabs and digital competence development—are being applied in real educational contexts across Europe. The intention is not only to validate the theoretical propositions of DigiSE5.0 but also to extract actionable insights that can inform the future implementation of digitally integrated, competence-based learning in Social Economy faculties.

In total, **23 good practices** were identified across the participating countries, encompassing diverse institutional models, pedagogical formats, and partnership strategies that align with the core values of experiential learning, stakeholder engagement, and digital innovation. From these, **8 exemplary case studies—2 per participating country**—were selected for in-depth examination. Each selected case was further investigated through a semi-structured interview with a key institutional representative and subsequently analysed to extract key characteristics, success factors, and challenges.

The analysis of these cases aims to illustrate how DVCLab-aligned methodologies are already taking shape across educational systems, offering grounded evidence for the feasibility and adaptability of the DigiSE5.0 approach. The following section thus serves as both an empirical complement to the earlier analytical discourse and a foundation for deriving guidelines and policy recommendations in the concluding part of the Study.

APPLICATION OF DVC AND LLS IN UNIVERSITY CURRICULA AND SE SECTOR

Part B provides initially a general overview of importance and application of DVC and LLS approaches in HEA in three partner countries (Poland, Greece and Italy) and next it draws attention to a variety of identified enabling (opportunities) and hindering (challenges) factors playing a crucial role in enhancing or impeding respectively the embeddedness of these approaches into academic education—especially in the field of SE and social entrepreneurship. Furthermore, Part B analyzes the extent to which these factors enhance or not the collaboration between universities and Tech4good ecosystem as well as the deployment of digital tools and technology into SE education. This Part is also enriched with a presentation of 23 total mapped good practices at national or European level which are established either by HEIs or civil society organisations (e.g., foundations or tech innovation centers/hubs), documenting their particular contribution to the utilization of DVC and LLS in education and current trends in the collaboration between universities and the Tech4Good ecosystem.

DIGITAL VALUE CREATION (DVC) AND LIVING LABS (LLS) INTEGRATION IN NATIONAL HE CURRICULA

- **POLAND**

According to existing literature, it is widely discussed that currently DVC and LLS (as pedagogical approaches) are **not systematically integrated** into academic education in Polish HE settings, especially in the context of SE and social entrepreneurship education. Although new management models and digital innovation are starting to appear in some, yet scattered, academic initiatives and in the SE ecosystem, yet a unified approach has not been officially established towards the systematic embeddedness of these approaches in HE SE curricula. Most courses and programmes focus mainly on traditional aspects of management, financing and administration of SE units, leaving the emerging aspect of digitization on the sidelines. Indicatively, among the universities offering courses related to SE are the University of Warmia and Mazury in Olsztyn which offers postgraduate studies in the management of social organisations, the Academy of Social and Medical Sciences (ANSiM) where students can acquire knowledge about social entrepreneurship and Krakow University of Economics (KUE) which provides postgraduate programmes focused on social

entrepreneurship and management of social enterprises. However, these programmes still do not prioritize the use of digital technologies as tools to support the functioning and evolution of SE education to be aligned with the trends of digital transformation.

More specifically, regarding the utilization of Digital Value Creation approach and application of digital technologies, research findings showcase that as topic it is not yet formally present as an educational model in Polish curricula; nevertheless, there are valuable initiatives supporting the development of students' digital competences. A first example comes from the Academy of Social Entrepreneurship run by the University of Warsaw (UW) which runs social entrepreneurship courses through which students develop innovative technology projects to support social goals (e.g. the PROspołeczni initiative). Additional initiatives from UW incorporating facets of DVC (Digital Value Creation) and LLs (Living Labs) approaches into its social entrepreneurship programmes include the UW Incubator, which supports students in social economy business projects by offering training, workshops and assistance in commercialising research results. Programmes such as BraveCamp, STARTER - an e-learning course, and Makerspace@UW (using several tools such as Autodesk Inventor, Anaconda, Slic3r Prusa, Visual Studio Code, etc.) that aim to promote innovative solutions using modern technologies. In addition, UW fosters links with the business environment through the Centre for Technology and Knowledge Transfer, facilitating cooperation between science and the private sector and NGOs. In this way, the university combines education, business development and digital technologies, engaging in a promising way in pro-social solutions. Other initiatives, indirectly related to DVC, are the following:

- **Digital Creators Foundation** – conducts training on new technologies in education, including the use of digital platforms.
- **Digital Poland Projects Center (CPPC)** – implements projects to improve teachers' digital competences.
- **Value Creation** – offers training in the digital transformation of organizations, although it is not directly aimed at SE.

On the other hand, the approach of Living Labs, which, until recently, was a lesser-known curiosity, is now gaining increasing importance in Poland. Related initiatives are springing up in large numbers in university centres all over Poland, meeting with great interest. LLs are relatively well known in Poland, especially as social and technological innovation laboratories, involving various stakeholder groups. However, they are still **rarely used in the context of SE education**.

Examples of LL initiatives in the country include:

- **School Living Lab** – a project which aims at developing students' innovation skills, formerly known as '[Code for Green](#)', and is implemented since 2018 in the city of Polkowice, Września and Poznań.
- **Students Living Labs** – university programmes involving students in solving real social problems.
- **Energa Living Lab** – an initiative from the energy sector that involves the residents of Gdynia in testing new energy management technologies.

Finally, with regards to the activities carried out by SE actors, they are often part of the LLs concept and overall philosophy, as these actors rely on extensive collaboration, often involving local communities in their activities. Creativity and innovation of ideas are very often sought-after themes among these actors and to achieve this they usually turn to the assistance offered by various types of entities and institutions that support their development.

- **GREECE**

Regarding the Greek case, although there has been some progress in integrating the LL approach into SE education – particularly with initiatives like kalomathe.gr or participatory initiatives that aim at nurturing real-co-creation and interdisciplinary collaboration between students, SE stakeholders and academia through local living labs, as the international paradigm of the Erasmus+ [Social Economy 4Ces](#) – it is generally observed that the country appears to fall behind in adopting more systematically the Digital Value Creation (DVC) approach in SE education. Digital tools are primarily used to deliver online education through digital platforms or relevant tools rather than to teach and train students how to create value by leveraging digital resources.

Despite any critical limitations from Greek SE-related faculties in embedding in embedding DVC in SE study programmes, existing activities striving for equipping SE students, as future digital social entrepreneurs, with know-how on emerging digital technologies and tools are worthy being mentioned. Particularly, the post-graduate programme in 'Social and Solidarity Economy' (SSE)⁶⁴ of Hellenic Open University embeds the DVC approach in their curriculum as the learning process is articulated with a digital platform. Moreover, the 'Seminar on Digital Innovation and SSE'⁶⁵, a good practice launched by the University of Aegean, appears to be the only program that directly focuses on developing digital skills within its

⁶⁴ More information available at: <https://www.eap.gr/en/social-and-solidarity-economy-2/>.

⁶⁵ More information available at: <https://kedivim.aegean.gr/epimorfotikaview/course.php?c=501cc0fce301e560b6aa1bc924a60fa8378179a1>.

educational framework, by combining elements of innovation in the Digital Age and SSE. An additional Greek example which covers elements of DVC and LLs and focuses on engaging students with digital problem-solving and collaborative learning in order to develop digital-driven solutions is the ‘Social Innovation Hackathon’, an initiative of University of Macedonia (UoM).

All the above mapped existing educational programmes and practices illustrate the increasing effort for the integration both of DVC and LLs approach in SE education. However, it is quite evident that SE faculties in HEA still lack systematic adoption of these methodologies, and any current initiatives are often limited to **extracurricular activities** rather than to courses or actions that are officially oriented towards the formal curricula’ integration.

- **ITALY**

Concerning the Italian educational programmes, the DVC & LLs approaches appear to be important but they are still very limited and mainly apparent in STEM-related programs and fields. While in the curricula of Social Economy (SE) / Social Entrepreneurship education it seems that they are **not widely developed**. Nevertheless, the five good practices identified (presented in more detail in section 5.3) by UNIBO (the project’s Italian partner) are existing paradigms that demonstrate the value of these methodologies in Italian HEIs. Indicatively, with respect to LL approach, the project ‘Teach-BEASTs - Teaching to BE Aware Students’ utilizes project-based Learning and design thinking to promote innovation and interdisciplinary collaboration or the ‘Terracini in Transition’ project adopts the Living Lab approach to test sustainable solutions in universities, by providing a platform for students, professors, and researchers to conduct research and teaching activities, benefiting both the community and businesses. When it comes to DVC utilization, the Master in ‘Artificial Intelligence and Innovation Management’ trains professionals in artificial intelligence and digital transformation, enhancing digital value creation. Additionally, the ‘Savona Campus Living Lab Smart City’ integrates ICT and smart energy technologies to create a model of sustainability and applied innovation for urban areas, where students, professors, and researchers engage in research and teaching while serving the community and business sector.

- **BELGIUM**

In Belgium, both **Flemish and Francophone higher education systems** have made significant strides in integrating Digital Value Creation and Living Labs into their education and innovation strategies. In Flanders, policy documents from the Flemish Government and higher education councils (e.g. VLHORA) highlight the

importance of digital and sustainability transitions, calling for curricula that promote co-creation, stakeholder engagement, and societal impact. Flemish Universities of Applied Sciences (UAS) embody this shift, embedding collaborative and practice-oriented pedagogy into programs that address real-world problems, aligning closely with Living Lab methodologies. Similarly, in Wallonia-Brussels, the ARES framework⁶⁶ encourages interdisciplinary learning and citizen participation, with an emphasis on critical digital literacy and societal engagement, reinforcing the principles behind DVC and LLs in educational policy⁶⁷.

At the **University of Antwerp**, the Bachelor of Social-Economic Sciences exemplifies curriculum-level integration of DVC. By combining sociology, economics, and data science, the program fosters a mindset of social innovation and problem-solving. While it doesn't explicitly adopt a Living Lab label, its focus on real-world socio-economic analysis, interdisciplinary learning, and collaboration with external stakeholders mirrors core LL principles. Likewise, **FARI – AI for the Common Good**, led by VUB and ULB in Brussels, bridges research, education, and civic engagement. Through its postgraduate “AI for the Common Good” academy and city-scale AI experimentation hub, FARI offers a living-lab style learning environment where students develop and test socially impactful AI solutions in collaboration with citizens and local institutions⁶⁸.

Outside formal HE curricula, **Déclic en PerspectivES** and **DIGI SEII** represent powerful examples of living-lab pedagogy in non-formal and vocational education. Déclic en PerspectivES offers immersive bootcamps and ideation labs that guide young people through social entrepreneurship journeys, employing co-creation, community engagement, and experiential learning. It complements HE by offering spaces for project incubation and design thinking that are rarely available in academic settings. Similarly, DIGI SEII, coordinated by the Sociale Innovatiefabriek, supports digital innovation in social enterprises through tailored training, coaching, and stakeholder-driven hackathons. Both initiatives emphasize real-world application, interdisciplinary collaboration, and digital empowerment, directly contributing to the DVC agenda in Belgium's social economy landscape. Finally, numerous Belgian institutions—especially UAS and applied research hubs—are experimenting with **campus-based living labs**, such as

⁶⁶ **ARES** (2019). *Orientations stratégiques pour l'enseignement supérieur*. Decree on Student Engagement in Societal Projects, 2012. See also: “Éducation à la citoyenneté dans l'enseignement supérieur.”

⁶⁷ Belgian and regional policy documents and analyses on digital education and innovation (Flemish Government policy notes; **ARES Council** recommendations), file:///C:/Users/User_1/Downloads/2030-Digital-Decade-roadmap-Belgium.pdf and Flemish Government (2019–2024). Policy Note on Education and Labour. See also: VLHORA Position Paper on Higher Education and Societal Transitions (2021).

⁶⁸ **VLHORA** (2023). *Universities of Applied Sciences and Practice-Oriented Research in Flanders*. Retrieved from www.vlhora.be.

Arteveldehogeschool's ClimateLab. These initiatives immerse students in interdisciplinary teams working with community partners to design, test, and implement sustainable or socially responsible innovations. Across these examples, the pedagogical shift is clear: Belgian higher education is increasingly adopting co-creative, participatory, and impact-driven learning models that blend theory and practice.

DIGITAL DEVELOPMENT AND COOPERATION BETWEEN ACADEMIA WITH TECH4GOOD ECOSYSTEM - CHALLENGES & OPPORTUNITIES

Opportunities

- **POLAND**

In the Polish context, the cooperation between universities and the Tech4Good ecosystem is still very limited. There is a **lack of structures enabling the exchange of knowledge and experience** between the academic community and digital innovation sector. Although there are initiatives such as the programme 'Connect & Scale Up'⁶⁹ that facilitates the transfer of knowledge and technology between academia, the private sector, and social enterprises, fostering collaboration across these fields, their impact on the SE sector is marginal. The lack of structured cooperation mechanisms between universities and organisations developing digital technologies hinders the implementation of new solutions in SE education. In the context of these limitations, initiatives such as 'CoopTech Hub' and 'PLZ Platform', which promote digital management models for cooperative and social organisations, stand out positively. Specifically, the PLZ Platform provides tools for participatory management of SE organisations, digital voting, resource sharing and decentralised management, while the CoopTech Hub plays an educational role in the integration of new technologies in cooperatives. However, these initiatives have not yet been widely integrated into academic programmes, highlighting the lack of further opportunities for digital value creation between academia, Tech4good ecosystem, and SEEs.

⁶⁹ 'Connect & Scale Up' is an accelerator programme that supports startups, social organizations, and businesses in developing innovative technologies. The program plays a significant role in the digitalization of cooperatives and social enterprises, helping them integrate into the digital economy and enhance their operational efficiency.

- **GREECE**

The good practices review conducted by AUTH did not demonstrate clear collaboration between universities and the Tech4Good ecosystem, except for the case of *'Kalomathe.gr'*, which involves three cooperatives oriented towards integrating technology in SE activities and organizations, such as: i) Open Tech (specializing in web development and promotion, ii) P2P Lab which focuses on the intersection of technology and the commons and iii) Sociality which is active in research, building online presence for organizations, developing digital tools and organizing workshops on digital skills. At general level, such kind of collaborations seem to be underdeveloped in Greece, reflecting at the same time the country's low adoption of the Digital Value Creation (DVC) approach at the national level and the low level of basic digital skills coverage (52,4%), being ranked below EU average of 55.6%, according to the 2024 edition of the Digital Decade report (Kralj, 2024). This shortage stresses the need for more investment in the human capital's digital development for advancing digital skills in the Greek HEIs and SE sector and, therefore, for accelerating the digital transformation process.

With regards to the additional good practices collected by Stimuli, in the 1st example (the 'Social Innovation Hackathon') facets of DVC and LLs methodologies are implemented but mainly in the framework of an **extracurricular**, project-based learning context. The hackathon fosters interdisciplinary collaboration by bringing together students, SE stakeholders, and Tech4Good representatives, allowing participants to experiment with digital solutions related to SE challenges. However, the event's **short-term nature** limits its impact on being integrated in SE studies, as students gain exposure to digital entrepreneurship and technological applications without a formalized, structured pathway for continued engagement within SE faculties. While the hackathon does facilitate collaboration between universities and the Tech4Good ecosystem, this interaction is episodic rather than sustained, and the initiative does not provide long-term institutional mechanisms for embedding digital competencies into SE education.

Furthermore, additional initiatives at EU level, such as the example of the 'Social Economy 4Ces (SE4Ces)' project, represent a more structured attempt to integrate DVC and LLs into SE curricula. In particular, the project promotes closer partnerships between HEIs active in Social Economy, SE organisations and community stakeholders through the establishment of local living labs in 4 EU countries (Greece, Italy, UK, Spain) with the aim to build up an international Masters programme on Social Economy and Community Development Strategies. The project actively fosters collaboration between universities and the Tech4Good

ecosystem, utilizing AI-based digital matching platforms and a 'Wiki Platform'⁷⁰, an open-access digital repository to facilitate continuous knowledge exchange. Unlike the hackathon model, which relies on short-term engagements, SE 4Ces lays the foundations for establishing permanent frameworks for experiential learning, embedding digital tools and participatory methodologies into SE education. However, despite its progressive approach, initiatives like SE4Ces still encounter challenges in fully embedding digital transformation methodologies within traditional SE curricula, particularly due to institutional inertia, limited faculty expertise in digital tools, and funding constraints.

- **ITALY**

Most Italian mapped cases are examples of collaboration between universities and the Tech4Good ecosystem, demonstrating the connection of Italian HEIs with Tech4Good ecosystem and leveraging, in most cases, advanced digital tools to address social and environmental challenges or with a focus on developing innovative and socially responsible business models (such as the example of *Contamination Lab*). Although in some of the mapped practices the use of LLS approach is not explicitly implemented, the emphasis of existing practices on co-creation of ideas, students' familiarization with real-world challenges and engagement of several stakeholders (from professors to businesses, research organizations and tech-oriented start-ups) lay the foundation for further future opportunities and direct links between academia and the job market.

Challenges:

- **POLAND**

Digital Value Creation plays an important role in Poland. The very rapid development of technology is leading to very rapid growth of the economy worldwide. In 2023, Poland's digital economy was worth more than 10% of Poland's GDP, contributing to the maintenance of nearly 1.5 million jobs. Poland is a country with huge potential in this topic but faces significant threats to the development of this sector. Some of the most critical risks include **problems with legislation** and the adjustment of the legal framework to the rapidly changing level of technological development. Another problem is the slow development of the digital society - a very large number of people have no or very limited digital skills. With regards to the case of SE, a huge challenge in introducing digitalization

⁷⁰ The SE4Ces project's Wiki Platform is available at: <https://socialeconomy4ces-wiki.auth.gr/index.php?title=Homepage>.

is the **high cost of undertaking such activities**. Activities carried out in this context are usually conducted bottom-up and on their own by individual entities. Despite the limited scope, there are still examples of well-planned and executed activities in Poland in this regard, which could become a very good example worth following. In the educational sphere, the implementation of new digital technologies in SE curricula at the national level faces several significant barriers, including primarily the **lack of technological infrastructure** in universities, which limits the possibility of teaching based on the experimental use of digital tools. Many universities do not have adequate digital laboratories, and access to large datasets that could be used in SE research is limited. Another problem relates to the **insufficient level of digital literacy among academic staff**. Most SE educators have not been trained in new technologies, which means that the digitisation of SE is not perceived as an important topic in the curricula. Additionally, **financial constraints** are another challenge hindering the digitisation of SE education. The lack of funds for the development of digital laboratories, the purchase of licences for specialised software or the funding of research into the application of new technologies in the SE means that universities are unable to test modern solutions. Finally, **regulatory barriers** are also significant. The Polish legal system lacks clear guidelines on the use of blockchain technology or artificial intelligence in the management of SE organisations, which makes universities and social entities cautious about implementing them. Risks related to privacy and data security are another factor hindering the use of digital technologies in this sector. The lack of training courses and interdisciplinary programmes that combine SE with modern technologies means that changes in teaching approaches are implemented very slowly.

- **GREECE**

In the Greek educational setting, the integration of emerging digital technologies such as Blockchain, IoT, and AI into SE curricula in Greece faces several structural and institutional barriers. A key challenge is the **lack of sufficient digital literacy** among SE educators, as most faculty members are unfamiliar with advanced digital tools, making it difficult to integrate them into teaching. SE education remains theoretically driven, with **limited hands-on digital training**, where most students rely on external mentors as part of temporary trainings or workshops, complementary to their SE studies, rather than on faculty's courses for improving their digital expertise.

Another barrier is the absence of structured curricular integration of both approaches. Even with the legacy of valuable cases such as the SE4ces project,

where alternative collaborative models of teaching and digital tools have been promoted, such as the ‘SE4CEs Wiki Platform’ – a digital platform for sharing SE-related educational material and offering inspiration to educators and students in the field of SE – it is evident that DVC and LLs still operate outside formal curricula in Greek SE faculties, limiting their long-term impact and added value. Universities also struggle with **funding constraints**, lacking resources for AI-driven analytics, blockchain applications, and IoT-based platforms. In addition, bureaucratic rigidity further slows institutional adoption of digital learning models. Considering these barriers, collaboration between universities and the Tech4Good ecosystem is often short-term and project-based, without permanent institutional frameworks. DigiSE5.0 addresses these gaps by creating Digital Value Creation Labs (DVCLabs), embedding AI, blockchain, and digital tools into SE education while strengthening university-industry partnerships and ensuring faculty upskilling. By overcoming these barriers, DigiSE5.0 will institutionalize digital transformation in Greek SE curricula, ensuring a sustainable, innovation-driven learning model.

- **ITALY**

According to the mapped Italian cases, which are all related to HEIs and less directly to SE curricula, it is widely observed that the integration of emerging technologies (blockchain, IoT, AI) and digital platforms into SE educational programs in Italy presents both structural and methodological challenges. With regards to the structural challenges, examples of impeding factors on which the limited embeddedness of digital technologies in HE curricula are attributed are the following:

- **Lack of faculty training and change resistance:** Many professors lack adequate preparation to teach how to implement AI, blockchain, and IoT, making their integration into courses difficult. Moreover, older university professors tend to resist change for cultural and generational reasons, hindering the introduction of digital methodologies in courses. Younger faculty members, on the other hand, have not always been socialized to use these technologies.
- **Bureaucracy and complex regulations:** Universities face bureaucratic practices and slow, complex processes that delay the adoption of new technologies and hinder the creation of digital experimentation spaces. The maintenance of advanced infrastructures represents an additional obstacle.

- Implementation of sustainability: The integration of sustainability measures is often fragmented and uncoordinated, making it difficult to adopt innovative practices in academia systematically.
- **Funding access:** Adopting emerging technologies requires significant investments, but funds allocated for digitalization in educational programs are still limited.

Concerning barriers related to applied methodologies in existing SE curricula, mapping findings lead to the following two hindrances:

- **Traditional educational structures:** Italian universities still follow rigid educational models, with little flexibility in adopting new technologies and innovative methodologies.
- **Difficulties in collaboration with businesses:** Although partnerships between universities and the private sector are increasing, structured programs that allow students to work directly with innovative businesses are still lacking. Differences in objectives between universities and businesses can make integrating digital technologies into educational pathways difficult.

However, literature indicates a progressive digitalization already starting in primary schools. This means that the new generations of students are currently growing up with an education increasingly based on digital technologies. In about ten years, future university students and faculties in HEA will be more inclined to use digital technologies, facilitating an expected and socially driven transformation of educational models.

- **BELGIUM**

Despite promising momentum, several challenges temper the growth of higher ed-Tech4Good cooperation. Scaling up successful pilot projects remains difficult – as Belgium’s [AI strategy notes](#), world-class research outputs and social startups often struggle to reach systemic scale or broader markets. Ensuring inclusion and diversity is another concern: about 40% of Belgian citizens are still at risk of digital exclusion, highlighting the need for greater digital literacy and access in any tech-driven social initiative. Sustainable funding and governance structures are critical issues as well; many collaborations rely on short-term grants or ad-hoc arrangements, raising questions of longevity and coordination. On the other hand, clear **opportunities** are emerging. There is strong policy momentum and support for “technology for public good” – the AI4Belgium roadmap explicitly calls for ambitious investment (≥€1 billion by 2030) and collaboration across all stakeholders to ensure technology improves society. This political will, coupled

with European Union innovation funds, offers unprecedented backing to scale initiatives and address resource gaps. Moreover, the interdisciplinary nature of these partnerships enriches learning and innovation: by bringing together computer scientists with sociologists, or students with social entrepreneurs, Belgian projects are spurring creative solutions and new pedagogies that blend technical and social perspectives. Such cross-pollination not only drives **innovation** in addressing community needs, but also prepares a new generation of professionals adept in both digital skills and ethical, inclusive thinking. In sum, Belgium’s evolving cooperation between higher education and the Tech4Good ecosystem is characterized by a dynamic interplay of challenges (scalability, inclusion, resources, governance) and opportunities (novel innovations, interdisciplinary capacity-building, and robust policy support) – a balance that will shape how far these collaborations can advance the common good in the digital age.

IDENTIFIED GOOD PRACTICES IN PARTNER COUNTRIES

During the initial mapping, a total number of 23 good practices were collected by all partners, showcasing a rich variety of existing, intriguing practices and initiatives that have been applied by different stakeholders, spanning from HEIs to community organizations, foundations and technology centers dedicated to digital innovation and, in most cases, to SE educational transformation. Table 1 displays the categorization of all mapped practices, either directed to DVC or LLs application, in relation to the type of organization/institution that initiated each collected practice in each country:

Type of organisation who runs the practice(s)	Number of mapped practices
Foundations, associations or non-profit organizations	6 from Poland 1 from Greece 3 from Belgium
HEIs (including lifelong university learning centers)	3 from Greece 4 from Italy 1 from Poland (Makerspace) 1 from Belgium

Tech innovation centers/ hubs/ incubators	1 from Poland (CoopTech Hub)
International collaborative initiatives	3 projects (TeachBeasts , mapped by UNIBO), SE4Ces mapped by Stimmuli) and baSE project (mapped by CoopsEU)
	Total: 23

Table 3: Categorization of collected practices per type of organization and country level

Before presenting in more detail the collected good practices per country, it is important to notice that the DigiSE5.0 consortium was based on a standardized template that was designed by Stimmuli in the research design phase for documenting under a common strategy any existing good practices in academic area and SE or non-profit sector. The template for the collection of good practices focused on the following elements:

- Name of mapped programme/ initiative
- Organization/Institution (that has initiated this practice)
- Target audience
- Brief description (Objectives, duration, key activities, etc.).
- Digital technologies/tools used & alignment with Digital Transformation in SE Education
- Way of Living Labs utilization (if relevant and available)
- Relevance to the project's approach (Justification for mapping this specific practice and whether it is linked to Digital Value Creation and/or Living Labs approaches).
- Involved stakeholders (by describing the role of SE educators, students, policymakers, or Tech4Good actors in the initiative.)
- Impact (Qualitative and or/quantitative) & measured outcomes (by describing any key indicators of success, including reach, engagement, and digital skill acquisition)
- Scalability & Replicability, with the aim to assess (wherever feasible from the online desk research phase) whether the practice can be adapted and applied in different SE education contexts.
- Challenges and opportunities, by identifying any obstacles faced and strategies used to overcome them.

- Pedagogical approaches (specify what collaborative approaches methods this practice leverages) & competence-based focus (if any)
- Contact information (if available)
- Website / reference link

Even though the primary focus was on national level, the partnership agreed to escalate the research, where needed, at the international level, in case of limited findings at country level.

Template for collecting and presenting the Case Studies

The consortium employed a standardized template to systematically identify and document each good practice. In the following section, this template is presented in its completed form for each of the documented cases.

Name of mapped programme/ initiative	
Organization/Institution (that has initiated this practice) & contact information	
Country of the good practice (Greece, Italy, Belgium, Poland) & City of the good practice's application (if available) Note: <i>clarify the scale of the practice/ initiative implemented (international or national scale).</i>	
Target Audience <i>(Specify the primary beneficiaries: SE educators, students, social enterprises, policymakers, etc.)</i>	
Brief description (objectives, duration, key activities, etc). Note: <i>Indicate whether the initiative is ongoing, completed, or a pilot project.</i>	
Digital technologies/tools used & alignment with Digital Transformation in SE Education <i>(Explain how this practice contributes to integrating digital skills (e.g., data analysis, programming, digital tools application), digital</i>	

<i>innovation platforms or digital technologies (e.g., such as AI, blockchain, IoT) into SE education).</i>	
Way of Living Labs approach's utilization (if relevant and available)	
Relevance to the project's approach <i>(Justification for mapping this specific practice and whether it is linked to Digital Value Creation and/or Living Labs approaches).</i>	
Involved stakeholders <i>(Describe the role of SE educators, students, policymakers, or Tech4Good actors in the initiative.)</i>	
Impact (Qualitative and or/quantitative) & Measured Outcomes <i>(describe any key indicators of success, including reach, engagement, and digital skill acquisition)</i>	
Scalability & Replicability <i>(Assess whether the practice can be adapted and applied in different SE education contexts. If available, provide examples that prove its replicability).</i>	
Challenges & opportunities <i>(Identify any obstacles faced and strategies used to overcome them)</i>	
Pedagogical approaches <i>(Specify what collaborative approaches methods this practice leverages) & competence-based focus (if any)</i>	
Website / reference link	
Collected by: <i>(Name of organization that collected the data.)</i>	
Date of Data Collection <i>(DD/MM/YYYY)</i>	

GOOD PRACTICES FROM POLAND

In the case of Poland, eight (8) good practices were collected in total by the two Polish partners (RRDA and KUE). Most mapped practices are initiatives that have been applied and run by foundations who focus on the socio-cultural development and digital skills of their target audience. In addition, one (1) good practice comes from the HE area, by focusing on the promotion of digital technologies application, while the list of practices closes with an online platform established by a technology center aiming at accelerating the digitalization of cooperatives and SE sector in Poland.

1st practice: *GraTy Foundation*

Name of mapped programme/ initiative	Game Based Learning
Organization/Institution (that has initiated this practice)	GraTy Foundation https://fundacja-graty.com/ fundacja-graty@fundacja-graty.com
Country and/or city of the good practice application	The initiative is run in Poland, in the city of Krosno in the Podkarpackie Voivodeship. It is run on a national scale.
Target Audience	This activity is primarily aimed at young people, young adults, people in crisis, neuroatypical people.
Brief description (objectives, duration, key activities, etc).	The aim of the initiative is to use games to promote education and development in an interesting way, and through this also to support social, cultural and civic initiatives among the participants. The use of games to promote education among the target audience is intended to make it easier to reach people who would not otherwise be interested in learning and personal development, and to take full advantage of the opportunities they offer. At the same time, the foundation creates a modern and dynamic space where participants can undertake and develop their

	<p>own innovative initiatives while interacting with others.</p> <p>The coworking space created as part of the foundation is well-equipped with a wide range of office equipment and has internet access, providing work comfort and numerous opportunities.</p> <p>The foundation was established in 2022. Since then, activities have been ongoing and interested parties can come forward to take part in ongoing activities and initiatives.</p>
<p>Digital technologies/tools used & alignment with Digital Transformation in SE Education</p>	<p>This practice increases the interest of its audience through various games and workshops. This is a way of increasing interest, especially among young people, in the opportunities offered by modern technology. At the same time, the use of educational games makes it possible to use the participants' interest to learn and develop their competences.</p>
<p>Way of Living Labs approach's utilization (if relevant and available)</p>	<p>The initiative fits perfectly with Living Labs. The Foundation is a place created to promote personal development and all kinds of initiatives and creative solutions. It creates a special place where different people and entities can develop their own ideas together and share their knowledge and experience with other participants. Through the joint use of the solutions presented by those taking part in the initiative, they can share their creative ideas and take action together, thereby improving their social skills and learning to work as a team.</p> <p>The foundation's activities have a positive impact on building social competences and building relationships, as well as enabling</p>

	<p>people to develop passions and acquire new skills.</p>
<p>Relevance to the project's approach</p>	<p>The practice described is a very interesting initiative that fits in with the project. The use of games to promote learning and personal development is an excellent way to increase interest among younger and deprived people in learning and education. By using interesting and innovative ways of acquiring knowledge and skills, these activities can reach a huge number of people who have previously shown a lack of interest towards similar initiatives.</p> <p>The use of games and activities, which are mainly associated with entertainment, as a means of enabling a more interesting approach to education and development can, in a practical way, encourage more activity on the subject and positively influence interest in new developments. The use of VR technology will help to attract attention and promote modern solutions and technologies.</p>
<p>Involved stakeholders</p>	<p>The facilitators of this initiative are responsible for keeping participants engaged through appropriately guided activities.</p>
<p>Impact (Qualitative and or/quantitative) & Measured Outcomes</p>	<p>A quantitative indicator would be the number of people who would be interested in the applied solutions. Attracting a large number of people belonging to the target group would indicate the possibilities offered by this initiative in terms of increasing interest in the activities presented within the target group. This would show the breadth of possibilities offered and the large group of people the activities could reach.</p>

<p>Scalability & Replicability</p>	<p>The practice can be further adapted in different contexts without too many problems. The popularity of games of all kinds has continued to grow in recent years. It is very easy to access educational games and this market continues to grow by offering more and more opportunities. The use of modern technology such as VR technology is not a problem. Prices are increasingly accessible and operation is easy enough not to be a challenge.</p> <p>The Game Based Learning initiative, using educational games for learning and development, is increasingly appearing in various papers and articles as an effective way of getting audiences interested in learning as an interesting and intriguing activity. At the same time, the use of different types of games accustoms users to the use of technology, which is increasingly involved in our daily lives - private and professional.</p>
<p>Challenges & opportunities</p>	<p>Games are very often associated solely with entertainment. The opportunities presented by their use in education are not as widely known, especially among older people. A very common theme is excessive computer use among children and young people.</p> <p>Overcoming such prejudices would be possible by promoting responsible use of games as a way of increasing interest in education and encouraging personal and professional development among younger people. At the same time, showcasing educational games as a way of increasing the user's skills and familiarity with the technology, which is being used more and</p>

	more widely, could also increase interest among the older part of the population.
Pedagogical approaches	The initiative seeks to increase the passion for games among the target audience combined with using their involvement to promote social, cultural and civic initiatives among them. Reaching out to younger people through games would simultaneously support their development in other fields, including personal and social development.
Website / reference link	https://fundacja-graty.com/

2nd practice: **OPTEA Foundation**

Name of mapped programme/ initiative	Vocational activation of people with disabilities through the development of digital competences.
Organization/Institution (that has initiated this practice) & contact information	OPTEA Foundation Jasionka 953, 36-002 Jasionka (OPTEA Foundation Secretariat) ul. Krzyżanowskiego 4A, 35-329 Rzeszów https://www.optea.org/pl/
Country and/or city of the good practice application	The good practice described here originates from Poland. The OPTEA Foundation has its headquarters in Jasionka, while its secretariat is located in Rzeszów (Podkarpackie Voivodeship). The activities of the OPTEA Foundation extend not only to the Podkarpackie Voivodeship, but to the whole of Poland.
Target Audience	The target audience for the OPTEA Foundation is people with disabilities who face unemployment and exclusion.
Brief description (objectives, duration, key activities, etc).	The core activity of the OPTEA Foundation is the vocational activation of people with disabilities. To this end, numerous activities

	<p>are carried out to mediate between disabled jobseekers and employers. It organises numerous professional events, providing an opportunity to make new acquaintances and contacts.</p> <p>The OPTEA Foundation also carries out numerous activities to develop the competences of disabled jobseekers. This gives them the chance to acquire new skills and increase their value on the labour market. Counselling is offered to help identify aptitudes, as well as tailor-made training and courses to increase employability.</p>
<p>Digital technologies/tools used & alignment with Digital Transformation in SE Education</p>	<p>As part of its activities, the OPTEA Foundation supports the acquisition of digital competences by people with disabilities, which are extremely important in today's labour market. The acquisition of digital competences by people with disabilities, gives them a great opportunity to get a job that is more accessible to people with disabilities and well paid.</p>
<p>Way of Living Labs approach's utilization (if relevant and available)</p>	<p>The Foundation engages in activities that promote the testing of new technological solutions in everyday life. Organising workshops and training sessions allows people to experiment with digital tools that support participants in learning and acquiring new skills.</p> <p>The Foundation is committed to equal opportunities, organising internships, work placements, training and counselling support. This approach fosters the creation of social and professional inclusion, especially in the context of people with disabilities, enabling them to participate</p>

	<p>more fully in the digital economy. It also engages participants in a variety of activities to support the development of entrepreneurial competences.</p>
<p>Relevance to the project's approach</p>	<p>The practice described is relevant to the project because of its impact on the professional market and society. Increasing digital competences through courses and workshops that broaden the range of skills and experience of people with disabilities has an extremely important educational role, which thus supports the digital transformation in Poland. By increasing the number of people working in the sector, activities of this kind have a significant impact on its future - particularly in supporting people who would otherwise struggle with disability and exclusion alone and fail to find their place in the labour market.</p>
<p>Involved stakeholders</p>	<p>Intermediaries between disabled jobseekers and employers are of great importance in this practice. These intermediaries, knowing the requirements of employers and the competences possessed by job seekers, can advise job seekers on the best courses of action and on noteworthy development paths.</p> <p>Guidance plays a huge role in this case. It allows them to define a career path and make decisions that will have a direct impact on their future.</p> <p>Course and training providers are also not to be overlooked. These include specialists in various fields who have the knowledge needed in each case and who are able to pass on this knowledge, transforming it into</p>

	concrete skills and competences that will determine the future of the people taking these courses.
Impact (Qualitative and or/quantitative) & Measured Outcomes	A concrete measurable indicator in this practice is the number of people who have taken the courses in question and for whom these courses have enabled them to gain employment in a particular profession.
Scalability & Replicability	The problem of disability and exclusion of such people is relevant regardless of country or region. Because of the type of challenges such people face, in many cases they have to overcome numerous obstacles. In many cases, they require assistance and support. Support for the acquisition of relevant competences (including digital competences) is a project that can be organised and introduced, as much as possible to be replicated and adopted.
Challenges & opportunities	A very big challenge in this case is the question of maintaining the high quality of the services provided, so that the courses and training provided actually translate into employment for these people in the future. It is also necessary to know the existing labour market and the requirements of employers so that career counselling for people with disabilities will have a positive impact on their future.
Pedagogical approaches	As part of this practice, the practitioners point the target audience to the opportunities available and help them find the best direction for their future. Through courses and training, they influence the development of competences. Digital competences are very important here, as

	they offer great opportunities and are an extremely future-oriented career direction in the global changes currently taking place. At the same time, this direction is more easily accessible for people with disabilities, especially in terms of mobility problems.
Website / reference link	https://www.optea.org/pl/

3rd practice: **Makerspace@UW**

Name of mapped programme/ initiative	Makerspace@UW – Creative Space for Prototyping
Organization/Institution (that has initiated this practice) & contact information	Inkubator Uniwersytetu Warszawskiego ul. Krakowskie Przedmieście 26/28, 00-927 Warszawa, Poland Contact: Inkubator UW - makerspace@uw.edu.pl
Country and/or city of the good practice application	Poland, Warsaw Initiative is implemented at the national scale, with a focus on benefiting students, researchers, and staff at the University of Warsaw.
Target Audience	The primary beneficiaries are students, doctoral candidates, and employees of the University of Warsaw. The space is intended for those interested in prototyping, innovation, and practical applications of their academic projects.
Brief description (objectives, duration, key activities, etc.).	Makerspace@UW is a coworking and prototyping space created by the University of Warsaw, specifically to help students, researchers, and employees of the university develop practical projects. The space includes specialized workshops such as 3D printing, electronics, woodworking, sewing, and computing.

	<ul style="list-style-type: none"> • Objectives: To foster innovation, creativity, and hands-on learning among university students and staff, facilitating the development of prototypes that could be used in business development or technological advancements. • Duration: Ongoing (continuous). • Key activities: <ul style="list-style-type: none"> • Access to specialized workshops (3D printing, woodworking, sewing, electronics, etc.). • Free workshops and training on using different tools and equipment. • Support for developing prototypes and collaborating with experts. • Networking and collaboration opportunities in a community-oriented environment.
<p>Digital technologies/tools used & alignment with Digital Transformation in SE Education</p>	<p>Makerspace@UW incorporates various digital technologies such as:</p> <ul style="list-style-type: none"> • 3D printers (Prusa i3 MK3(S)): Utilization of digital modeling and manufacturing tools. • Electronics workstations: Use of microcontrollers (Arduino), oscilloscopes, and other digital tools for prototyping. • Computing workstations: Software tools like Autodesk Inventor, Anaconda, Visual Studio Code for design and development purposes. This initiative aligns with the digital transformation in Social Enterprise (SE) education by providing hands-on experience with emerging technologies like IoT (Internet of Things), programming, and digital

	<p>fabrication. By engaging with these tools, students gain practical experience that enhances their digital skills and encourages the application of these skills in real-world projects.</p>
<p>Way of Living Labs approach's utilization (if relevant and available)</p>	<p>Makerspace@UW can be considered a Living Lab approach in practice. The space functions as an experimental environment where students can test, develop, and refine ideas through real-world prototyping and collaboration. This setting supports the development of solutions that can be iterated upon based on feedback, which is a hallmark of the Living Labs methodology.</p>
<p>Relevance to the project's approach</p>	<p>This practice is closely linked to the Digital Value Creation and Living Labs approaches as it integrates academic research and student-driven innovation in a physical space designed to facilitate the development of market-ready prototypes. Makerspace@UW provides students and researchers the opportunity to create digital solutions, which aligns with the idea of digital value creation through hands-on engagement with technology.</p>
<p>Involved stakeholders</p>	<p>SE educators: Provide training and mentoring to students in using the tools and technologies available in the space.</p> <p>Students: Primary creators of projects and prototypes, engaging in collaborative work and innovation.</p> <p>Tech4Good actors: Offer guidance on how prototypes could be applied in the real world, helping students link their projects to sustainable and socially responsible business models.</p>

	<p>University staff and researchers: Contribute their expertise and help students refine their projects.</p>
<p>Impact (Qualitative and or/quantitative) & Measured Outcomes</p>	<p>Qualitative: Increased student engagement in interdisciplinary projects and innovation. Development of market-ready prototypes by students. Positive feedback from students who gain hands-on experience in both digital and physical prototyping.</p> <p>Quantitative: High participation rates in workshops and reservations for workspace usage. Successful completion of projects that have been presented at academic conferences or integrated into startup ventures.</p>
<p>Scalability & Replicability</p>	<p>The current practice is highly scalable and replicable. The model can be adapted by other universities or institutions to foster innovation and hands-on learning. It can be applied in other contexts, such as in private companies or other academic environments, to bridge the gap between academia and industry. Other institutions could follow the example of Makerspace@UW by offering collaborative spaces with access to specialized tools for prototyping and development.</p>
<p>Challenges & opportunities</p>	<p>Challenges: Managing the demand for the space and tools due to limited capacity. Ensuring consistent access to specialized equipment, which requires maintenance and constant updates.</p>

	<p>Navigating the logistical aspects of the educational space, such as coordinating schedules and training for students.</p> <p>Opportunities:</p> <p>Expanding the available resources and toolkits to include more advanced technologies.</p> <p>Strengthening collaboration with external companies and startups to ensure students' prototypes are developed in real-world contexts.</p> <p>Creating a broader network for startups to emerge from these student projects.</p>
Pedagogical approaches	<p>The space follows collaborative learning and experiential learning methods, where students learn through hands-on work, collaboration, and real-world problem-solving. This approach is aligned with competence-based education, where students gain practical and transferable skills. The integration of digital fabrication tools encourages students to engage in critical thinking, design, and iteration processes—important elements in entrepreneurial and social enterprise education.</p>
Website / reference link	https://makerspace.uw.edu.pl/

4th practice: **Fundacja Q**

Name of mapped programme/ initiative	Support to those in need through the development of digital competences
Organization/Institution (that has initiated this practice) & contact information	<p>Q Foundation</p> <p>ul. Jana Pawła II 4, 39-460 Nowa Dęba</p> <p>https://fundacjaq.pl/</p> <p>+48 530 282 061</p> <p>kontakt.fundacjaq@gmail.com</p>

Country and/or city of the good practice application	<p>Q Foundation operates in Poland. It has offices in three provinces - Podkarpackie (Nowa Dęba and Rzeszów), Małopolskie (Kraków) and Śląskie (Katowice). It operates on a national scale.</p>
Target Audience	<p>The Q Foundation's target audience is people in need, in need of support and struggling with exclusion. They include younger and older people as well as people with disabilities, regardless of nationality and gender.</p>
Brief description (objectives, duration, key activities, etc).	<p>The Q Foundation supports its target audience through various outreach activities. Among these activities is a course in basic digital competences, aimed at people with a low level of familiarity with technology. Through the development of basic digital competences, the foundation enables such people to better position themselves in times of digital transformation, where these skills are often needed in everyday life and their lack is a significant challenge. The lack of basic digital competences is also dangerous, due to the increasing threats such as fake news and scams, which, due to the development of technology and different types of tools, are often difficult to recognise.</p> <p>The Foundation also runs workshops on communication through social media. They enable people who have had no previous experience with this type of communication to get an easier idea of how it works. They also allow participants to acquire more advanced skills that can also prove useful in their professional lives, such as reaching</p>

	target groups or monitoring and analysing results.
Digital technologies/tools used & alignment with Digital Transformation in SE Education	As part of its activities, the foundation supports the development of digital competences among people with less digital literacy. It familiarizes them with the possibilities offered by basic programmes such as documents and spreadsheets, mail and image editing. Participants also can become more familiar with the use of search engines and social media. The competences developed also include data analysis and searching for sources and recognising the reliability of information found on the Internet.
Way of Living Labs approach's utilization (if relevant and available)	The activity run by the Q Foundation allows participants to familiarise themselves with technology and strengthen their competences. The courses provide the opportunity to acquire new competences with the help of people who can provide the most important information, dispel doubts and show solutions on the spot. The digital competence courses, soft skills workshops and psychological support provided by the Q Foundation help people who have difficulty finding their way in the modern world and who cannot cope with the challenges they face.
Relevance to the project's approach	The development of basic digital competences is extremely important, due to the large number of people who lack such skills. Carrying out a digital transformation is made more difficult when many people have difficulty adapting to the technological challenges that already exist. Education on this topic will allow these people to better

	<p>adapt to the current situation and prepare for technological developments, leading to more advanced tools and solutions that will be widely used in the future.</p>
Involved stakeholders	<p>Individuals who deliver courses and training or impart knowledge to participants play an important role in this initiative. They should do so in a way that is accessible and draws participants' attention. The people taking part in such courses often have very little understanding of the subject and it is therefore important to properly convey the basics to them so that they benefit from participating in this initiative.</p>
Impact (Qualitative and or/quantitative) & Measured Outcomes	<p>An important measurable indicator in this case is the number of people who have benefited from the courses, workshops and other types of assistance offered.</p>
Scalability & Replicability	<p>The large number of people who lack basic digital competences is not just a problem in Poland. The entire European Union is struggling with this problem. Therefore, such initiatives are an important step that prepares society for the digital transformation.</p>
Challenges & opportunities	<p>The challenge here is to be able to reach the people targeted by the initiative. The solution to this problem is to carry out extensive promotion of this type of solution to interest the target audience and encourage them to participate.</p>
Pedagogical approaches	<p>This initiative makes use of face-to-face meetings with course participants, where they can get the knowledge and skills they need, as well as being able to get help with topics they are not coping with. This relates</p>

	largely to digital competences, but it is also important to adapt them more generally to life in the current reality of digital transformation and rapid technological development.
Website / reference link	https://fundacjaq.pl/

5th practice: ***Avalon Foundation***

Name of mapped programme/ initiative	Support for the development of professional competence of people with disabilities.
Organization/Institution (that has initiated this practice) & contact information	Avalon Foundation - Direct Assistance to the Disabled ul. Domaniewska 50A, 02-672 Warszawa https://www.fundacjaavalon.pl/ +48 22 266 82 36 kontakt@fundacjaavalon.pl
Country and/or city of the good practice application	The good practice comes from Poland. The foundation is headquartered in Warsaw, but the activity is carried out throughout Poland - it is implemented on a national scale.
Target Audience	The target audiences are people with disabilities, chronic illnesses and spinal injury. Support is also provided to the families of those requiring support, who also have to cope with the situation.
Brief description (objectives, duration, key activities, etc).	The goal of the initiative is to provide support to those in need who belong to the targeted recipients. This assistance includes a variety of activities aimed at improving their lives and restoring their ability to be active in various spheres of life. The assistance includes a wide range of support, including financial assistance, strengthening of social skills and development of professional competence through training and

	<p>internships. As part of the assistance, computer workshops are offered to develop their knowledge and skills under the guidance of experienced trainers. In this way, they directly strengthen the digital competencies of these individuals and help them to do better in the future.</p>
<p>Digital technologies/tools used & alignment with Digital Transformation in SE Education</p>	<p>The internship allows the target audience to strengthen their digital competencies under the guidance and support of experienced instructors, so people can effectively develop their digital skills.</p>
<p>Way of Living Labs approach's utilization (if relevant and available)</p>	<p>Activities are carried out that support the targeted recipients in finding employment and career development. These activities are carried out through counseling, workshops, individual support and job placements. They allow the target recipients to find their career path, acquire new competencies and find employment. All this is carried out with the direct support of counselors and instructors, who work with participants to find the best path for their development.</p>
<p>Relevance to the project's approach</p>	<p>This practice supports the development of basic digital competencies and the acquisition of professional competencies and finding employment among those most in need. In this way, it allows them to find their way in society and bring them back to the labor market. By doing so, it directly increases the number of people who have the skills and competencies to carry out a successful digital transformation.</p>
<p>Involved stakeholders</p>	<p>Instructors and counselors are directly involved, providing support to participants and working with them to find a path of</p>

	<p>personal and professional development for them.</p> <p>Employers also benefit from this practice. Through cooperation with the foundation, various entities can gain employees with the right competencies, acquired through training and workshops.</p>
Impact (Qualitative and or/quantitative) & Measured Outcomes	<p>The impact of the practice can be measured by the number of participants in the workshops offered to develop digital and professional competencies, as well as by the number of people who subsequently gained employment in occupations requiring these competencies.</p>
Scalability & Replicability	<p>The practice can be replicated as much as possible. Increasing digital competence through tailored counseling and workshops is feasible in any country.</p>
Challenges & opportunities	<p>A very big challenge in this case rests with those who conduct counseling and workshops. The activities carried out concern people with special needs who require more attention, support and effort. At the same time, finding the right career path for people with special needs is often a challenge.</p> <p>The solution is the appropriate experience of instructors, who should have high skills as well as a lot of empathy and understanding. This will allow them to provide the right assistance that will make a significant difference in the lives of these individuals.</p>
Pedagogical approaches	<p>The practice involves direct contact between counselors and trainers and participants. By learning in a supportive environment and with the help of experienced mentors, these</p>

	<p>individuals can gain important competencies, including digital competencies. At the same time, by helping them find a career path, these individuals will be able to put their acquired skills into practice through internships and support in finding employment.</p>
Website / reference link	https://www.fundacjaavalon.pl/

6th practice: *Fundacja Akademia Rozwoju*

Name of mapped programme/ initiative	Support for personal and professional development
Organization/Institution (that has initiated this practice) & contact information	<p>Akademia Rozwoju Foundation ul. Katedralna 5/20 lok. 3, 37-700 Przemyśl https://akademia-rozwoju.org/ +48 602 126 569 biuro@akademia-rozwoju.org</p>
Country and/or city of the good practice application	The country of origin of the practice is Poland typically applicable at national level. Activities are carried out mainly in the Podkarpackie region.
Target Audience	The target audience is local communities. Activities are aimed at supporting the development of competence and entrepreneurship of people who, discovering new opportunities and finding motivation to act, will positively affect their surroundings and local community.
Brief description (objectives, duration, key activities, etc).	Activities are based on support for personal and professional development. Among the activities carried out are educational activities, training and the implementation of various projects. At the same time, as part of its activities, the foundation inspires development and action, as well as creates

	the right environment and space for the emergence of innovative ideas.
Digital technologies/tools used & alignment with Digital Transformation in SE Education	As part of its activities, the foundation carries out activities that support the development of competence and entrepreneurship. Extensive digital competence development activities are aimed at people with little experience in this area. As part of the projects, activities were carried out to support the basic skills that are needed in everyday life. They concern, among other things, the use of computers, basic programmes, mail and social media. They develop the ability to search and analyze information and support the ability to take full advantage of the opportunities offered by the Internet.
Way of Living Labs approach's utilization (if relevant and available)	With the support of counselors and through the implementation of courses and training, participants have the opportunity to develop their social and professional competencies, as well as their commitment and innovation in the labor market. In this way, it builds the region's human resource and technological potential and supports the local community.
Relevance to the project's approach	The practice supports the development of digital core competencies in local communities. Through personal and professional development, as well as enhancing competence and entrepreneurship, it supports digital transformation.
Involved stakeholders	Ongoing activities involve counselors and course and training providers. Involves the local community extensively.

Impact (Qualitative and or/quantitative) & Measured Outcomes	The results of the activities carried out can be measured by the number of people taking the courses, who thus increase their digital competence.
Scalability & Replicability	The practice is as replicable and adaptable as possible. Rapidly changing reality and technology means that many people cannot keep up with the demands of the labor market. Such people, by strengthening their motivation for personal development and professional competence, can once again regain the chance to regain their commitment and support and develop their local communities.
Challenges & opportunities	Conducting activities that develop competencies and support personal and professional development requires experience and skills from those conducting these activities.
Pedagogical approaches	Activities are conducted through courses and training, conducted with experienced instructors. As part of the activities, participants receive access to the knowledge and skills they need. Contact with an advisor helps them learn about their own potential and the most appropriate directions for development. The development of digital competencies allows them to better match their skills to the requirements of the labor market and prepare for the challenges that await them.
Website / reference link	https://akademia-rozwoju.org/

7th practice - **PLZ Platform by CoopTech Hub**

Name of mapped programme/ initiative	PLZ Platform by CoopTech Hub – Digital Solutions for Social Economy
---	---

<p>Organization/Institution (that has initiated this practice) & contact information</p>	<p>CoopTech Hub – the first technology center dedicated to cooperative and social economy innovation in Poland. https://www.hub.coop</p>
<p>Country and/or city of the good practice application</p>	<p>Country: Poland City: Warsaw Scale: National, with potential for international replication The initiative operates at a national level, providing digital infrastructure and education for cooperatives and social enterprises across Poland. This model and technological solutions can be adapted internationally.</p>
<p>Target Audience</p>	<ul style="list-style-type: none"> • Social enterprises & cooperatives – to facilitate digital governance and financial management. • Policymakers & local governments – to explore digital governance solutions for cooperative ecosystems. • Trade unions & labor organizations – to support democratic decision-making, worker participation, and digital rights advocacy. • Social activists & community leaders – to promote participatory governance and digital inclusion in social economy initiatives. • Local residents & cooperative members – to engage in co-creation processes and digital community-building efforts. • Social educators – to integrate digital tools and cooperative governance concepts into social and community education.
<p>Brief description (objectives, duration, key activities, etc).</p>	<p>The CoopTech Hub & PLZ Platform is a long-term initiative designed to digitally transform social economy organizations by providing</p>

	<p>them with innovative tools for management, governance, and community participation.</p> <p>Objectives:</p> <ul style="list-style-type: none"> • To digitize social economy organizations and cooperative governance. • To develop a digital infrastructure that enhances transparency, participation, and resource-sharing within cooperatives. • To educate SE stakeholders on the benefits of digital transformation. • To facilitate financial sustainability and digital sovereignty for social enterprises. <p>Key activities:</p> <ul style="list-style-type: none"> • Development of the PLZ Platform, a digital ecosystem for cooperatives. • Training programs and workshops on digital skills for SE actors. • Implementation of blockchain-based governance models. • Creation of a digital marketplace for cooperative products and services. <p>Status: Ongoing – continuously expanding with new digital features and reaching more cooperatives.</p>
<p>Digital technologies/tools used & alignment with Digital Transformation in SE Education</p>	<p>CoopTech Hub and PLZ Platform integrate cutting-edge digital technologies to modernize social economy education and practice:</p> <ul style="list-style-type: none"> • Blockchain – Secure, transparent, and decentralized decision-making for cooperatives.

	<ul style="list-style-type: none"> • AI-driven analytics – Providing insights into financial health and operational efficiency of SE organizations. • Digital cooperative governance – Enabling online voting, participatory budgeting, and resource-sharing. • Platform-based economy tools – Creating a decentralized marketplace for SE actors. <p>These tools enable educators, students, and SE leaders to understand and apply digital governance, smart contracts, and AI-driven decision-making within their organizations.</p>
<p>Way of Living Labs approach's utilization (if relevant and available)</p>	<p>CoopTech Hub applies Living Labs methodology by engaging real-world SE stakeholders in co-designing and testing digital governance models. Through an iterative, user-centered approach, cooperatives actively participate in shaping and optimizing PLZ's functionalities.</p> <p>PLZ Platform can be partially considered as an example of a Living Lab, as it incorporates key elements such as co-creation, user participation, and real-world experimentation with digital tools in the social economy sector. The platform actively engages cooperatives and social enterprises in shaping its functionalities, allowing them to test and adapt innovative governance and resource-sharing solutions in real operational conditions. Moreover, its use of blockchain, AI, and decentralized digital infrastructure aligns with the technological dimension often found in Living Labs.</p>
<p>Relevance to the project's approach</p>	<p>The initiative aligns with Digital Value Creation (DVC) and Living Labs (LLs) by enabling cooperative enterprises to</p>

	<p>generate value through digital governance models, providing hands-on experience with digital innovation tools, and demonstrating how digital transformation strengthens cooperative resilience. The PLZ Platform embodies these principles by offering practical digital tools for SE governance, allowing users to co-create, experiment, and refine solutions in an open, real-world environment, making it a Living Lab-like initiative.</p>
<p>Involved stakeholders</p>	<p>Cooperative educators and researchers – Develop training materials and case studies. Social entrepreneurs and cooperative leaders – Pilot digital governance solutions. Tech4Good organizations – Contribute to blockchain, AI, and data solutions. Policymakers and municipal actors – Explore the role of digital platforms in urban cooperative economies.</p>
<p>Impact (Qualitative and or/quantitative) & Measured Outcomes</p>	<p>Key indicators of success include 100+ cooperatives onboarding onto the PLZ Platform, increased digital literacy among cooperative leaders, and greater transparency in decision-making. The initiative also fosters expanded community engagement through digital participation tools and growing adoption of AI-driven financial management in social enterprises. Additionally, PLZ enhances digital skills development for SE students by providing hands-on experience in financial management, data analysis, and blockchain applications in cooperatives, with measurable outcomes such as user engagement, completed simulations, and</p>

	<p>obtained certifications in digital social economy.</p>
<p>Scalability & Replicability</p>	<p>The PLZ Platform and CoopTech Hub model can be adapted to various social economy education contexts by expanding partnerships with universities, integrating digital cooperative governance into SE curricula, and developing localized versions of PLZ for different economic and cultural settings. Its open structure allows it to function as a digital social economy lab, enabling universities to use it for cooperative management simulations, digital decision-making training, and real-case analysis. Additionally, PLZ can support Living Labs experiments in other EU countries, where cooperative governance and digital transformation are key priorities.</p>
<p>Challenges & opportunities</p>	<p>Challenges:</p> <ul style="list-style-type: none"> • Limited digital skills among SE leaders <ul style="list-style-type: none"> - Addressed through training and capacity-building. • Regulatory uncertainty around blockchain governance models - Engaging policymakers to develop SE-friendly digital policies. • Financial sustainability - Exploring alternative funding models, such as cooperative investment pools. <p>Opportunities:</p> <ul style="list-style-type: none"> • Growing interest in platform cooperativism as an alternative to corporate digital monopolies. • Potential integration of digital cooperative education into higher education programs.

	<ul style="list-style-type: none"> Increasing demand for decentralized governance models in social enterprises.
Pedagogical approaches	<p>The initiative employs experiential, collaborative learning methods through:</p> <p>Hands-on training with digital platforms for SE management.</p> <p>Problem-solving workshops using AI, blockchain, and digital governance tools.</p> <p>Competence development in digital leadership, cooperative economy, and tech ethics.</p>
Website / reference link	<p>https://www.hub.coop/</p> <p>https://plz.pl/vision/</p>

GOOD PRACTICES FROM GREECE

In the case of Greece, five (5) good practices were collected totally by AUTH and Stimuli, including in particular: one educational platform operating as an association and providing digital educational content in SE education, one HE master's programme showcasing how issues in SE relate to the topic of digital commons, one university-led seminar focusing on skills and concepts in digital innovation and SSE and student-centred annual event focused on entrepreneurship, digital transformation and social innovation. The fifth mapped practice (*SE4Ces project*) is included in the list of international initiatives as an EU-funded project in the area of SE education.

1st practice - **Educational platform 'Kalomathe'**

Name of mapped programme/ initiative	Educational platform "Kalomathe" (https://kalomathe.gr/ , https://edu.kalomathe.gr/)
Organization/Institution (that has initiated this practice) & contact information	Kalomathe is an association of individuals, collectives, and organizations that support the development of the Social and Solidarity Economy (SSE) in Greece. Email: sseeduplatform@gmail.com
Country and/or city of the good practice application	It is based in Thessaloniki but operates as a national coalition/association, with

	participating organizations and individuals from various cities across Greece.
Target Audience	The primary beneficiaries are individuals already involved in social economy (SE) initiatives or those interested in starting new ones. However, it is also aimed at SE students.
Brief description (objectives, duration, key activities, etc).	<p>Kalomathe.gr is an educational platform collaboratively designed to support students, teachers, and lifelong learners by providing access to high-quality educational resources, interactive tools, and learning opportunities. It deploys digital opportunities to promote distance and mutual SE education. Its primary objectives include:</p> <ul style="list-style-type: none"> -Support existing SE initiatives and the establishment of new ones -Enhance SE educational outcomes -Promote equal access to learning materials for all people interested in SE -Encourage self-paced SE learning -Diffuse good SE practices and share know-how <p>The project began in 2017 and is ongoing. It is designed as a long-term initiative to continuously adapt to the evolving needs of the SE community.</p> <p>Key activities include:</p> <ul style="list-style-type: none"> -Development and distribution of digital educational content (e.g., videos, quizzes, and exercises). - Offering tools for personalized learning paths and progress tracking. -Organization of workshops and events for advancing SE. -Providing an online platform for peer-to-peer learning.

<p>Digital technologies/tools used & alignment with Digital Transformation in SE Education</p>	<p>Kalomathe.gr is a digital, open educational platform that provides access to open educational resources (OERs) and tools, such as videos, quizzes, and exercises, to encourage SE learning. Additionally, it facilitates networking and knowledge exchange among SE stakeholders through online forums and organized workshops (both physical and online), thus fostering innovation in SE practices.</p>
<p>Way of Living Labs approach's utilization (if relevant and available)</p>	<p>Kalomathe operates through an open and participatory process, engaging SE educators, researchers, practitioners, supporting institutions, and SE initiatives. All educational materials developed, collected, and uploaded in the platform are the result of a collaborative effort involving these stakeholders.</p>
<p>Relevance to the project's approach</p>	<p>Kalomathe is highly relevant to the project's approach as it aligns mainly to Living Labs methodologies, while also being itself an online educational platform.</p> <p>Kalomathe operates as a collaborative and participatory platform, engaging SE educators, researchers, practitioners, and institutions in the co-creation of educational content. This mirrors the Living Labs approach, which emphasizes user involvement and real-world experimentation. Through videos, quizzes, workshops, forums, and peer-to-peer learning, the platform creates a dynamic ecosystem where stakeholders can learn, test, refine, and share innovative SE solutions.</p> <p>Additionally, its use of digital technologies, such as interactive learning materials, online</p>

	forums and personalized learning paths, fosters innovation and scalability in SE practices.
Involved stakeholders	SE educators, researchers, practitioners, supporting institutions, and SE initiatives participate in Kalomathe's governance, collaboratively planning and developing all its activities.
Impact (Qualitative and or/quantitative) & Measured Outcomes	<p>Kalomathe has enhanced social economy (SE) education and innovation by providing access to open educational resources (OERs) and tools that support learning and collaboration. Additionally, it has created a dynamic network of educators, researchers, practitioners, and SE organizations. This network has recently facilitated the development of the "KOINON" network, a network of SE organizations based in Thessaloniki, and the establishment of an energy community.</p> <p>The platform's educational materials are organized into the following 9 units/lessons:</p> <ol style="list-style-type: none"> 1-Introduction to Social Solidarity Economy 2-Team: The Core of an SE Initiative 3-Choosing an Economic Activity 4-The Institutional Context of SE 5-Marketing for SE 6-Business Plan for SE Initiatives 7-Commons 8-Community Economic Development 9-Energy Communities
Scalability & Replicability	OERs from Kalomathe are also used as supplementary reading material by postgraduate students in the Master's Program on Social and Solidarity Economy at the Hellenic Open University. Additionally, online educational materials on SE targeting

	<p>similar audiences have been developed internationally. Examples include a MOOC on Social and Solidarity Economy by the ILO (https://www.itcilo.org/courses/mooc-social-and-solidarity-economy) and online lessons by RIPESS (https://edu.ripest.eu/?lang=en).</p>
<p>Challenges & opportunities</p>	<p>One of the main challenges for the association is securing the financial resources needed to sustain its operations. The current administrative board is exploring various strategies to address this issue, including applications for EU-funded programs and national funding on a regional level aimed at supporting SE.</p> <p>Regarding the platform itself, while the first three educational units included discussion forums for each respective topic, these forums have seen limited activity. To date, there have been only 4 comments across all 3 forums, contributed by 2 users, which is probably the reason why the rest of the 6 units did not involve a forum.</p>
<p>Pedagogical approaches</p>	<p>The platform fosters collaboration through:</p> <ul style="list-style-type: none"> • Peer-to-Peer Learning: Users can engage in discussion forums to share experiences and insights. • Participatory Content Creation: Educational materials are co-developed by SE educators, researchers, practitioners, and organizations, ensuring relevance and practicality. <p>Additionally, 'Kalomathe' emphasizes skill development through theoretical and practical learning. The platform offers educational units on foundational SE concepts (e.g., commons, community</p>

	economic development) as well as practical skills like “Marketing for SE” and “Business Planning for SE Initiatives.”, including soft skills development. Unit 2, for example, focuses on team-building, a critical skill for SE initiatives.
Website / reference link	https://kalomathe.gr/

2nd practice - ***Concepts and Skills in Digital Innovation and the Social and Solidarity Economy***

Name of mapped programme/ initiative	Concepts and Skills in Digital Innovation and the Social and Solidarity Economy (seminar)
Organization/Institution (that has initiated this practice) & contact information	KEDIBIM, University of Aegean in collaboration with @popsi (+30 210 4629300, seminars@apopsi.gr)
Country and/or city of the good practice application	Greece
Target Audience	People interested in engaging with SE.
Brief description (objectives, duration, key activities, etc).	<p>The University of the Aegean in collaboration with @popsi organizes and implements a 40-hour training program that provides knowledge on a) Innovation in the Digital Age and b) Social and Solidarity Economy.</p> <p>The program aims to help trainees:</p> <ul style="list-style-type: none"> -Acquire some basic digital skills. -Understand basic concepts of the social and solidarity economy and distinguish related advantages and disadvantages. -Create original texts and audiovisual content. -Use appropriate platforms for information on funding methods as well as promotion. -Explore opportunities for collaborative initiatives and/or the establishment of social enterprises that will provide services and develop synergies with local economic actors.

	<p>The program is structured in 3 modules:</p> <p>1-Introduction to digital innovation and the basic principles of the social and solidarity economy</p> <p>2- Development of skills for the social economy and the establishment and operation of a social enterprise</p> <p>3-Development of digital skills and sustainability in the SSE.</p>
Digital technologies/tools used & alignment with Digital Transformation in SE Education	Not clear from the initial mapping stage. Not specified. This dimension is further elaborated in the 'Study' (final WP2 result) in the section of case studies.
Way of Living Labs approach's utilization (if relevant and available)	Not relevant.
Relevance to the project's approach	The initiative may be linked to Digital Value Creation, though there is insufficient information available online to specify how it contributes to integrating digital technologies into SE education.
Involved stakeholders	The training program is organized through a collaboration between the Training and Lifelong Learning Center of the University of the Aegean-KEDIBIM (Department of Geography) and the company 'Apospi,' which specializes in providing educational services.
Impact (Qualitative and or/quantitative) & Measured Outcomes	Not specified.
Scalability & Replicability	There is not enough relevant information to assess in depth its scalability and replicability. However, it seems that it is highly adaptable and replicable in different SE education contexts due to its universal themes (digital innovation and SE), modular structure, and

	practical focus. By leveraging partnerships, digital delivery methods, and local adaptations, it can be successfully implemented in diverse settings, from universities to community organizations and online platforms.
Challenges & opportunities	Not specified. This dimension is further elaborated in the 'Study' (final WP2 result) in the section of case studies.
Pedagogical approaches	Not specified. This dimension is further elaborated in the 'Study' (final WP2 result) in the section of case studies.
Website / reference link	https://kedivim.aegean.gr/epimorfotikaview/course.php?c=501cc0fce301e560b6aa1bc924a60fa8378179a1

3rd practice - ***Post-Graduate Studies Programme in "Social and Solidarity Economy"***

Name of mapped programme/ initiative	Post-Graduate Studies Programme in "Social and Solidarity Economy" (Social and Solidarity Economy (KAO) » HOU)
Organization/Institution (that has initiated this practice) & contact information	Social and Solidarity Economy is a Post-Graduate programme provided by the Hellenic Open University, a recognized HEI in Greece with innovative online teaching methods and a plethora of education programmes. Email: kao@eap.gr
Country and/or city of the good practice application	Greece It is situated in the city of Patras, but the programmes and classes are online nonetheless. The programme has a national reach where the registered students reside in various places in Greece.
Target Audience	The programme has a wide range in terms of audience including graduates of social

	<p>sciences mainly, members of social enterprises, public servants as also policy makers.</p>
<p>Brief description (objectives, duration, key activities, etc).</p>	<p>Post-Graduate Studies in “Social and Solidarity Economy” is an ongoing, bi-annual programme with a minimum duration of two years. The main objectives can be unfolded in the academic/theoretical side and in the applied knowledge. The first objective is related to the theoretical and epistemological knowledge that is being acquired by students and can be utilized in research. The second objective concerns the training of SE practitioners that can enhance their ability to operate within this scope.</p>
<p>Digital technologies/tools used & alignment with Digital Transformation in SE Education</p>	<p>As mentioned in the description of the Programme and the Hellenic Open University, all classes are online. This fact allows students involved in the programme to access a variety of resources related to the Social Economy through an online structured depository and curriculum. In addition, the Programme sheds light on issues of the Social Economy that are related to the digital transition such as digital commons. Thus, students are becoming familiar with terms and concepts that are aligned to the digital transformation within the scope of SE and can implement this knowledge in cases where it is applicable. Apart from the theoretical aspects of the Programme and the attendance digital tools, the students have the opportunity to be taught of a specialized software that is related to Wikipedia. Through this approach the students can contribute to a commons - based peer production in Wikipedia.</p>

<p>Way of Living Labs approach's utilization (if relevant and available)</p>	<p>Whilst there is no direct utilization of living labs approach, the post-graduate studies programme and mostly its educators provide actively indirect support to various ventures across Greece. This can be occurred through the networks created, maintained and enhanced within the framework of the programme as also through the multidisciplinary knowledge of its educators.</p>
<p>Relevance to the project's approach</p>	<p>The relevance of the programme to the approach of the project is significant to a great extent. In particular the direct Digital Value that is created through an education that utilizes modern information and communication technology on the one hand makes evident that the programme is a key player in the digital transition within the scope of SE. On the other hand the education in key concepts of the SE such as digital commons provides enhanced insights to students aiming to lead the SE of Greece into the digital era.</p> <p>Apart from the Digital Value Creation, the Programme is considered as a reference point for the SE education by academics in Greece and abroad. This fact allows its educators to instrumentalise their connections and networks aiming to support any ventures related to SE and many times these ventures are being expressed as living labs.</p>
<p>Involved stakeholders</p>	<p>SE educators have a main role in the learning procedure since it is a structured up-down education programme.</p>
<p>Impact (Qualitative and or/quantitative) & Measured Outcomes</p>	<p>Within the scope of the SMART principle the Programme has Specific, Measurable, Achievable, Relevant and Time-Bound</p>

	<p>indicators explained in detailed in a relevant booklet (in Greek). https://www.eap.gr/wp-content/uploads/2024/06/Quality-Indicators-2024_KAO_repaired.pdf</p>
<p>Scalability & Replicability</p>	<p>Even Though the Programme is hosted by a renowned HEI and its reach is nationwide, it has the potential to be replicated and embedded in other universities in Greece and abroad. This can be proved firstly since the HOU itself adopted many of its elements from the equivalent British Open University and secondly from the well structured programme of the Post-Graduate studies.</p>
<p>Challenges & opportunities</p>	<p>A challenge that can be identified by the programme is that the number of the students is declining due to the prolonged financial crisis experienced in Greece and lately to inflation. However the educators of the Programme utilize a direct communication campaign to potential students through online Q&A sessions and a strategy to increase visibility.</p> <p>The increase of the students number is an opportunity since it will contribute to expanding a deep understanding of SE to more persons and therefore multiply the impact of the Programme.</p>
<p>Pedagogical approaches</p>	<p>As part of an online curriculum the pedagogical approach of the Programme includes various tasks that are undertaken by students during the semester and exams at the end of each module. Even though the approach allows limited initiative in collaborative learning, however it promotes concepts such as peer to peer learning and production, democratisation in production</p>

	and education and other terms related to participatory methods.
Website / reference link	https://www.eap.gr/en/social-and-solidarity-economy-2/

4th practice - **Social Innovation Hackathon UoM**

Name of mapped programme/ initiative	Social Innovation Hackathon UoM
Organization/Institution (that has initiated this practice) & contact information	Full Name: University of Macedonia / Panepistemio Makedonias Abbreviation: UoM
Country and/or city of the good practice application	Greece, Thessaloniki A nationally implemented practice. ● Contact Person: Professor Aikaterini Sarri, email: ksarri@uom.edu.gr
Target Audience	Regardless of experience or background, the initiative remains accessible to all. Nevertheless, taking into consideration its main aspects, social entrepreneurs, SE students, AI technicians, Big Data Analysts, Tech4Good representatives and startup founders and students from all fields of study will be among the main beneficiaries of the initiative. All of the above mentioned target groups participate in groups of 4-6 to the initiative and get rewarded for the innovation behind their proposals.
Brief description (objectives, duration, key activities, etc).	The Social Innovation Hackathon UoM is an annual event organized by the University of Macedonia to promote entrepreneurship, digital transformation, and social innovation. It provides a collaborative environment

	<p>where students work on innovative solutions addressing social and economic challenges using digital technologies. Students are monitored by and extract inspiration for innovation from a plethora of mentors and leaders.</p> <p>The first edition (2023) focused on "Digital Nomads", while the second edition (2024) expanded into multiple domains, including:</p> <ul style="list-style-type: none"> ● Artificial Intelligence (AI) ● Internet of Things (IoT) ● Big Data ● Robotics ● Urban Mobility ● Sustainable Food & Health ● Energy & Circular Economy <p>The hackathon is endorsed by the University of Macedonia and its Research Funding Account (ELKE), ensuring credibility and academic recognition. Participation is free of charge.</p>
<p>Digital technologies/tools used & alignment with Digital Transformation in SE Education</p>	<p>Digital Technologies/Tools Used & Alignment with Digital Transformation in SE Education:</p> <ul style="list-style-type: none"> ● Artificial Intelligence for problem-solving and automation; ● Blockchain for transparency in social entrepreneurship models; ● Internet of Things for smart urban development; ● Big Data & Analytics for social impact measurement; ● Digital Learning & Innovation Platforms for co-creation and knowledge sharing. <p>This initiative contributes to enhancing digital literacy and empowering students to develop data-driven social innovation</p>

	solutions aligned with Digital Transformation in SE Education.
<p>Way of Living Labs approach's utilization (if relevant and available)</p>	<p>The Living Labs approach is embedded within the Social Innovation Hackathon UoM through its collaborative, hands-on, and interdisciplinary structure.</p> <ul style="list-style-type: none"> ● The hackathon facilitates co-creation and real-life testing of social innovation solutions, ensuring that students work in dynamic teams with mentors from industry and academia. ● Participants leverage AI, IoT, Big Data, and Blockchain technologies to design and test social economy solutions in a realistic, low-risk setting, akin to Living Labs' iterative experimentation processes. <p>The hackathon promotes multi-stakeholder engagement, integrating the expertise of SE educators, students, policymakers, and Tech4Good representatives, mirroring the quadruple helix model of Living Labs.</p>
<p>Relevance to the project's approach</p>	<p>The Social Innovation Hackathon UoM aligns with Digital Value Creation and Living Labs approaches, as it:</p> <ul style="list-style-type: none"> ✓ Provides a real-life experimental environment for testing social innovation ideas; ✓ Fosters a multilateral and cross-disciplinary collaboration -a key factor of LLS-between students, educators, and entrepreneurs; ✓ Promotes digital skill development in SE faculties.

<p>Involved stakeholders</p>	<p>SE Educators & University Professors: Provided mentorship and workshops.</p> <p>Students: Developed innovative solutions and engaged in hands-on problem-solving.</p> <p>Tech4Good Representatives & Startup Founders: Acted as mentors, workshop facilitators, and judges.</p> <p>Local Policy & Innovation Bodies: Supported the initiative as part of Thessaloniki's innovation ecosystem.</p>
<p>Impact (Qualitative and or/quantitative) & Measured Outcomes</p>	<p>The initiative's impact extends to multiple fields. More specifically:</p> <ul style="list-style-type: none"> ● Over 150+ students participated in both editions; ● Increased engagement in interdisciplinary collaboration; ● High demand for future hackathons, proving strong scalability; ● Enhanced digital competencies among students, particularly in AI, IoT, and data analytics; ● Winning teams received funding and financial motivation to continue developing their projects (1st prize: €1.000; 2nd prize: €800; 3rd prize: €600).
<p>Scalability & Replicability</p>	<p>This hackathon model can be easily adapted to other universities and regions, fostering:</p> <ol style="list-style-type: none"> I) New partnerships with SE educators & digital innovation hubs; II) Expansion to international collaborations through Erasmus+ or Horizon Europe projects; III) Integration into university curricula as a structured educational program.

<p>Challenges & opportunities</p>	<p>Challenges:</p> <ul style="list-style-type: none"> • Initial hesitation from students unfamiliar with digital entrepreneurship, to join the event and to be able to present their ideas. • Need for stronger institutional support to sustain and expand the initiative, since the action of one university can always be enhanced through a collaboration with other HEIs. <p>Opportunities:</p> <ul style="list-style-type: none"> • Creation of a permanent innovation lab at UoM, which is transferable and replicable for future adaptations. • Development of structured training modules to extend digital transformation education beyond the hackathon.
<p>Pedagogical approaches</p>	<p>The initiative employs:</p> <ul style="list-style-type: none"> • Experiential Learning, through hands-on problem-solving and real-world application. • Collaborative & Peer-to-Peer Learning, since students from different fields are working together. • Competency-Based Training, through the focus on digital entrepreneurship, problem-solving, and innovation.
<p>Website / reference link</p>	<p>I) https://www.thessinnozone.gr/2nd-social-innovation-hackathon/</p> <p>II) https://entreinno.gr/</p>

GOOD PRACTICES FROM ITALY

In the case of Italy, four (4) good practices were collected, representing a diverse array of higher education initiatives and innovation ecosystems. These include: one Master's programme hosted by **Bologna Business School of the University**

of Bologna, focusing on Artificial Intelligence and Innovation Management in business transformation; one university-based Living Lab established at the **Savona Campus of the University of Genova**, which integrates smart city technologies and sustainable energy systems; one sustainability transition initiative led by the **School of Engineering and Architecture of the University of Bologna**, engaging the academic community in co-creating ecological solutions through a Living Lab approach; and one interdisciplinary entrepreneurship and digital innovation programme, the **Contamination Lab of the University of Pisa**, supporting start-up development and collaborative learning through hackathons, boot camps, and international networks.

1st practice - ***Master in Artificial Intelligence and Innovation Management***

Name of mapped programme/initiative	Master in Artificial Intelligence and Innovation Management
Organization/Institution (that has initiated this practice) & contact information	Bologna Business School, University of Bologna Director: Maurizio Gabbrielli (maurizio.gabbrielli@unibo.it) Programme coordinator: Federica Giannattanasio (federica.giannattasio@bbs.unibo.it) (artificialintelligence@bbs.unibo.it)
Country and/or city of the good practice application	Italy, Bologna
Target Audience	The Master's program is designed for those who aim to work in digital transformation and innovation, with a particular focus on artificial intelligence (AI) applications in business contexts: <ul style="list-style-type: none"> ● Graduates in scientific, economic, and technological disciplines. ● Professionals and managers seeking to acquire advanced skills in AI, innovation, and digital management.

<p>Brief description (objectives, duration, key activities, etc).</p>	<p>The Master’s program aims to train professionals with a strong foundation in AI and digital innovation, equipping them to address modern businesses' challenges through AI and emerging technologies.</p> <p>The program lasts 12 months and combines theoretical lessons, practical activities, and project work. At the end of the program, students complete a thesis project.</p> <p>The Master’s program is currently ongoing, with continuous updates to align with market needs.</p>
<p>Digital technologies/tools used & alignment with Digital Transformation in SE Education</p>	<p>Although not directly linked to SE Education, the Master's program integrates advanced digital tools and technologies, such as AI, machine learning, and computer vision, to drive digital innovation in education. Students gain practical experience applying these technologies to real-world cases and business projects.</p>
<p>Way of Living Labs approach’s utilization (if relevant and available)</p>	<p>The initiative does not explicitly mention the use of the Living Labs approach. However, students engage with real-world challenges through collaborations with businesses and practical projects integrating theory and practice to develop innovative solutions.</p>
<p>Relevance to the project’s approach</p>	<p>The Master's program equips students with the skills to lead digital transformation in organizations. Hence, it aligns with digital value creation through artificial intelligence and innovation management.</p>

<p>Involved stakeholders</p>	<ul style="list-style-type: none"> • The primary beneficiaries of the Master's program are recent graduates or early-career professionals seeking to acquire essential technical skills to navigate digital transformation in businesses while maintaining a strong focus on managerial and business aspects. • Faculty: Professionals and academics specializing in Artificial Intelligence, Innovation, Digital Transformation, and Management. • Partner companies, research institutions, and industry associations collaborating to ensure the program meets market needs and drives innovation.
<p>Impact (Qualitative and or/quantitative) & Measured Outcomes</p>	<p>The program aims to train professionals capable of integrating AI into business processes, enhancing efficiency, and driving innovation. Success indicators include the employability of graduates in key roles such as AI Manager and Business Analyst, as well as students' ability to develop innovative projects during the Master's program.</p>
<p>Scalability & Replicability</p>	<p>The Master's model is scalable and replicable across educational and geographical contexts. Its modular structure and practical approach allow adaptation for institutions looking to integrate AI and innovation management into their curricula.</p>
<p>Challenges & opportunities</p>	<p>The main challenges include rapid adaptation to technological</p>

	<p>advancements and the need to update the curriculum continuously. However, these challenges present an opportunity to keep the program at the forefront, preparing students to tackle the ever-evolving technology market dynamics.</p>
Pedagogical approaches	<p>The Master's program adopts an experiential pedagogical approach, combining theoretical lessons with practical activities and project work. This method allows students to apply the knowledge gained in real-world contexts, developing both technical and managerial skills essential for managing technological innovation.</p>
Website / reference link	<p>https://www.bbs.unibo.eu/master-fulltime/artificial-intelligence-2/#gref</p>

2nd practice - *Campus of Savona "Living Lab Smart City"*

Name of mapped programme/ initiative	Campus of Savona "Living Lab Smart City"
Organization/Institution (that has initiated this practice) & contact information	<p>University of Genova Stefano Bracco (Stefano.Bracco@unige.it); Mansueto Rossi (mansueto.rossi@unige.it); Paola Laiolo (Paola.Laiolo@unige.it)</p>
Country and/or city of the good practice application	Italy, Savona
Target Audience	<ul style="list-style-type: none"> Professors and researchers for research and teaching in engineering degree programs and postdoctoral studies on smart city sectors such as energy, smart buildings, sustainable mobility, and well-being.

	<ul style="list-style-type: none"> • All individuals working and studying on campus. • The general public and external stakeholders, demonstrating the Smart City concept. • Businesses can leverage the Living Lab to evaluate the feasibility of implementing this approach within their operational environment.
<p>Brief description (objectives, duration, key activities, etc).</p>	<p>The Savona University Campus has been transformed into a Living Lab for the City of the Future by integrating smart ICT and energy technologies to reduce its carbon footprint.</p> <p>Between 2014 and 2017, two major research infrastructures were established:</p> <ul style="list-style-type: none"> • Smart Microgrid Polygeneration (SPM): A smart microgrid providing electrical and thermal energy to the campus, funded by the Italian Ministry of Education, University, and Research. • Smart Energy Building (SEB): A nearly Zero Emission Building (n-ZEB) connected to the SPM, funded by the Italian Ministry of Environment and Protection of Land and Sea. <p>Together, the SEB building and the SPM network form a model of an intelligent urban district, enabling the University of Genoa to generate 50-70% of its energy consumption while significantly reducing carbon dioxide emissions.</p>

<p>Digital technologies/tools used & alignment with Digital Transformation in SE Education</p>	<p>Although not directly linked to SE Education, the initiative enables students and researchers to learn through supervision and control systems, energy management platforms, and optimization algorithms. IoT technologies with sensors and actuators are employed for smart energy management and building automation. Some projects also incorporate machine learning for energy forecasting and cybersecurity measures to protect digital infrastructures.</p>
<p>Way of Living Labs approach's utilization (if relevant and available)</p>	<p>This Living Lab adopts smart technologies in the ICT and energy sectors to demonstrate a real-world application of the Smart City concept.</p>
<p>Relevance to the project's approach</p>	<p>This is an example of a Living Lab within a public higher education institute. The infrastructures and facilities developed have helped bridge the gap between theoretical lessons and real-world applications, allowing students to gain hands-on research experience during their studies while directly observing the practical implementation of classroom concepts.</p>
<p>Involved stakeholders</p>	<p>The University of Genoa, the Italian Ministry of Education, University and Research, the Italian Ministry of Environment and Protection of Land and Sea, and the Liguria Region. The infrastructures have also contributed to improving the quality of research at the University of Genoa in</p>

	<p>sustainable energy and electrical systems through collaborations with national and international universities, companies, and institutions, including within European projects.</p> <p>Faculty and researchers use the lab for teaching and research activities. Some students undertake internships and thesis projects, often in collaboration with partner companies.</p> <p>Seminars, summer schools, and training courses are organized and open to external professionals. External companies are also involved in the maintenance of the infrastructures.</p>
<p>Impact (Qualitative and or/quantitative) & Measured Outcomes</p>	<p>In addition to technology performance and energy efficiency measures, they use green metrics to improve the university's ranking.</p> <p>The Living Lab is also part of the International Sustainability Campus Network (https://international-sustainable-campus-network.org/)</p>
<p>Scalability & Replicability</p>	<p>The Living Lab model developed at the Savona Campus is highly replicable in similar contexts such as ports, hospitals, military barracks, or shopping centers, where a single entity manages the energy infrastructure. Its application in urban areas is more complex but feasible in newly developed districts or large-scale redevelopment projects.</p>
<p>Challenges & opportunities</p>	<p>The main challenges include the operational management of the SPM, bureaucratic practices related to</p>

	<p>energy regulations, and the maintenance of advanced infrastructures. Additionally, coordinating heterogeneous devices and ensuring service continuity adds further complexity.</p> <p>Despite these challenges, the project has attracted public and private funding and continues evolving with new technologies and collaborations.</p>
Pedagogical approaches	The pedagogical approach is based on experiential learning: students interact directly with the Living Lab infrastructure, analyze real-time data, and develop practical projects.
Website / reference link	https://campus-savona.unige.it/en/progetti/Energia2020

3rd practice - *Terracini in transition*

Name of mapped programme/ initiative	Terracini in transition
Organization/Institution (that has initiated this practice) & contact information	University of Bologna Alessandra Bonoli (alessandra.bonoli@unibo.it)
Country and/or city of the good practice application	Italy, Bologna
Target Audience	<ul style="list-style-type: none"> • University students at the University of Bologna, particularly those from the School of Engineering and Architecture, who actively participate in the project through research and experimentation. • Professors and researchers, who can use the project as an

	<p>opportunity to integrate sustainability topics into their courses, develop case studies, and apply experiential and interdisciplinary learning methodologies.</p> <ul style="list-style-type: none"> • University' staff, involved in the operational management of the sustainable transition of university buildings. <p>Businesses and organizations active in sustainability collaborate to test new technological and ecological solutions.</p>
<p>Brief description (objectives, duration, key activities, etc).</p>	<p>It is a continuously evolving Living Lab that integrates research, teaching, and experimentation to create a more sustainable academic environment.</p> <p>The project aims to transform the School of Engineering and Architecture into a Living Lab for sustainability, engaging students, faculty, and technical-administrative staff in testing innovative solutions for ecological transition.</p> <p>Currently ongoing, the initiative raises environmental awareness through mapping the adoption of sustainable practices such as smart resource management and sustainable mobility, and the active involvement of the academic community in events and workshops.</p> <p>Through collaboration with public institutions, businesses, and organizations, the project facilitates knowledge sharing and the implementation of new technologies</p>

	to monitor, improve, and replicate the model in other university and urban contexts.
Digital technologies/tools used & alignment with Digital Transformation in SE Education	Although not directly linked to SE Education, the project aims to transform the School of Engineering and Architecture at the University of Bologna into a living lab for sustainability. While it primarily focuses on sustainability measures and interventions, no specific digital tools or technologies are mentioned.
Way of Living Labs approach's utilization (if relevant and available)	The initiative adopts the Living Lab approach to drive change and innovation toward a more sustainable future by engaging researchers, faculty, technical administrative staff, and students in co-creating and implementing sustainability measures at the Terracini campus, fostering active participation and interaction among stakeholders.
Relevance to the project's approach	It aims to facilitate the transition to new sustainability models by adopting university-wide transition strategies. This process creates new opportunities and valuable feedback for research, teaching, and the sustainable management of university buildings, integrating the Living Lab paradigm into higher education.
Involved stakeholders	Students and faculty from the School of Engineering and Architecture actively participate in testing sustainable solutions, integrating the project into teaching and research.

	<p>Technical and administrative staff contribute to managing and implementing environmental strategies on campus.</p> <p>Policymakers and academic administrators support the project to develop sustainability strategies that can be replicated in other contexts.</p> <p>Businesses, public institutions, and other organizations collaborate by providing expertise, technologies, and resources to enhance the effectiveness of initiatives and expand the project's impact.</p>
<p>Impact (Qualitative and or/quantitative) & Measured Outcomes</p>	<p>The project aims to reduce environmental impact and enhance university buildings' sustainability by adopting. The living lab approach facilitates the transition to new sustainability models, creating opportunities and valuable feedback for research, teaching, and sustainable building management.</p>
<p>Scalability & Replicability</p>	<p>Transition initiatives act on a single system and aim to expand by triggering participatory processes that influence each other. This enables models to spread, benefiting the local community, the entire university, and the city of Bologna. By promoting new skills and better strategies, a more resilient system is created, one that responds more effectively to ongoing environmental and social changes.</p>
<p>Challenges & opportunities</p>	<p>The main challenges include implementing sustainability measures and interventions from both a</p>

	<p>technical, structural, and social perspective. However, these challenges offer the opportunity to engage various stakeholders, including researchers, faculty, technical administrative staff, and students, in co-creating sustainable solutions. Additionally, the living lab approach facilitates the adoption of best practices to reduce impacts and improve university building sustainability.</p>
Pedagogical approaches	<p>The project promotes a pedagogical approach based on active participation and experiential learning. The project encourages practical learning and awareness of real environmental challenges by involving students, faculty, and technical-administrative staff in co-creating and implementing sustainability measures. This integrated approach helps develop cross-disciplinary skills and fosters greater sensitivity to sustainability among all participants.</p>
Website / reference link	<p>https://site.unibo.it/multicampus-sostenibile/en/promoting-sustainability/terracini-in-transition</p>

4th practice: ***Contamination Lab***

Name of mapped programme/initiative	Contamination Lab
Organization/Institution (that has initiated this practice) & contact information	University of Pisa clab@unipi.it

Country and/or city of the good practice application	Italy, Pisa
Target Audience	<ul style="list-style-type: none"> • University students (master's and PhD candidates) interested in developing entrepreneurial and innovation skills. • Professors and researchers who use the lab as a tool to promote interdisciplinarity and collaboration with the private sector. • Startups and entrepreneurs who can participate in hackathons and boot camps to develop innovative ideas. • Policymakers and public sector actors collaborating in creating a sustainable innovation ecosystem. <p>Businesses and organizations in the technology and social sectors are involved in co-creating and developing innovative solutions.</p>
Brief description (objectives, duration, key activities, etc).	<p>Initially created to introduce academic entrepreneurship concepts to aspiring startup founders, it has evolved into a broader program focused on entrepreneurship education and innovation. It aims to train the academic community and foster collaboration between the university and local stakeholders. Today it supports the development of innovative and socially responsible business models.</p> <p>Key activities include seminars on social innovation, hackathons for rapid idea development, boot camps to turn</p>

	<p>concepts into projects, and interdisciplinary training programs such as "Startup and Multidisciplinarity: A Road Map" and I-Lab, which offer tools for project design and market validation.</p> <p>The initiative is ongoing and continues to adapt to digital and sustainable transition challenges.</p>
<p>Digital technologies/tools used & alignment with Digital Transformation in SE Education</p>	<p>Although not directly linked to SE Education, the Contamination Lab integrates digital tools to support innovation, including:</p> <ul style="list-style-type: none"> • Data analysis and Big Data. • Digital design thinking through collaborative platforms. • Artificial intelligence and automation applications for developing innovative business models. • Triple Layered Business Model Canvas, incorporating environmental and social analysis into traditional business models. • Digital innovation ecosystems, with international collaborations such as Circle U and Start For Future.
<p>Way of Living Labs approach's utilization (if relevant and available)</p>	<p>The initiative does not explicitly mention the use of the Living Labs approach. However, it fosters interaction between academia, businesses, institutions, and the community by developing interdisciplinary projects and testing new solutions in real-world contexts.</p>
<p>Relevance to the project's approach</p>	<p>It promotes the co-creation of projects through methodologies such as</p>

	<p>Design Thinking, System Thinking, and Participatory Design. Aligned with the principles of Digital Value Creation, it fosters co-creation, experimentation with new technologies, and integration between universities and businesses.</p>
<p>Involved stakeholders</p>	<ul style="list-style-type: none"> • Students and researchers participating in innovation and entrepreneurship programs. • Faculty and academics leading training processes and collaborating with businesses. • Startups and companies engaging with the Lab to develop innovative projects. <p>Policymakers and public institutions support the creation of sustainable innovation ecosystems.</p>
<p>Impact (Qualitative and or/quantitative) & Measured Outcomes</p>	<p>The impact is assessed through both quantitative and qualitative methods.</p> <p>Quantitative impact:</p> <ul style="list-style-type: none"> • Number of participants: Over 1,200 people participated in the Lab’s activities, demonstrating broad engagement with the initiative. • Projects developed: 120 projects were launched through hackathons and incubation programs, showcasing tangible effects on innovation and startup creation. • Funding and awards: €50,000 in grants and prizes were allocated to support entrepreneurial ideas, fostering the

	<p>development of new businesses and innovative solutions.</p> <p>Qualitative impact:</p> <ul style="list-style-type: none"> • Growth of the innovation ecosystem: The Lab has contributed to the creation of new startups and strengthened collaboration between universities, businesses, and institutions. • Development of entrepreneurial and digital skills: Participants gained key competencies in business innovation, design thinking, and market validation, enhancing their readiness for the job market. • Expansion of international collaborations: The program has been integrated into European innovation networks, fostering connections between students, companies, and incubators on a global scale. • Impact on sustainability and social entrepreneurship: The adoption of models such as the Triple Layered Business Model Canvas has enabled the development of business solutions with positive environmental and social impact.
<p>Scalability & Replicability</p>	<p>The Contamination Lab model is highly scalable and replicable, thanks to its modular structure and the ability to</p>

	<p>adapt to different university and territorial contexts. It has already been integrated into European innovation networks such as Start For Future and Circle U, demonstrating its potential for international expansion.</p>
<p>Challenges & opportunities <i>(Identify any obstacles faced and strategies used to overcome them)</i></p>	<p>The main challenges include:</p> <ul style="list-style-type: none"> • The need to constantly adapt training programs to new technologies and market needs. • The effective involvement of diverse stakeholders with different interests. <p>Opportunities arise from the growing demand for entrepreneurial and digital skills, the potential to create new innovative startups, and the expansion of the international network.</p>
<p>Pedagogical approaches <i>(Specify what collaborative approaches methods this practice leverages) & competence-based focus (if any)</i></p>	<p>The Contamination Lab is based on an experiential and collaborative approach, combining:</p> <ul style="list-style-type: none"> • Design Thinking and System Thinking for solving complex problems. • Project-Based Learning through hackathons and practical workshops. • Open innovation, involving companies and institutions in real-world challenges.
<p>Website / reference link</p>	<p>https://contaminationlab.unipi.it/en/home-english/</p>

GOOD PRACTICES FROM BELGIUM

In the case of Belgium, four (4) good practices were collected, reflecting a geographically and institutionally diverse spectrum of initiatives in Social

Economy Education and digital transformation. These include: one multidisciplinary Bachelor's programme in Social-Economic Sciences hosted by the **University of Antwerp**, integrating socio-economic analysis with digital tools and real-world projects; one practitioner-oriented training initiative, **Déclic en PerspectivES ASBL**, operating across Brussels and Wallonia to support social entrepreneurship through experiential learning and blended formats; one regional initiative, **DIGI SEII**, developed by the **Sociale Innovatiefabriek** to foster digital innovation and inclusive industries across Flanders and Brussels-Capital; and one AI-focused collaborative platform, **FARI - AI for the Common Good**, led jointly by **Vrije Universiteit Brussel (VUB)** and **Université libre de Bruxelles (ULB)**, which positions Brussels as a living laboratory for ethically driven, human-centric digital transformation.

1st practice - **Bachelor of Social-Economic Sciences**

Name of mapped programme/initiative	University of Antwerp - Bachelor of Social-Economic Sciences
Organization/Institution (that has initiated this practice) & contact information	University of Antwerp https://www.uantwerpen.be/en/study/programmes/all-programmes/social-economic-sciences/contact/
Country and/or city of the good practice application	Antwerp, Belgium (Region of Flanders – Dutch speaking)
Target Audience	Students interested in socio-economic policy, business, economics, and related fields.
Brief description (objectives, duration, key activities, etc)	The Bachelor of Social-Economic Sciences at the University of Antwerp is a multidisciplinary program that combines sociology, economics, and business. It aims to develop competencies related to socio-economic policy, business, and economics in an international environment.

<p>Digital technologies/tools used & alignment with Digital Transformation in SE Education</p>	<p>Data analysis tools, statistical software, and digital platforms for learning and collaboration.</p> <p>The program integrates digital tools and technologies into the curriculum, fostering digital skills and innovation in the social economy sector. A more in depth analysis is needed to understand how much.</p>
<p>Way of Living Labs approach's utilization (if relevant and available)</p>	<p>The program engages students in real-world projects and collaborations, aligning with the Living Labs approach to test and refine socio-economic solutions.</p>
<p>Relevance to the project's approach</p>	<p>The program aligns with Digital Value Creation and Living Labs by focusing on real-world application and stakeholder engagement in the development of socio-economic solutions.</p>
<p>Involved stakeholders</p>	<p>Students, faculty, and industry partners collaborate on projects, fostering innovation and knowledge exchange.</p>
<p>Impact (Qualitative and or/quantitative) & Measured Outcomes</p>	<p>The program contributes to the development of digital skills and competencies in the social economy sector, enhancing students' employability and innovation capabilities.</p> <p>The University of Antwerp's Bachelor of Social-Economic Sciences program has seen a significant increase in student enrollment over the past few years. Quantitative data we could find include:</p>

	<ul style="list-style-type: none"> • Over the last two years, the number of first-year students in the program has increased by 44%. • In the current academic year, 144 students started the program. • Over the past 10 years, more than 300 students have graduated from the Dutch-language program in Social-Economic Sciences. • Of the students who graduated between 2011 and 2020, 94.7% found jobs within six months of graduation. • The program is unique in Flanders and has been offered in English since the academic year 2021-22, making it the University of Antwerp's first English-taught Bachelor program.
<p>Scalability & Replicability</p>	<p>The program's multidisciplinary approach and focus on real-world application can be replicated in other educational settings, promoting digital skills and innovation.</p> <p>The key point for replicability of this program is the collaboration between faculties of Economics and Sociology.</p>
<p>Challenges & opportunities</p>	<p>Challenges include ensuring the relevance of the curriculum to evolving socio-economic needs. Opportunities lie in leveraging digital technologies to enhance learning and innovation.</p>

Pedagogical approaches	The program employs project-based learning and interdisciplinary collaboration. More details are not disclosed on their website
Website / reference link	https://www.uantwerpen.be/en/programmes/bachelor/bachelor-of-social-economic-sciences/

2nd practice - *Déclic en PerspectivES*

Name of mapped programme/initiative	Déclic en PerspectivES
Organization/Institution (that has initiated this practice) & contact information	Déclic en PerspectivES ASBL https://declic-en-perspectives.be/contact/ 0471/87.89.39
Country and/or city of the good practice application	Brussels-Capitale and Wallonia, Belgium Regional scope (French speaking)
Target Audience	Students, educators, social entrepreneurs, and individuals interested in meaningful social entrepreneurship projects.
Brief description (objectives, duration, key activities, etc).	Déclic en PerspectivES is an initiative that organizes training courses in Brussels and Wallonia to support social entrepreneurship. It offers three main programs—Explore, Dare, and Create—designed to help participants develop their talents and skills in social entrepreneurship. These programs provide training courses that engage participants in real-world projects, fostering a hands-on learning experience.

<p>Digital technologies/tools used & alignment with Digital Transformation in SE Education</p>	<p>Online platforms for training and collaboration, digital communication tools, and project management software.</p> <p>It blends online and offline activities. The initiative integrates digital tools to facilitate training and collaboration, enhancing participants' digital skills and preparing them for the modern social economy landscape.</p>
<p>Way of Living Labs approach's utilization (if relevant and available)</p>	<p>Déclic en PerspectivES employs a Living Labs approach by engaging participants in real-world social entrepreneurship projects. This hands-on approach allows students and educators to test and refine their ideas in a collaborative environment.</p>
<p>Relevance to the project's approach</p>	<p>This initiative is highly relevant to Social Economy Education as it provides practical training and support for social entrepreneurs. The involvement of educators ensures that the training is grounded in academic research and best practices, while maintaining the focus on VET more than formal education.</p>
<p>Involved stakeholders</p>	<p>SE enterprises, educators, students, and policymakers who collaborate to support social entrepreneurship projects.</p>
<p>Impact (Qualitative and or/quantitative) & Measured Outcomes</p>	<p>The available information on Déclic en PerspectivES does not provide specific quantitative or qualitative impact indicators or measured outcomes.</p>
<p>Scalability & Replicability</p>	<p>The Déclic en PerspectivES model can be replicated in other regions by</p>

	<p>adapting the training framework to local needs. The focus on real-world application and collaboration makes it scalable and adaptable.</p>
Challenges & opportunities	<p>Challenges include ensuring the sustainability of the initiative and maintaining engagement among participants. The regions of Brussels-Capital and Wallonia are particularly supportive of SE initiatives; a similar public support help to overcome such challenges.</p> <p>Opportunities include expanding the network of stakeholders and leveraging digital tools to enhance training and collaboration.</p>
Pedagogical approaches	<p>The initiative employs experiential learning, collaborative projects, and real-world application to enhance participants' skills and knowledge in social entrepreneurship.</p> <p>Free online seminars are regularly offered to widen the audience.</p>
Website / reference link	<p>https://declic-en-perspectives.be</p>

3rd practice - **DIGI SEII**

Name of mapped programme/initiative	DIGI SEII (Digital Innovation for Social Economy and Inclusive Industries)
Organization/Institution (that has initiated this practice) & contact information	Sociale Innovatiefabriek
Country and/or city of the good practice application	Flanders and Brussels-Capital, Belgium Regional scope (Dutch speaking)
Target Audience	Social entrepreneurs, students, educators, policymakers, and

	individuals interested in digital innovation and social economy.
Brief description (objectives, duration, key activities, etc).	DIGI SEII aims to enhance digital skills and innovation within the social economy sector. The initiative provides training, resources, and collaborative opportunities to support social entrepreneurs in leveraging digital technologies for their projects. It focuses on fostering a more inclusive and sustainable economy through digital transformation.
Digital technologies/tools used & alignment with Digital Transformation in SE Education	Online learning platforms, digital collaboration tools, data analytics, and project management software. DIGI SEII integrates digital tools and technologies into its training programs, enhancing participants' digital skills and preparing them for the digital transformation of the social economy sector.
Way of Living Labs approach's utilization (if relevant and available)	DIGI SEII employs a Living Labs approach by engaging participants in real-world projects and collaborative learning. This hands-on approach allows social entrepreneurs to test and refine their ideas in a supportive environment, fostering innovation and practical skill development.
Relevance to the project's approach	DIGI SEII is highly relevant to Social Economy Education as it provides practical training and resources for social entrepreneurs to leverage digital technologies. The involvement of educators and the focus on real-world application ensure that the

	initiative is grounded in academic research and best practices.
Involved stakeholders	The initiative involves social entrepreneurs, educators, students, policymakers, and other stakeholders who collaborate to support digital innovation in the social economy sector.
Impact (Qualitative and or/quantitative) & Measured Outcomes	No statistics or quantitative data publicly available
Scalability & Replicability	Not clear, the model is heavily based on the support of the Flanders region.
Challenges & opportunities	Challenges include ensuring the sustainability of the initiative and maintaining engagement among participants. Opportunities include expanding the network of stakeholders and leveraging digital tools to expand the impact of the initiative.
Pedagogical approaches	The initiative employs experiential learning, collaborative projects, and real-world application to enhance participants' skills and knowledge in digital innovation and social entrepreneurship. The Living Labs approach allows participants to engage in hands-on learning and innovation.
Website / reference link	https://www.socialeinnovatiefabriek.be/en/projects/digi-seii-empowering-social-enterprises-through-digitalization

Name of mapped programme/initiative	FARI - AI for the common good
Organization/Institution (that has initiated this practice) & contact information	FARI is an independent, not-for-profit initiative led by the Vrije Universiteit Brussel (VUB) and the Université libre de Bruxelles (ULB). Website https://www.fari.brussels
Country and/or city of the good practice application	Belgium. The initiative appears to be primarily implemented at a regional scale in Brussels, with a national and international context.
Target Audience	Citizens, politicians, companies, and not-for-profit organizations aiming to address local and long-term challenges using AI.
Brief description (objectives, duration, key activities, etc).	FARI focuses on developing, studying, and fostering the adoption of AI, data, and robotics technologies in a trustworthy, transparent, and ethical manner. The initiative aims to help the Brussels region and its inhabitants address societal challenges through AI. It involves world-leading researchers and experts in AI, data, and robotics, with a focus on explainable AI, open data, and human-centric robotics.
Digital technologies/tools used & alignment with Digital Transformation in SE Education	AI, data analytics, robotics, and ethical frameworks for AI governance. FARI promotes the integration of AI technologies into societal applications, fostering digital skills and innovation in the social economy sector. Not explicitly connected to Social Economy Education, but the focus on AI as common good seems aligned to

	the underlying principles of Social Economy.
Way of Living Labs approach's utilization (if relevant and available)	FARI uses Brussels as a laboratory and testing ground for AI applications, engaging stakeholders in co-creation and real-world experimentation.
Relevance to the project's approach	FARI aligns with Digital Value Creation and Living Labs approaches by focusing on real-world applications of AI and involving stakeholders in the development and testing of solutions.
Involved stakeholders	Local public bodies, researchers, policymakers, companies, and non-profit organizations collaborate to address societal challenges through AI.
Impact (Qualitative and or/quantitative) & Measured Outcomes	FARI has completed pilot projects in administrative simplification, animal welfare, and employment, contributing to the digital transition of the Brussels region.
Scalability & Replicability	The initiative is scalable and replicable in other regions, as it focuses on universal themes like AI ethics and human-centric technology. Replicating it would require a strong commitment from multiple universities and local public bodies.
Challenges & opportunities	Challenges include difficult coordination of various actors to ensure ethical AI adoption and maintaining stakeholder engagement. There are also limits in the current legal framework to achieve the objectives set by FARI.

	Opportunities lie in leveraging AI for societal benefits and fostering innovation.
Pedagogical approaches	FARI employs a hands-on training approach, providing actionable AI innovation toolkits and context-specific training. Beside structured courses and a masters, FARI organizes frequent short seminars and conference. Non-profit organisations and public bodies are eligible for discounts.
Website / reference link	https://www.fari.brussels/

INTERNATIONAL PRACTICES

1st practice: *the case of 'Teach-BEASTs' project*

Name of mapped programme/initiative	1. Teach-BEASTs – Teaching to BE Aware Students
Organization/Institution (that has initiated this practice) & contact information	University of Bologna (Department of Management) P.I. Bologna Unit: Matteo Vignoli (m.vignoli@unibo.it)
Country and/or city of the good practice application	Italy, Bologna and Spain, Barcelona
Target Audience	<ul style="list-style-type: none"> Professors and trainers in universities and higher education institutions, particularly in STEM courses. University students, especially those enrolled in STEM programs. Businesses and organizations provide students with experiential learning opportunities to co-create solutions.
Brief description (objectives, duration, key activities, etc).	Funded by the Erasmus+ program (Key Action 2 - Cooperation Partnerships in Higher Education), the project

	<p>promotes innovative teaching in STEM education.</p> <p>It supports educators in adopting active methodologies like design thinking and project-based learning to enhance student engagement and integrate experiential approaches into university courses.</p> <p>Students develop cross-disciplinary and entrepreneurial skills valued in the job market. To facilitate implementation, the project also creates a digital repository with resources such as Miro boards, guides, and project management templates.</p> <p>Key activities include developing educational materials, organizing training for educators, and collaborating with universities and companies on real-world challenges.</p> <p>The project ran from February 1, 2022, to February 28, 2025.</p>
<p>Digital technologies/tools used & alignment with Digital Transformation in SE Education</p>	<p>Although not directly linked to SE Education, the initiative promotes the integration of design thinking and project-based learning in STEM education. Digital tools include online collaboration platforms like Miro, simulation software, data analysis, and artificial intelligence for optimizing educational processes. The innovative methodologies applied in projects provide immersive experiences for students, helping them develop digital skills, problem-solving abilities, and expertise in managing complex projects.</p>

<p>Way of Living Labs approach's utilization (if relevant and available)</p>	<p>The initiative does not explicitly mention the use of the Living Labs approach. However, students collaborate on real-world cases with businesses and institutions through co-creation methods.</p>
<p>Relevance to the project's approach</p>	<p>The Project-Based Learning and Design Thinking approach aligns seamlessly with Digital Value Creation, fostering innovation, interdisciplinary collaboration, and stronger connections between education and the job market.</p>
<p>Involved stakeholders</p>	<ul style="list-style-type: none"> • STEM educators and trainers. • STEM students. • Businesses, startups, research institutions, and non-profit organizations collaborate with universities to provide real-world challenges for students, creating a direct link between academia and the job market. <p>Engages partner universities from various European countries.</p>
<p>Impact (Qualitative and or/quantitative) & Measured Outcomes</p>	<p>The impact was measured through various indicators, including student engagement, digital skill acquisition, and learning effectiveness.</p> <p>Results were assessed using a detailed evaluation framework. Seventy percent of the final score was based on evaluating the final product, including reports, multimedia presentations, and prototypes. Peer review accounted for 10%, allowing students to assess each other's contributions and fostering</p>

	<p>accountability in group work. The remaining 20% was dedicated to individual reflection, where students analyzed their learning journey using structured models like the Gibbs Reflective Model (1988).</p> <p>Engagement was measured through both quantitative indicators, such as the number of active participants, and qualitative factors, including students' autonomy in selecting and developing projects. Higher motivation and commitment were observed among students who had greater freedom in choosing their project topics. Additionally, combining online tools and in-person sessions optimized participation, with digital platforms supporting remote collaboration and in-person meetings strengthening teamwork and community-building.</p>
<p>Scalability & Replicability</p>	<p>Pilot testing in selected courses has ensured the methodology's scalability and replicability.</p> <p>The PBL and DT methodologies can be adapted to various educational contexts, making the model scalable and replicable internationally. The Teach-BEASTs project has demonstrated its applicability across multiple universities and can be integrated into other disciplines to promote experiential and interdisciplinary learning.</p>
<p>Challenges & opportunities</p>	<p>The main challenges faced include the need for faculty training to adopt innovative methods, adapting existing</p>

	curricula, and resistance to change within institutions. Opportunities arise from the growing demand for digital skills in the job market, integration with companies and institutions, and the use of digital tools to enhance learning.
Pedagogical approaches	The teaching approach is based on Project-Based Learning (PBL) and Design Thinking (DT), promoting collaborative and hands-on learning. Students work on real-world problems, develop innovative solutions, and acquire cross-disciplinary skills such as critical thinking, project management, and interdisciplinary collaboration. The learning process includes using digital tools, team-based learning, and iterative feedback.
Website / reference link	https://scienzeaziendali.unibo.it/en/research/research-projects/european-projects/teach-beasts-teaching-to-be-aware-students

2nd practice: *the case of 'SE4Ces project'*

Name of mapped programme/initiative	Social Economy 4 Ces: Joining Social Economy Forces towards Community development, Connected societies, Co-creation of knowledge and Collaborative education practices.
Organization/Institution (that has initiated this practice) & contact information	Lead Coordinator: Aristotle University of Thessaloniki (AUTH) <ul style="list-style-type: none"> Higher Education Institutions: Aristotle University of Thessaloniki (GR), University of

	<p>Essex (UK), University of Bologna (IT), Autonomous University of Barcelona (ES);</p> <ul style="list-style-type: none"> • Social Economy organisations: Cooperatives Europe (BE) A.I.C.CO.N (IT) FEBEA (BE); • Research and Training Institutions: Stimmuli for Social Change (GR), AN.KA SA (GR).
<p>Country and/or city of the good practice application</p>	<p>It is a European co-funded project, therefore it has implemented actions in all partner countries as mentioned above.</p> <p>Countries: Greece, Italy, Belgium, Spain, United Kingdom</p> <p>Cities: Thessaloniki (Greece), Bologna (Italy), Brussels (Belgium), Madrid (Spain), and London (UK).</p> <p>Implementation Scale: Supranational</p>
<p>Target Audience</p>	<ul style="list-style-type: none"> • SE educators • HEI students (undergraduate, graduate, and post-graduate) • Social enterprises and cooperative businesses • Policymakers involved in social economy • Community development organizations
<p>Brief description (objectives, duration, key activities, etc).</p>	<p>The SE 4Ces Initiative is a comprehensive, action-oriented project designed to promote digital transformation in social economy education by integrating Social Economy Living Labs (SE Living Labs) into HEI curricula. It aims to foster interdisciplinary collaboration</p>

	<p>and enhance digital learning in SE faculties by combining theoretical knowledge with practice-based, participatory methodologies. The initiative emphasizes service learning, digital skill development, and co-creation processes between students, social enterprises, and policymakers.</p> <p>Key activities include:</p> <ul style="list-style-type: none"> • Establishment of SE Living Labs as real-life collaborative hubs; • Implementation of digital learning tools for social economy education; • Creation of a Joint Professional Master's Programme on Social Economy and Community Development; • Dissemination of research results and best practices through an SE Wiki Platform; • Conducting international training sessions and service-learning activities. <p>This initiative is not ongoing since it was implemented from 2021-2024, but is continuously expanding its scope through continuous research, institutional partnerships, and EU-backed projects and lessons learnt.</p>
<p>Digital technologies/tools used & alignment with Digital Transformation in SE Education</p>	<p>The Social Economy 4CES initiative integrates digitalization by developing and promoting digital tools, platforms, and methodologies that enhance SE education and entrepreneurial practices. The focus is on:</p>

	<ul style="list-style-type: none"> • Use of interactive digital platforms for knowledge sharing; • Development of an SE Wiki Platform for open-access resources; • Integration of AI-based matching tools to connect SE organizations with students based on skill sets; • Utilization of digital tools for participatory governance and community engagement; • Application of data-driven decision-making tools to enhance research impact. <p>These technological integrations ensure that SE actors acquire data-driven insights, digital skills, and scalable innovation strategies that align with modern digital economy demands.</p>
<p>Way of Living Labs approach's utilization (if relevant and available)</p>	<p>The Social Economy 4Ces Initiative explicitly incorporates Living Labs as a central methodology in its approach to enhancing digital transformation in SE education. The initiative applies Living Labs in the following ways:</p> <ul style="list-style-type: none"> • These labs function as co-creation spaces where students, social enterprises, and policymakers collaboratively design and test innovative SE models and digital solutions. • The initiative employs interactive digital tools, data-

	<p>driven decision-making systems, and AI-based matching platforms to facilitate participatory governance, community-driven innovation, and collaborative learning.</p> <ul style="list-style-type: none"> • SE Living Labs provide an interactive, interdisciplinary testing ground for experimenting with and refining digital solutions for SE enterprises, ensuring real-world applicability of emerging technologies. • The initiative fosters cross-country collaboration among universities and social economy stakeholders, creating an ecosystem of knowledge-sharing and sustainable digital transformation practices.
<p>Relevance to the project’s approach</p>	<p>The SE 4Ces Initiative is directly linked to the DigiSE5.0 project, particularly in its emphasis on Digital Value Creation Labs (DVCLabs) and Living Labs methodologies for real-world experiential learning in social economy education. The initiative serves as a proof-of-concept for embedding interdisciplinary digital education models in SE curricula, making it highly relevant for replication and further research.</p>
<p>Involved stakeholders</p>	<p>Higher Education Institutions (HEIs): Aristotle University of Thessaloniki (AUTH), University of</p>

	<p>Bologna (UNIBO), University of Bristol, University of Liverpool, and Ash Berlin.</p> <p>Social Economy Networks: Co-operatives Europe, FEBEA (Federation of Ethical and Alternative Banks), AICCON (Association for the Promotion of Cooperative Culture).</p> <p>Policy-Makers & Institutions: European Commission representatives, SE umbrella organizations, and local government entities focused on social economy development.</p>
<p>Impact (Qualitative and or/quantitative) & Measured Outcomes</p>	<p>Qualitative Impact:</p> <ul style="list-style-type: none"> ● Increased engagement of HEIs in Digital Social Economy Learning. ● Strengthened interdisciplinary collaboration between academia, policymakers, and social enterprises. ● Development of inclusive and participatory learning models for SE education. <p>Quantitative Impact:</p> <ul style="list-style-type: none"> ● More than 30 additional organizations expected to join the SE 4Ces partnership after the project. ● Ten countries signing Memorandums of Understanding (MoUs) for further implementation. ● At least 50 educators trained in local training sessions and 20

	<p>HEI educators participating in international workshops.</p>
<p>Scalability & Replicability</p>	<p>The SE 4Ces model is designed for replication across Europe and beyond. The initiative has already developed scalable strategies through:</p> <ul style="list-style-type: none"> • The SE Living Labs framework, which can be easily implemented in other universities. • The digital knowledge-sharing Wiki platform (see: https://socialeconomy4ces-wiki.auth.gr/index.php?title=Homepage), ensuring accessibility to educational materials. • Service-learning partnerships, which allow practical application of theoretical concepts in diverse socio-economic contexts.
<p>Challenges & opportunities</p>	<p>Challenges Identified:</p> <ul style="list-style-type: none"> • Limited digital skills among educators: The project addresses this through structured capacity-building workshops. • Resistance to change in traditional SE education: Overcome by integrating SE stakeholders into co-creation processes. • Funding sustainability: The initiative is working toward institutionalization within

	<p>partner HEIs to ensure long-term impact.</p> <p>Opportunities identified:</p> <ul style="list-style-type: none"> • Strong policy backing from the European Commission’s Social Economy Action Plan (2021). • Growing recognition of Living Labs as a transformative methodology in SE education. • Potential for integration into EU-funded programs such as Erasmus+ and Horizon Europe.
<p>Pedagogical approaches</p>	<p>The Social Economy 4CES initiative employs:</p> <ul style="list-style-type: none"> • Collaborative, participatory education: The initiative employs service-learning methodologies, encouraging students to solve real-world problems in collaboration with social enterprises. • Competency-Based Learning (CBL): Focuses on digital skills acquisition, social innovation methodologies, and Tech4Good applications in SE. • Experiential Learning through Living Labs: Embedding students within active SE environments, allowing hands-on practice with emerging digital tools.
<p>Website / reference link</p>	<p>https://socialeconomy4ces.auth.gr/</p>

3rd practice: *the case of ‘baSE project’*

Name of mapped programme/initiative	baSE Project - Blueprint for Advanced Skills and Trainings in the Social Economy
Organization/Institution (that has initiated this practice) & contact information	<p>The BASE project is a Blueprint Alliance for Social Economy and Proximity Skills, supported by the Erasmus+ programme.</p> <p>https://socialeconomyskills.eu</p> <p>The coordination team includes Mondragon University Diesis Network Social Economy Europe</p>
Country and/or city of the good practice application	EU-wide initiative
Target Audience	Employees of social economy organizations, managers, social entrepreneurs, VET providers, and SE practitioners.
Brief description (objectives, duration, key activities, etc).	The BASE project aims to develop a European strategy to address skills mismatches in the social economy sector, particularly in digital and green areas. It focuses on creating a sectoral skills strategy and designing education and training solutions to support the growth of the social economy ecosystem.
Digital technologies/tools used & alignment with Digital Transformation in SE Education	<p>Digital platforms for training, competence frameworks like EntreComp, DigiComp, and GreenComp.</p> <p>The project promotes digital skills and green competencies within the social economy sector, aligning with the digital transformation goals.</p>
Way of Living Labs approach's utilization (if relevant and available)	The project engages stakeholders in co-creating training programs and testing them in real-world settings.
Relevance to the project's approach	BASE project exemplifies the principles of Digital Value Creation and Living Labs by focusing on skill development, real-world application, and stakeholder engagement.

	Through its initiatives, BASE not only equips individuals with the necessary digital skills but also fosters a collaborative environment where innovative solutions can be tested and refined, ultimately contributing to the digital transformation of the social economy sector.
Involved stakeholders	Social economy federations, research institutions, Universities, VET providers, and SE experts collaborate to develop and implement training programs.
Impact (Qualitative and or/quantitative) & Measured Outcomes	The project aims to close the skills gap in the social economy sector and support the digital and green transitions. Information on measurable results is expected by the end of the project in 2026
Scalability & Replicability	The project's framework and training programs are designed to be adaptable across different social economy ecosystems in Europe. As a Blueprint Alliance, replicability is one of the main goals of the project.
Challenges & opportunities	One significant challenge is ensuring the relevance and applicability of the training programs to the diverse and evolving needs of social economy organizations. The sector is characterized by a wide range of activities and organizational structures, making it difficult to develop a one-size-fits-all curriculum. Additionally, keeping up with the rapid pace of technological advancements requires continuous updates to the training content, which can be resource-intensive and demanding for the project's coordinators and trainers. Another challenge lies in engaging and maintaining the participation of stakeholders

	<p>from various backgrounds, including social entrepreneurs, policymakers, and educators. Effective collaboration requires aligning the interests and expectations of these diverse groups, which can be complex and time-consuming. Furthermore, the project must address potential resistance to change from organizations that may be hesitant to adopt new technologies or methodologies.</p> <p>The project's focus on the twin transitions—digital and green—presents an opportunity to align social economy practices with broader European policy goals. By integrating sustainability into digital training programs, BASE can support social economy organizations in contributing to environmental objectives, such as reducing carbon footprints and promoting circular economy principles.</p> <p>The BASE project has potential to influence policy and funding decisions by demonstrating the value of investing in digital skills for the social economy. By showcasing the positive outcomes of its training programs, the project can advocate for increased support and resources for digital transformation initiatives within the sector. This advocacy can help secure the long-term sustainability of the project and ensure that the social economy remains at the forefront of digital innovation.</p>
Pedagogical approaches	The project employs competence-based training and collaborative learning approaches.
Website / reference link	https://socialeconomyskills.eu/base-project/

FROM GOOD PRACTICES TO IN-DEPTH CASE STUDIES

Building on the mapping of 23 good practices, Part B of the study delves into **eight** in-depth case studies chosen to exemplify how digital innovation and social economy education intersect in practice.

These eight cases were selected collaboratively by the project partners during a dedicated online meeting, ensuring a deliberate and representative choice. In line with the DigiSE5.0 criteria, each selected case promotes collaborative, experiential learning with real-world tasks, is action-oriented toward social good, and develops clearly defined competencies. The case studies span diverse institutional contexts – from formal university programs and international projects to grassroots and non-profit initiatives – yet all align with DigiSE5.0’s objectives of integrating Digital Value Creation Labs (DVCLabs) and Living Lab principles into social economy (SE) education.

In the following sections, we present key insights from each case study, including their institutional background, pedagogical methods, digital tools, stakeholder engagement, competences developed, challenges faced, and alignment with DigiSE5.0 goals. A comparative analysis then draws out cross-cutting themes, similarities, and differences, providing a holistic understanding of these innovative practices.

- **UNIVERSITY OF THE AEGEAN – “CONCEPTS AND SKILLS IN DIGITAL INNOVATION AND THE SOCIAL AND SOLIDARITY ECONOMY” (GREECE)**

This case features a **40-hour asynchronous training programme** at the University of the Aegean’s Lifelong Learning Centre (KEDIVIM) that provides foundational SE education to marginalized youth and other adults. Developed in partnership with an educational services SME, the initiative addresses the dual challenge of youth exclusion (especially NEETs, including migrants and refugees) and the need to promote sustainable, socially-oriented economic practices. **Pedagogically**, it is learner-centered and fully online: participants engage independently with pre-recorded lectures, readings, and assessments on a **digital learning platform** hosting rich content and tools. Supplementary digital resources include an **interactive map of social economy actors** and a repository of best practices, which extend learning beyond the Greek context and support practical application. The **stakeholder environment** involves a small academic team curating content, an external SME assisting in outreach, and envisioned collaborations with local NGOs, social enterprises, and community organizations to translate training into real-world outcomes. **Learners** – primarily

vulnerable youth but also older adults – are considered both beneficiaries and future contributors to the social economy. The programme explicitly cultivates **competences in social entrepreneurship and digital literacy**: participants learn SE fundamentals, skills for launching and managing social enterprises, and sustainable digital innovation practices. A notable forward-looking element is that participants will collectively establish a social enterprise to disseminate the programme’s knowledge, thereby reinforcing entrepreneurial and civic skills. Key **challenges** stem from the fully asynchronous model – it increases flexibility and scale but makes it difficult to monitor engagement or give real-time feedback. The lack of immediate interaction means instructors must devise new digital feedback loops to track learning and maintain motivation.

Alignment with DigiSE5.0:

This case demonstrates how a university can act as a catalyst for **inclusive, digitally-enabled SE education**, repurposing EU project outputs and lowering barriers to access. Although it does *not* employ a Living Lab model, it emphasizes applied learning through digital means, embodying the project’s emphasis on digital flexibility, competence-based learning, and social impact orientation.

- **KALOMATHE – ONLINE SOCIAL ECONOMY EDUCATION PLATFORM (GREECE)**

Kalomathe is a grassroots, self-organized **online platform** providing free education on the Social and Solidarity Economy through a multi-stakeholder network. Founded informally in 2018 (formalized as a non-profit association in 2020), it was initiated with support from a foundation and now operates independently across five regions of Greece. Its **pedagogical approach** combines **open-source digital tools** and participatory methods: the platform hosts multimedia **video courses** with exercises on key SSE topics (e.g. introduction to SSE, team-building, business planning for SSE initiatives). Participants (over 950 registered users) learn at their own pace, and the network also conducts in-person **workshops** around the country to foster dialogue on sector-specific issues like food, creative economy, and energy communities. The **digital infrastructure** enables nationwide reach and collaboration – for instance, online forums and collaborative planning documents support knowledge co-creation and coordination among geographically dispersed members. **Stakeholder engagement** is central: the network’s 32 core members include academics, SSE support organizations, activists, and SSE venture representatives who **co-plan and co-develop** educational content and activities. Regular assemblies (both in-person residencies and online meetings) ensure democratic governance and

continuous community building. Through Kalomathe, learners develop **competences in SSE practice and collective action**, gaining not only substantive knowledge (e.g. legal frameworks, commons, community development) but also skills in collaboration, critical thinking, and using digital tools for social learning. **Challenges** for Kalomathe include sustaining an entirely volunteer-driven model and maintaining engagement across a broad user base. As an informal initiative, it relies on goodwill and shared purpose rather than formal institutional support, which can make long-term sustainability and expansion difficult. Nonetheless, the platform's open, **participatory ethos** effectively creates a Living Lab-like environment in which users are co-creators of knowledge.

Alignment with DigiSE5.0:

Kalomathe exemplifies **inclusive, bottom-up digital education** in the social economy. It harnesses technology to overcome geographic and institutional barriers, fosters a multi-actor learning ecosystem, and encourages grassroots innovation and empowerment – all resonant with the DigiSE5.0 vision of digitally enhanced, collaborative SE learning spaces.

- **UNIVERSITY OF GENOA – SAVONA CAMPUS LIVING LAB “SMART CITY” (ITALY)**

The **Savona Campus Living Lab** is a pioneering example of integrating a Living Lab approach within higher education infrastructure. Established in 2014 at the University of Genoa's Savona campus, this initiative has transformed the campus into a **real-world smart city prototype** and experiential learning environment. Its **goal** is twofold: to serve as a testbed for sustainable energy and smart city innovations, and to enrich engineering and sustainability education through hands-on involvement in these innovations. **Digital technologies** are embedded throughout the campus: a smart polygeneration microgrid, renewable energy installations, IoT sensor networks for real-time monitoring, data analytics and machine learning for energy management, and automation systems are all in active use. These cutting-edge tools supply students and faculty with live data and functioning systems to study, maintaining a continuous feedback loop between theoretical learning and practical experimentation. The **pedagogical method** is inherently **experiential and interdisciplinary**. Students participate in projects that address real sustainability challenges (energy efficiency, urban mobility, etc.), often in teams that include faculty, researchers, local authorities, and industry partners. By engaging with actual campus infrastructure, learners develop technical competencies (in ICT, energy engineering, data science) alongside transversal skills like problem-solving, teamwork, and systems thinking.

Stakeholder engagement in Savona’s Living Lab is extensive: the university leads academically and administratively, the Italian Ministry of Education (MIUR) and regional authorities provide funding and policy support, technology firms contribute expertise and equipment (e.g. photovoltaic companies, automation tech suppliers), and local municipalities collaborate to scale successful solutions beyond the campus. This multi-sector partnership model ensures that education, research, and community service mutually reinforce one another. Among the **challenges** faced are the complexity of coordinating diverse stakeholders’ goals and the task of generalizing solutions developed on a campus scale to broader urban contexts. Nonetheless, the campus model has proven **replicable** – its success has sparked interest in adopting similar smart microgrid and campus-as-living-lab approaches elsewhere, demonstrating scalability.

Alignment with DigiSE5.0:

The Savona case vividly illustrates a **Living Lab in practice**, aligning with DigiSE5.0’s emphasis on experiential, tech-enabled learning for social good. It shows how a university can actively lead digital and green transitions by blending education with innovation and community engagement, thereby cultivating the next generation of socially conscious digital innovators.

- **TEACH-BEASTS – TEACHING TO BE AWARE STUDENTS
(MULTINATIONAL WITH APPLICATION TO ITALY)**

Teach-BEASTs is an Erasmus+ strategic partnership (2022–2025) that modernizes higher education pedagogy by integrating **Design Thinking (DT)** and **Project-Based Learning (PBL)** into STEM curricula. Coordinated by a Polish university (UITM Rzeszów) with partners in Italy (University of Bologna) and Spain, Teach-BEASTs targets university professors and students in technical disciplines. The **pedagogical innovation** lies in moving away from traditional lectures toward **challenge-driven, interdisciplinary learning**: students work in teams on real-world problems at the intersection of technology, society, and environment, following a cycle of ideation, prototyping, and testing. This approach has been shown to increase engagement and relevance of learning, and while the project did not focus specifically on social economy content, its methods are highly adaptable to SE education. Teach-BEASTs makes deliberate use of **digital collaboration and simulation tools** to support its pedagogy. For example, faculty and students employed online whiteboarding (e.g. Miro), data analysis software, engineering simulation programs, and even AI-based tools to prototype solutions. These technologies enabled cross-country teamwork and helped participants build digital competencies alongside subject knowledge.

Stakeholder involvement was multi-layered: educators were both learners (receiving training in DT/PBL) and co-creators (redesigning their courses), students served as active collaborators testing the new methodologies, and external DT/PBL experts facilitated workshops. The **competences developed** through Teach-BEASTs include not only digital skills (using collaborative platforms, AI tools, etc.) but also crucial **transversal skills** – creativity, communication, teamwork, and systems thinking – all essential for future social innovators. A significant **challenge** encountered was the need for robust institutional support and faculty development to sustain these innovative practices. The project found that without adequate training and buy-in, educators might revert to familiar teaching modes. Additionally, integrating such active learning into rigid curricula and timetables of universities proved challenging, requiring flexibility and administrative backing.

Alignment with DigiSE5.0:

Teach-BEASTs underscores the importance of **active, digitally-supported learning models** that DigiSE5.0 champions. It provides a transferable model for SE education – demonstrating how digital tools and co-creative pedagogies can be employed to make learning more engaging and relevant to societal challenges. The project’s outcomes suggest that similar approaches in SE programs could equip students with the creative problem-solving abilities and digital fluency needed to drive social innovation.

- **GRATY FOUNDATION – GAME-BASED LEARNING FOR SOCIAL INCLUSION (POLAND)**

The **GraTy Foundation** (est. 2022 in Krosno, Poland) exemplifies a social initiative leveraging **game-based learning (GBL)** and emerging technologies to foster education and inclusion. Founded by a parent of a neurodiverse child, GraTy’s mission is to create **educational spaces through games** – especially for neurodivergent youth, people with disabilities, and the elderly. Its hallmark is the **“Gratowóz” (GameTruck)**, a mobile, wheelchair-accessible game room packed with educational and therapeutic games. By traveling to various communities, the GameTruck brings digital learning opportunities (and fun) directly to participants who might lack access. The **pedagogy** centers on harnessing the motivational power of play: participants engage with off-the-shelf and specially designed games (including mainstream titles like *Assassin’s Creed* for interactive history learning) under guidance, blending entertainment with skill-building. Importantly, GraTy incorporates a **Living Lab approach** – continuously adapting its activities based on user feedback and needs. It experiments with how different games or technologies affect learning outcomes, creating an iterative design where

participants and facilitators co-create the experience. Cutting-edge **digital tools** are integral: the foundation employs **Virtual Reality** (using Oculus Quest 2 headsets) for immersive learning and therapy, and has even explored **AI tools** (like GPT-based chatbots) to enrich interactions. These technologies, combined with traditional board and video games, help develop participants' cognitive, social, and even linguistic abilities (the founder's son, for instance, learned multiple languages through online gaming). **Stakeholder engagement** spans families, educators, local authorities, and NGOs. The foundation collaborates with disability organizations and schools, and often events bring together **intergenerational groups** – children, parents, and seniors – thereby building community around digital play. Participants in GraTy's programs gain **competences** in digital literacy, communication, and teamwork, as well as improvements in confidence and social skills, particularly for those on the autism spectrum or facing social isolation. The welcoming, play-focused environment lowers anxiety and encourages peer learning, illustrating how technology can bridge social gaps when used mindfully. Among the **challenges** GraTy faces is overcoming the skepticism toward video games in education – a cultural bias that games are mere entertainment rather than valid learning tools. Additionally, as a young non-profit, it must secure ongoing funding and manage the logistics of a traveling digital lab.

Alignment with DigiSE5.0:

GraTy aligns closely with DigiSE5.0's vision by demonstrating **tech for good** in practice – using VR and gaming to empower marginalized groups and foster social inclusion. It serves as a “mini” Digital Value Creation Lab on wheels, highlighting the importance of creativity, user-centered design, and feedback in educational innovation.

- **OPTEA FOUNDATION – DIGITAL COMPETENCE FOR DISABLED JOBSEEKERS (POLAND)**

The **OPTEA Foundation** in Poland represents a targeted effort to use digital education for empowering a specific marginalized group: people with disabilities who face unemployment. Headquartered in the Podkarpackie region but active nationally, OPTEA focuses on the **vocational activation of people with disabilities** through tailored training and counseling. Its programming is built around enhancing participants' **digital competences** and other job-relevant skills to improve their employability in the modern economy. Key activities include individualized counseling to identify talents and barriers, **workshops and courses** to teach digital skills (such as computer literacy, use of assistive

technologies, or online job search and remote work tools), and mediation efforts that connect trainees with potential employers. The **pedagogical approach is experiential and supportive**: trainees learn by doing (practicing with real software and workplace simulations) in a safe environment, and benefit from mentorship and follow-up support during internships or placements. OPTEA's training sessions often serve as a **living lab for accessibility**, where new technological solutions (like specialized software or devices for people with visual/hearing impairments) can be tested and adapted in everyday scenarios. By engaging participants in trying out these tools and providing feedback, the foundation iteratively improves its methods and recommends better practices to employers. **Stakeholder engagement** involves partnerships with employers, public employment services, and disability advocacy groups. Employers are encouraged to offer internships or trials, while OPTEA prepares the participants and advises companies on inclusive practices. This multi-actor collaboration helps address systemic issues of workplace inclusion. Participants emerge with **enhanced digital skills and confidence** – for instance, being able to use office productivity software, navigate the internet, or even code can significantly widen the job opportunities available to disabled jobseekers. Moreover, soft skills like communication and self-advocacy are fostered through group activities and counseling. A persistent **challenge** is overcoming the low expectations and social stigma often placed on disabled individuals. OPTEA must also stay current with rapidly evolving assistive technologies and labor market trends to keep its curriculum relevant. Resource constraints can limit the number of people reached, and scaling up requires strong policy support.

Alignment with DigiSE5.0:

OPTEA's work is a clear embodiment of **inclusive digital capacity-building**, aligning with the project's mission to ensure no one is left behind in the digital transition. By empowering a vulnerable segment to participate in the digital economy, it reflects the DVCLab philosophy of co-creating value with learners and stakeholders. The emphasis on real-world skill application, stakeholder partnerships, and iterative learning-by-doing closely mirrors the principles of competence-based, action-oriented education in a social context.

- **FARI – AI FOR THE COMMON GOOD (BELGIUM)**

FARI is a Brussels-based initiative founded by the Vrije Universiteit Brussel (VUB) and Université libre de Bruxelles (ULB) to explore ethical, transparent, and sustainable applications of AI, robotics, and **data technologies for societal benefit**. Operating through a Living Lab approach, it engages a broad range of

stakeholders—including academia, public institutions, civil society, and industry—in co-creation processes addressing real-world challenges. Key activities include AI-driven pilot projects in employment, animal welfare, and public administration, as well as hands-on training programs and a Test & Experience Center promoting inclusive digital literacy. The initiative blends academic research with applied digital innovation, building civic capacities around ethical AI.

Alignment with DigiSE5.0:

FARI aligns closely with DigiSE5.0 through its use of the Living Lab model to foster ethical and inclusive digital innovation in real-world settings. Its interdisciplinary AI training programs reflect DigiSE5.0's focus on competence-based learning and digital value creation. By engaging academia, public institutions, and civil society, FARI offers a transferable model of co-creation and applied technology for SE education.

- **DIGISEII – DIGITAL TRANSITION SUPPORT FOR SOCIAL ENTERPRISES (BELGIUM & EU)**

DigiSEII is a transnational initiative coordinated by Euclid Network and launched by the Social Innovation Factory to **support social enterprises and intermediary organizations in their digital transformation**. It offers a **hybrid** learning platform combining e-learning, workshops, AI-powered skill assessments, and peer learning activities across six countries. The program provides tailored, practical training in tools such as CRM systems, digital marketing, and project management software, while also addressing structural barriers like limited resources and digital skepticism.

Alignment with DigiSE5.0:

DigiSEII contributes to DigiSE5.0's aims by providing tailored, hybrid digital training to social enterprises and their support structures. Its personalized learning pathways, peer exchange, and practical toolkits echo the DVCLab approach. The initiative reinforces DigiSE5.0's focus on inclusive digital transition, real-world application, and capacity building in the SE sector.

Comparative Analysis of the Case Studies

Comparative analysis, as a method of qualitative inquiry, enables the structured examination of multiple cases to discern recurring patterns, divergences, and thematic correlations. It is particularly valuable in educational research as it allows for a grounded understanding of how different contextual factors influence pedagogical models, stakeholder configurations, and institutional strategies. By comparing a series of cases, researchers can identify best practices, assess transferability, and draw meaningful conclusions for policy and practice⁷¹. This methodology is central to the DigiSE5.0 Study, which has selected six diverse case studies from Greece, Italy, and Poland for in-depth investigation. These were drawn from a corpus of 23 good practices identified across the participating countries and were selected through a deliberative process involving all project partners in a dedicated online meeting. The aim was to explore a spectrum of innovative models that reflect the DigiSE5.0 vision of digitally enhanced, inclusive, and competence-based education in the Social Economy sector.

Comparative analysis, by nature, blends inductive and deductive reasoning, often relying on cross-case thematic coding to produce insights that are both context-sensitive and theoretically robust. It can be applied through case-oriented or variable-oriented logic, the former being particularly relevant here as it allows each initiative to be interpreted holistically within its sociocultural and institutional setting⁷². Moreover, the use of international comparative research in education provides critical lenses for understanding how different systems respond to common challenges and how innovations can travel across borders when adapted thoughtfully⁷³.

The selected cases reveal a rich variety of approaches to integrating digital technologies, pedagogical innovation, and multi-stakeholder engagement into SE education. Despite significant differences in scale, institutional formality, and target groups, they are united by a shared emphasis on learner empowerment, community responsiveness, and digital fluency.

The case from the University of the Aegean in Greece exemplifies how a university-based Lifelong Learning Centre can design a fully asynchronous, modular programme to support marginalized youth and adults—including migrants and NEETs—through foundational SE training and digital literacy development. Developed in partnership with an SME, the programme employs a learner-centred approach using pre-recorded content, digital tools, and repositories, while also envisioning long-term learner-led entrepreneurial action. Similarly focused on

inclusivity and access, the Kalomathe platform represents a grassroots digital initiative where content is co-developed by a decentralized network of SSE practitioners, academics, and activists. Operating on an entirely voluntary basis, Kalomathe provides multimedia resources and fosters co-learning through both digital channels and in-person assemblies. It demonstrates a Living Lab dynamic by enabling knowledge co-creation, distributed governance, and user-driven adaptation of content and methods.

In the Italian context, the Savona Campus Living Lab stands out as a deeply institutionalized model. Embedded within the University of Genoa's infrastructure, it leverages real-time digital technologies—IoT networks, smart grids, machine learning—for sustainability-focused engineering education. Students learn through hands-on projects that address urban mobility and energy management in collaboration with public and private stakeholders, exemplifying a fully integrated and technologically mature Living Lab. Complementing this, the Teach-BEASTs initiative (with Italian involvement through the University of Bologna) brings pedagogical innovation into STEM higher education via design thinking and project-based learning. Though not originally focused on SE, its methodologically rich approach, including the use of collaborative platforms and simulation tools, is highly adaptable to SE curricula. It emphasizes student agency, cross-disciplinary problem-solving, and the cultivation of transversal competences such as creativity, teamwork, and digital collaboration.

From Poland, two cases illustrate how digital inclusion and social innovation can intersect with educational delivery. The GraTy Foundation applies a game-based learning approach targeting neurodivergent youth and marginalized communities, employing mobile infrastructure (the "Gratowóz" game truck), VR technologies, and feedback-driven activity design. Its Living Lab ethos lies in the iterative refinement of tools and practices through participant input. OPTEA Foundation, on the other hand, directly addresses the digital divide among disabled jobseekers. Through counselling, hands-on workshops, and employer engagement, it enables participants to acquire both digital and soft skills essential for workplace integration. OPTEA's use of

⁷¹ **Ragin**, C. C. (1987). *The Comparative Method: Moving Beyond Qualitative and Quantitative Strategies*. University of California Press, ISBN: 9780520280038.

⁷² **Hantrais**, Linda. (2009). *International Comparative Research: Theory, Methods and Practice*. [http://lst-iiiep.unesco.org/cgi-bin/wwwi32.exe/\[in=epidoc1.in\]/?t2000=026274/\(100\)](http://lst-iiiep.unesco.org/cgi-bin/wwwi32.exe/[in=epidoc1.in]/?t2000=026274/(100)).

⁷³ **Bray**, Mark & Adamson, Bob & Mason, Mark. (2014). *Comparative Education Research: Approaches and Methods: Second Edition*. 10.1007/978-3-319-05594-7.

assistive technologies, together with experiential learning formats, showcases a pragmatic model of accessibility-focused education.

Comparing across the six cases, one finds diverse pedagogical logics—ranging from asynchronous e-learning and grassroots multimedia to real-time experimentation with infrastructure and co-creation workshops. However, they all prioritize active learning, digital competence acquisition, and the empowerment of learners as agents of change. The use of digital technologies is not limited to content delivery but is integrated into learning processes, whether through collaborative platforms, virtual simulations, or interactive maps. Stakeholder involvement is another common thread: from decentralized volunteer networks to public-private-university alliances, all models rely on broad-based collaboration for planning, delivery, and evaluation. The competences developed span technical, entrepreneurial, and civic domains, demonstrating a holistic vision of learner development.

Challenges remain, including sustaining voluntary efforts, institutionalizing innovative practices within rigid educational frameworks, and overcoming cultural biases against non-traditional pedagogies such as gaming. Yet, these barriers are often met with adaptive strategies: user feedback loops, hybrid governance, and modular course designs allow each initiative to remain responsive and context-sensitive.

In the Belgian context, two case studies—FARI and DigiSEII—offer distinct yet complementary models that deepen the comparative scope of the DigiSE5.0 analysis. FARI represents a high-level integration of AI, data, and robotics into societal problem-solving, functioning as a Living Lab grounded in ethical and inclusive innovation. It demonstrates how universities can operationalize co-creation through interdisciplinary research, hands-on training, and public engagement. DigiSEII, coordinated by the Social Innovation Factory and Euclid Network, introduces a transnational hybrid learning model for social enterprises, combining AI-driven skill assessments, tailored digital upskilling, and structured peer learning. While FARI emphasizes infrastructure-based experimentation and civic AI literacy, DigiSEII foregrounds accessibility, flexibility, and applied learning across diverse SE ecosystems. Both cases reflect DigiSE5.0's core pillars: digital competence development, multi-stakeholder collaboration, and pedagogical innovation aligned with the real-world needs of the Social Economy sector.

As a continuation of the previous comparative analysis, the following section deepens the exploration of good practices by presenting the six selected case studies in their full analytical form. These case studies have been examined individually to illuminate the pedagogical strategies, digital components, stakeholder configurations, and challenges specific to each initiative.

This detailed presentation is essential for providing the reader with a comprehensive and well-grounded understanding of how diverse educational ecosystems operationalize the principles of digitally enhanced, inclusive, and competence-based Social Economy education. The analytical exposition of each case enables not only contextual appreciation but also comparative learning across institutional, cultural, and methodological boundaries.

The document attached below presents each of the six cases in depth. This structured documentation supports a more nuanced reading of the innovations, impact pathways, and replicability potential of each model, thereby serving as an essential complement to the broader study.

SPRAWNIWPACY.PL – AN ONLINE PLATFORM SUPPORTING THE PROFESSIONAL ACTIVATION OF PEOPLE WITH DISABILITIES

Country: Poland

Abstract

The goal of the initiative is to support the people with disabilities by giving them access to job offers from employers who are open to hiring this group. The platform is a free job placement tool dedicated exclusively to this social group.

The initiative is based on the use of digital technologies in the form of a recruitment portal that allows users to create profiles, browse job offers and submit applications online. Although no advanced technologies, such as AI or blockchain, have been used, the platform serves as a tool to enable interaction between people with disabilities and employers, thereby enhancing their digital skills. The living lab approach was not implemented.

The initiative shows how digital tools can be used to achieve social goals by promoting labour market inclusion. For social economy education, it is an example of how information technologies can support social entrepreneurship and the professional activation of groups at risk of exclusion. The platform can be analysed as a case study illustrating the practical application of digitalisation in the context of non-profit organisations.

Keywords: Vocational activation, people with disabilities, social economy, digital platform, social integration

Introduction

The Sprawniwpracy.pl [able at work] initiative is a nationwide online platform aimed at supporting the professional activation of people with disabilities. The portal enables direct contact between job seekers and employers willing to employ people with disabilities. The service is free of charge for both jobseekers and employers.

The initiative was launched by the Integration Foundation, a Polish non-governmental organisation that has been working for the social and professional integration of people with disabilities for over 30 years. The portal was launched in October 2013 and has since undergone several stages of development, including a major upgrade to meet legal requirements (including GDPR) and improve the usability and intuitiveness of the system.

Currently, the portal functions as one of the tools used in vocational activation projects implemented by the Integration Foundation and co-financed by the State Fund for Rehabilitation of Disabled Persons, among others. The initiative is nationwide, although support activities are also carried out within the Regional Integration Centres in Warsaw, Gdynia and Zielona Góra.

Stakeholder involvement

The main actors involved in the Sprawniwpracy.pl initiative are:

- the Integration Foundation as the initiator and operator of the portal,
- people with disabilities as the main target group,
- employers looking for employees from this group,
- and public institutions, in particular the State Fund for Rehabilitation of Disabled Persons (Państwowy Fundusz Rehabilitacji Osób Niepełnosprawnych - PFRON), which co-finances modernisation and development activities related to the portal.

The portal was created as part of the 'Sprawni w Pracy' (Fit for Work) project in 2013, which aimed to promote the professional activation of people with disabilities. Its activities focused on supporting the recruitment of employees with disabilities and proposing solutions for both job seekers and entrepreneurs. The launch of the portal was accompanied by an information and promotional campaign under the slogan 'I don't want to be a firefighter' ("Nie chcę być strażakiem"). The main message of the campaign was contained in a spot with the

same title (<https://www.youtube.com/watch?v=H7IYF5ktoRg>). Media relations activities were carried out by a marketing agency ([Walk PR](#)). The portal was promoted on the Internet, among public institutions (e.g. ministries, the State Fund for Rehabilitation of Disabled People), among entrepreneurs, during events and conferences devoted to issues related to people with disabilities. At the same time, the Integration Foundation promoted the portal during various activities aimed at the professional activation of people with disabilities. The promotion of the portal accompanied the foundation's activities, such as career counselling, job placement, psychological counselling, specialist consultations for people with disabilities, meetings encouraging job seekers to look for work and meetings with employers. The portal's offer was addressed to commercial partners through channels available to the foundation.

The motivation for creating the portal was to remove barriers to employment for people with disabilities in the open labour market. The initiative received broad public support and, in later stages, institutional support as well. The platform's activities were supported by PEFRON funds and EU funds. The platform saw a significant increase in popularity among people with disabilities and private employers, as public entities began to post job offers on the site. During the operation of the portal, over 10,000 participants and over 1,000 employers registered on it. At present, the activities of the platform are also partially supported by projects implemented by local branches of the Foundation. As a result, a wide range of stakeholders have been brought together, including those who are permanently involved in the activities and those who only occasionally support the Foundation's activities and the portal. The aim is also to increase the visibility of this group among employers and to provide them with a simple and free recruitment tool. The originator of the portal was Piotr Pawłowski, founder and president of the Integration Foundation, whose vision was to create a modern, digital platform supporting equal opportunities in the labour market.

Collaboration with stakeholders has brought measurable benefits, including a growing number of job offers, user registrations and interest from public and private institutions. At the same time, challenges have emerged, in particular related to the declining interest of employers to actively use the portal in a situation where competing portals offer a wider coverage without the need to create additional profiles.

Another challenge is the varying level of digital literacy among users with disabilities, which can hinder the effective use of the tool.

Use of Digital Technologies and/or the Living Lab Approach

The Sprawniwracy.pl portal is an example of the use of basic digital technologies to achieve social goals related to the professional activation of people with disabilities. The initiative was launched by the Integration Foundation in 2013, and since its inception it has been operating as a national platform that allows people with disabilities to access special job offers.

The portal is a digital recruitment tool that allows users to register, create candidate profiles, and browse and apply for job offers posted by employers. Vacancies are posted directly by companies interested in hiring people with disabilities, and responses from candidates are sent directly to employers. The platform thus acts as a technological intermediary without interfering in the recruitment process.

Technologically, the portal is based on features typical of recruitment websites: a content management system (CMS), a database of candidates and vacancies, and online forms. As part of the latest upgrade, the interface has been simplified, and the amount of personal data collected has been limited in response to GDPR requirements. The decision to no longer store users' CVs and to limit data to essential contact information was taken to increase security and transparency. As part of the portal's technological development, particular attention has been paid to ensuring digital accessibility in accordance with international standards (Web Content Accessibility Guidelines – WCAG). This includes, among other things, simplifying the user interface, improving the readability of content, and adapting navigation to the needs of people with various types of disabilities, including users of screen readers or assistive technologies. Compliance with WCAG standards is of crucial importance for promoting social inclusion and enables people with functional limitations to use digital tools independently.

Although the portal does not use advanced technologies such as artificial intelligence or blockchain, it is a functional and accessible tool that indirectly supports the development of users' digital skills. To use the platform, people with disabilities need to have skills such as creating accounts, filling in online forms, navigating the database and communicating electronically with employers. In this way, the project helps to combat the digital exclusion of this social group.

From a portal administration perspective, a moderation and user support is provided by the Integration Foundation team. The administrators ensure that content is compliant and provide basic technical support and recruitment assistance to both parties.

The project has not implemented a formal living lab approach. Nor has it used iterative processes to co-create digital solutions with end users. Nevertheless, the development and modernisation of the portal has been based on reported user needs and regulatory changes, indicating a degree of adaptation of functionality to real operating conditions.

The initiative's impact is measured quantitatively by analysing data on registered users and employers, portal activity, and job offers. According to representatives of the Foundation, there has been a noticeable decline in interest in the platform's services since the end of the pandemic. This is primarily due to the increased activity of available open-access platforms. However, there has been a notable increase in interest from both candidates and new employers, including public administration bodies. This was undoubtedly influenced by the expansion of the scope of activities to include, among other things, individual, psychological, and training support offered as part of projects implemented by the Foundation with EU and the State Fund for Rehabilitation of Disabled People ([PFRON](#)), which aim to improve the employability of people with disabilities.

Practical Transferability in SE Curricula

The [Sprawniwpracy.pl](#) initiative can be used as a teaching material in formal education at higher education institutions and in informal education provided by various institutions.

The [Sprawniwpracy.pl](#) initiative can be directly incorporated into the curriculum of higher education institutions as a case study material used in various courses in social and technical fields. For example, it can be part of academic courses on management of social economy entities, public policy, digital service design, project management, and many more. The material can be used as a case study showing the application of digital tools in the activities of non-profit organisations working with socially vulnerable groups. This case study can also be used in technical courses to teach the design of accessible solutions for people with disabilities and their implementation by public and social institutions.

The material can also be used in informal education provided by public and social institutions as part of vocational training, effective integration of people with disabilities into the labour market, as part of courses, training, counselling, etc.

The project serves as a compelling example of how social objectives can be effectively integrated with Information and Communication Technologies (ICT) to support the professional activation of people with disabilities. At the same time, it offers valuable insights into the barriers that hinder the broader use of modern

technologies by individuals from socially excluded groups supported by social economy organizations.

Significant challenges have been identified in relation to the use and further development of the [Sprawniwracy.pl](https://sprawniwracy.pl) portal. While the platform provides not only current job offers but also a comprehensive knowledge base on labor market regulations, documentation, and procedures, its full potential remains underutilized by people with disabilities.

There are several reasons for this. Firstly, many users face substantial digital barriers, such as limited computer literacy and difficulties in navigating online tools. Secondly, for people with disabilities, job searching often extends beyond employment itself. It also reflects a need for social connection, emotional support, and belonging. Therefore, the portal's digital services are effectively complemented by the direct support provided by the Integration Foundation, including training, counselling, and informational activities tailored to these multifaceted needs. This highlights a broader conclusion: the effective use of digital technologies by socially excluded groups requires not only access to digital tools, but also meaningful support in using them, recognition of social needs, and the creation of hybrid solutions that combine digital functionalities with human interaction. This implies that:

- digital skills development must accompany the implementation of online services,
- digital platforms should be inclusive, user-friendly, and responsive to diverse user needs,
- technology cannot fully replace human relationships. Thus, digital support should consistently be reinforced with direct, personalized engagement, particularly for individuals requiring trust-based, guided assistance.

This inclusive approach is not limited to people with disabilities. It can be effectively applied to other marginalized groups addressed by social economy initiatives, such as seniors, the long-term unemployed, migrants, or individuals with low levels of education.

As part of their academic studies, students can analyse the structure and functioning of the portal, its organisational and technological development, its implementation strategy and digital forms of communication with stakeholders, as well as the limitations of the use of new technologies by socially vulnerable groups. Particular attention will be paid to the digital transformation of third sector organisations, digital inclusion and the adaptation of technology to the needs of groups at risk of exclusion.

Students will develop competences in:

- planning and implementing digital solutions for social purposes using universal design appropriate for persons with disabilities,
- diagnosing the needs of excluded groups (people with disabilities) and designing specific social solutions, including digital services (design for inclusion),
- identifying the relationship between technology and social inclusion in the activities of social enterprises,
- assessing the effectiveness and accessibility of technology in the context of social inclusion,
- analysing the impact of simple and advanced digital technologies on the structure of relationships in social organisations,
- managing social initiatives with limited resources.

Teaching is based on case studies and project-based learning. Working in teams, students will carry out tasks such as:

- developing proposals for the functional development of a portal taking into account the needs of users with different digital competences,
- preparing a strategy for promoting the initiative in new environments (e.g., universities, employment offices, social media),
- creating a concept for integrating similar digital tools into the activities of local social economy units.

While working on the [Sprawniowpracy.pl](https://sprawniowpracy.pl) case, students will gain experience in:

- applying inclusive approaches to universal service design,
- analysing the strategy of a non-governmental organization in the context of digital transformation,
- practical use of online platforms as tools for social inclusion,
- using digital tools for social project management,
- analysing digital data (e.g., portal usage statistics) to evaluate the effectiveness of activities,
- teamwork on a real social problem using research and analysis tools.

The courses also support the development of soft skills: social empathy, systemic thinking, teamwork and critical evaluation of the impact of implemented solutions in the context of social policy and equal opportunities, as well as the evaluation of implemented digital solutions in an ethical, social and legal context.

Conclusions

The case study of the [Sprawniwrpracy.pl](https://sprawniwrpracy.pl) portal shows how a non-governmental organisation can effectively use digital tools to achieve social goals, including, in particular, the professional activation of people with disabilities.

The project offers high practical transferability to social economy curricula, providing a concrete, real-life example of combining digital innovation with inclusive social practices.

As part of its technological development, the platform was adapted to meet international digital accessibility standards (WCAG), ensuring that users with various types of disabilities can independently access the portal's functionalities and content. This adaptation is a key step towards promoting universal access and digital inclusion in social economy activities.

The following key educational and practical conclusions can be drawn from the analysis of the initiative:

- the use of digital technologies in social activities requires simultaneous consideration of functional, legal, and ethical aspects,
- the effectiveness of a platform depends not only on its technical structure, but also on the active involvement of stakeholders (employers, users, public institutions),
- digital solutions in the social economy must be designed with accessibility and a low entry threshold in mind for users with different digital skills,
- digital solutions targeted at vulnerable groups require complementary support in the form of direct services provided by social economy organisations or public institutions,
- digital projects targeting vulnerable groups must adhere to accessibility standards such as WCAG to ensure equal access and usability for all users,
- activities promoting digital tools require continuous educational and communication support to counteract a decline in engagement.

The experiences presented also encourage reflection in the following areas:

- digital service design: analyzing how inclusive and accessible digital tools are developed and adapted to the needs of marginalized users,
- social impact assessment: assessing how digital tools complement offline services to provide comprehensive support to vulnerable groups,
- organizational strategy: exploring the role of third sector organizations in combining a technological approach with a human-centered approach,
- barriers to digital inclusion: identifying structural, educational, and emotional factors that hinder access to technology by users,

- communicate with stakeholders by examining digital information activities and building relationships with users, employers, and support networks.

The project shows how important it is to better understand how technology can be used to support social inclusion. Because social economy organizations often work with people facing different challenges, their programs should combine digital tools and personal support (a hybrid support model). They should also focus on helping people build digital skills, so everyone can benefit from new technologies.

The global pandemic has had a significant impact on the way traditional job search platforms operate and has led to an expansion of their reach. For this reason, the *sprawniowpracy.pl* platform is currently being modernised. The project is currently underway to enhance the functionality of the platform and extend its reach. This will involve facilitating easier access for employers and increasing interest among people with disabilities. The Integration Foundation continues its activities related to its maintenance, promotion and development of cooperation with new and existing partners. The new version of the portal has been simplified and adapted to modern usability and privacy requirements, and its functioning will be monitored in terms of effectiveness and further demand.

Future plans focus on further testing of functionality, analysis of the tool's effectiveness in the context of the changing labour market, and potential expansion of the platform's use, both geographically (at local and regional level) and functionally (e.g. integration with other labour market resources or digital education platforms).

Discussion Questions:

1. What are the main factors influencing the effectiveness of digital recruitment tools in the context of the professional activation of people with disabilities?
2. How does the *Sprawniowpracy.pl* portal implement the principle of equal opportunities and how does it influence social inclusion in the labour market?
3. What are the challenges of designing digital services for groups with different technological skills? How can these challenges be met?
4. What is the role of non-governmental organisations in the digital transformation of social services? Are they able to compete with large commercial organisations?

5. What promotional activities could increase the reach and effectiveness of the Sprawniwpracy.pl portal among employers and candidates?
6. How can the portal be integrated into the system of vocational training and career guidance at the local level?
7. What mechanisms for evaluating the effectiveness of the portal could be used in the future to better measure its social and educational impact?
8. How could students of social and technical disciplines co-create or develop such platforms as part of their education and professional practice?
9. Is it worth considering the use of more advanced technologies (e.g. AI, recommendation systems) in such platforms in the future? What are the benefits and risks of such an approach?

References

1. Integration Foundation – official website of the organisation: <https://integracja.org/o-nas/>
2. Sprawni w pracy.pl. Portal. <https://www.sprawniwpracy.com/>
3. Interviews with representatives of the Integration Foundation conducted in April 2025.
4. M. Różański (2013). Portal „Sprawni w pracy” pomoże znaleźć zatrudnienie lub pracownika. <https://archiwum.niepelnosprawni.pl/ledge/x/173733>
5. <https://www.youtube.com/watch?v=H7IYF5ktoRg>

GRATY FOUNDATION - GAME-BASED LEARNING

Country: Poland

Abstract

The GraTy Foundation aims to create educational spaces based on the Game-Based Learning (GBL) approach, engaging participants in learning through games and modern technologies. The initiative focuses on supporting neurodiverse individuals, people with disabilities and the elderly, by creating a mobile educational space called Gratowoz [Gametruck], which provides access to educational and therapeutic games. The Foundation utilizes technologies such as Virtual Reality (VR), OCULUS Quest 2 headsets, and Artificial Intelligence (AI), including GPT chats. Additionally, the initiative applies the Living Lab approach, which allows for the continuous

adaptation of products and services to user needs and collecting feedback data from participants.

The GraTy Foundation initiative offers key insights on the use of new technologies in education and the integration of people with disabilities into society. Furthermore, examples of collaboration with stakeholders, such as foundations, local government institutions, and other organizations, demonstrate the importance of sectoral integration in social economy efforts.

Keywords: Game-Based Learning, VR technologies, Living Lab, neurodiversity, social education.

Introduction

The GraTy Foundation, established in 2022 by Damian Piórko Ziemia, operates in Poland with its headquarters in Krosno. The Foundation focuses on advancing education through computer games and digital technologies, particularly for supporting neurodiverse individuals and people with disabilities. Its main initiative is the Game-Based Learning project, which aims to engage various social groups in the learning process using educational games. In addition, the Foundation developed an innovative tool in the form of Gratowoz [Gametruck] – a mobile game room combining games and education, which allows access to VR technologies and other educational tools across Poland. The GraTy initiative was born out of the personal experience of a parent of a child on the autism spectrum, who recognized the tremendous developmental potential hidden in video games. Despite his son's social withdrawal, online gaming enabled him to build relationships with others, develop language skills—mastering as many as four languages—and learn to navigate an international community. For him, games became a bridge to the world, not a threat—provided there was mindful management of both screen time and content.

GraTy is more than just entertainment. It's an educational, social, and integrative space aimed at building connections—not only among gamers but also between parents and children. Thanks to its mobile format (the 'Gratowóz'), the foundation travels to various communities, offering not only games but also workshops, discussions, and shared activities that highlight how games can be a valuable tool for growth and education.

The initiative is also inspired by a sense of nostalgia for the days of internet cafés—once vibrant meeting spots full of competition and shared fun. In that same spirit, GraTy builds local communities around games, promoting safe and conscious use of technology and encouraging intergenerational time spent together. The foundation's president presents games not as a threat, but as a

versatile tool that—when used thoughtfully—can serve many roles across different areas of life. In his vision, games carry immense educational, social, and therapeutic potential, and their demonization often stems from a lack of understanding of their possibilities and specific nature.

In the context of education, games can become a modern medium for learning—for example, the *Assassin's Creed* series allows students to explore history interactively, visit ancient structures, and immerse themselves in long-lost worlds. When it comes to working with seniors or individuals who are bedridden or physically excluded, games—particularly virtual reality—make it possible to revisit family homes or maintain social connections despite mobility limitations. For such individuals, gaming becomes as natural and essential as watching films or reading books. The president also highlights the therapeutic and integrative potential of games. One initiative involves creating accessible games for people with disabilities and training NGO workers on how to lead inclusive gaming experiences that respect each participant's needs. He points out that as technology evolves—with adaptive controllers from PlayStation and Xbox—it is our responsibility to ensure that no one is excluded from the gaming experience. Games also serve as a space for building relationships. For parents, they offer an opportunity to spend quality time with their children, to better understand them, and to engage in conversations about boundaries—instead of using games as a way to “keep children busy”. For socially withdrawn individuals or those who, for various reasons, cannot leave their homes, online games become not only a form of entertainment but also a means of communication and social participation. Throughout this perspective, the foundation's president expresses a deep belief that games—when approached with awareness—can meet very real and diverse needs across all ages, abilities, and life situations. The Foundation's goal is not only to improve access to education through games but also to promote the social integration of individuals with various disabilities. The Foundation also promotes collaboration with local and national organizations, which enables it to achieve its objectives. The Foundation's goal is not only to improve access to education through games, but also to foster the social inclusion of individuals with diverse disabilities—both visible and invisible. By using games as accessible and engaging tools, the Foundation breaks down traditional barriers to learning, participation, and interaction. Whether through educational simulations, inclusive game design, or the use of assistive technologies, the aim is to create environments where everyone, regardless of ability, can learn, express themselves, and connect with others.

To amplify its impact, the Foundation actively promotes collaboration with both local and national organizations. These partnerships are essential in reaching underrepresented communities, sharing best practices, and developing innovative solutions tailored to specific needs. By working together with schools, NGOs, tech companies, and municipal institutions, the Foundation ensures that its initiatives are grounded in real-world challenges and supported by a network of professionals committed to accessibility, education, and inclusion. This collaborative approach not only helps achieve immediate project goals, but also contributes to long-term systemic change—shaping more inclusive digital spaces and encouraging a broader cultural shift toward understanding and embracing neurodiversity, disability, and the transformative power of play.

Stakeholder Engagement

The GraTy Foundation collaborates with a wide range of stakeholders, including public institutions, non-governmental organizations, businesses, and local governments. Financial and expert support from entities such as the Department of Social Economy, the National Institute of Freedom, the National Institute of Culture, and the Inter Cars Foundation has enabled the development of the initiative. Support from local municipalities and cities that use Gratoz in their activities helps reach a broader audience interested in education through games. The motivations for developing the initiative vary. The Foundation aims to support local communities by providing spaces for learning and development for individuals with disabilities, as well as promoting education based on cooperation and integration.

The GraTy Foundation supports local communities by creating spaces for learning and development for individuals with disabilities, while promoting education based on cooperation and integration. Through its mobile educational center, the "Gratowóz," the Foundation reaches smaller towns, offering workshops and accessible educational games. In collaboration with local institutions, it organizes events that bring together children, adults, and seniors, building social bonds and breaking down intergenerational barriers. The Foundation also trains teachers and staff from social organizations, showing them how to use games as a tool to support individuals with special needs. By working with local schools and cultural centers, the Foundation promotes values of openness, cooperation, and empathy among participants of different ages and abilities.

Collaboration with stakeholders brings benefits such as a larger reach and securing funds for implementing innovative projects. One challenge of

collaboration is the need to adjust offerings and solutions to the diverse needs of the involved groups, requiring flexibility and readiness to make changes.

Use of Digital Technologies and/or Living Lab Approach

The GraTy Foundation uses modern digital technologies, including VR headsets (OCULUS Quest 2), educational games, and Artificial Intelligence (AI), such as ChatGPT, to create engaging, interactive educational environments. VR technologies allow participants to experience situations in a safe, virtual world, which is especially beneficial for individuals with motor and sensory challenges. Additionally, the digital games introduced by the Foundation aim to develop social skills and cooperation abilities, which are essential in working with neurodiverse individuals.

The "Living Lab" approach is implemented by the GraTy Foundation through a continuous process of collecting feedback from participants, which allows the Foundation to adapt and refine its offerings in real-time. This approach, which was first introduced during the participation in the Social Tides program by Google, focuses on responding to specific societal needs based on gathered data. By creating initiatives like the Gratowóz, the Foundation doesn't just deliver a mobile unit for entertainment or gaming experiences but ensures that each event or activity is tailored to the audience's needs and feedback, making each interaction a valuable learning opportunity.

The Foundation actively engages participants in a wide spectrum of games – from board games and role-playing games to modern digital games and virtual reality experiences, as well as retro games that reflect the history of gaming. This diversity in gaming experiences allows the Foundation to cater to different interests and age groups while fostering inclusivity and community engagement. At the same time, it provides a platform for collecting feedback from diverse groups, including students, teachers, parents, and volunteers.

Through this dynamic feedback process, the GraTy Foundation is able to fine-tune its initiatives, ensuring that games are not only enjoyable but also serve educational and developmental purposes. For example, in schools, students are introduced to the idea that games can be a fun and valuable educational tool, which often surprises parents who initially see games only as entertainment. Moreover, the Foundation gathers insights into how people engage with different types of games, which allows them to better meet the unique needs of each community they serve.

Over the course of the year, the GraTy Foundation has seen significant growth, both in terms of participation and partnerships. The number of volunteers increased drastically, with the Gradowóz attracting over 1,300 new volunteers in 2024 alone. This expansion demonstrates the success of the Living Lab approach in creating a space that draws people in, engages them actively, and gives them a sense of ownership and involvement in the Foundation's mission.

The feedback collected also plays a crucial role in the Foundation's ongoing partnerships with various public institutions, local governments, and other organizations. These collaborations allow the Foundation to reach new audiences, increase its impact, and continuously adapt its programs based on the needs of the communities it serves. For instance, the number of partnerships has increased dramatically, from 6-7 per year to 6-7 per week, as the GraTy Foundation's reputation grows and its influence expands. This success is a direct result of the Foundation's ability to listen to its participants, adjust its offerings, and build long-lasting, meaningful relationships with a variety of stakeholders. Through this process, the Foundation has not only increased its visibility but also garnered broader support from a wide range of organizations, including NGOs, government bodies, and community leaders. The Living Lab approach has proven to be an essential tool in facilitating this growth and fostering an environment where innovation, collaboration, and participant-centered development can thrive. This allows the Foundation to adjust the project to the real needs of users and introduce innovations in real-time. Participants, including individuals with disabilities, have a direct impact on the initiative's development, creating a space that fully responds to their needs. Furthermore, feedback collection enables the Foundation to measure the effectiveness of its actions and assess their impact on participants.

Practical Transferability to Social Economy Education Programs

The GraTy Foundation initiative fits perfectly into the teaching of social economy, especially through education on the integration of excluded individuals and the use of innovative tools in education. The Game-Based Learning project provides examples of how educational games can be applied in working with people with special needs, showing how new technologies can be used to engage various social groups. The Foundation also actively involves volunteers and offers training that demonstrates how individuals with disabilities can also become social activity animators, an important step in social development. The GraTy Foundation engages volunteers by offering training that teaches how individuals with

disabilities can become social activity animators. Through these trainings, participants acquire skills to organize events, lead groups, and engage others in integrative activities. This approach not only develops the competencies of individuals with disabilities but also helps break down stereotypes and social barriers, enabling them to actively participate in community life and education. Regarding pedagogical methodology, the Foundation uses an approach based on cooperation and mutual support, which is key when working with individuals with various educational needs. Education within this initiative not only develops participants' professional skills but also their social competencies, which are vital in social economy.

Conclusions

Through its Game-Based Learning initiative, the GraTy Foundation demonstrates that using modern technologies in education can bring immense benefits when working with people with disabilities and other socially excluded groups. Thanks to the mobility of Gratowoz and its innovative approach, the Foundation successfully combines education, therapy, and social integration. Key lessons from this case study include the role of new technologies in education and the importance of adapting tools to the specific needs of target groups.

Future plans include further developing Gratowoz and its version 2.0, as well as expanding operations to other regions. Gratowóz 2.0 will be a larger, full-sized unit that will offer more space, allowing for more participants and equipment. Compared to Gratowóz 1.0, the new version will be equipped with a foldable ramp, making it more accessible for individuals with limited mobility, including those using wheelchairs or walkers. The seats will be retractable, allowing for easy adjustment to meet the needs of different individuals. Gratowóz 2.0 will also have more screens, allowing a greater number of participants to access education through gaming simultaneously. An important feature will be the introduction of games tailored for visually impaired individuals, enabling them to fully engage in digital education. Additionally, Gratowóz will include chests with classic board games adapted for people with motor impairments, ensuring that game pieces won't break or be difficult to handle. The entire offering of Gratowóz 2.0 will be more diverse, featuring virtual reality and digital games, designed to meet various needs and enable equal participation in education through gaming.

Discussion Questions:

1. What challenges and benefits are associated with introducing VR technologies in the education of people with disabilities?
2. How does the Living Lab approach contribute to the development of educational products?
3. What elements of collaboration between organizations are crucial for the success of the Game-Based Learning initiative?
4. What are the advantages and disadvantages of Gratowoz's mobility in education?
5. How can technology support the elderly in the education and integration process?
6. What benefits arise from involving communities in the creation of educational tools and games?
7. How does the GraTy Foundation engage volunteers, and how does this impact the development of social economy?
8. What educational opportunities are provided by using digital games in working with neurodiverse individuals?
9. What challenges and barriers are associated with using educational games in public spaces?
10. What changes could be made to the project to increase its effectiveness in the future?
11. What challenges are associated with ensuring children's safety in the virtual world, especially given the increasing accessibility of online games and digital platforms? What regulations should be implemented to effectively protect children from harmful content and provide them with a safe environment online?

References:

1. <https://fundacja-graty.com/>
2. Reports and documents provided by the GraTy Foundation.

CAMPUS OF SAVONA "LIVING LAB SMART CITY"

Country: Italy

Abstract

The initiative aims to transform the University of Genoa's Savona Campus into a real-world smart city prototype that serves as a hub for sustainable energy

innovation, applied education, and community engagement. It integrates smart technologies into campus infrastructure to reduce environmental impact, improve operational efficiency, and enhance experiential learning.

The campus operates as a fully functional Living Lab, employing digital technologies such as IoT systems, real-time monitoring, machine learning for energy forecasting, and automation platforms. These are integrated into both research and teaching activities, providing a dynamic, hands-on learning environment for students and faculty.

The initiative shows how the Living Lab model, oriented toward technological innovation for sustainability, can serve as a powerful educational environment. It enables students and faculty to engage with real systems and infrastructures, fostering applied learning and interdisciplinary collaboration.

Keywords: Living Lab, Smart Campus, Sustainability, Energy Innovation, Experiential Learning

Introduction

The Campus of Savona "Living Lab Smart City" is a pioneering initiative launched by the University of Genoa in Italy, based at its Savona campus. This initiative transforms the campus into a real-world testing ground for smart city technologies and sustainable energy solutions.

The project's main objective is to create an advanced ecosystem where students, researchers, companies, and public institutions collaborate to develop, implement, and test innovative digital solutions to improve energy efficiency, urban mobility, and resource management. It also serves as a student training ground and a service hub for the broader local community and industry. It operates at the intersection of education, research, innovation, and sustainability. Launched in 2014, the initiative has grown steadily and is now considered a long-term, ongoing Living Lab. Its scope extends beyond academia, as it actively involves stakeholders from the public and private sectors (technology providers, local authorities, and energy sector partners) to co-create sustainable urban models. The project integrates education with practical experimentation, enabling a constant feedback loop between theoretical knowledge and real-world application.

The Savona Living Lab exemplifies how universities can lead ecological transition by bridging higher education, innovation, and community engagement.

Stakeholder involvement

The Savona Campus Living Lab Smart City is built on active collaboration among a wide range of stakeholders. The University of Genoa leads the project by guiding its educational and research agenda and integrating smart technologies into academic programs and campus infrastructure. The university coordinates and implements the initiative, supported by public funding sources. The Italian Ministry of Education, University and Research (MIUR) is an institutional funder, providing financial support for key infrastructure projects such as the Smart Polygeneration Microgrid and the Smart Energy Building. Local public institutions and municipalities contribute by co-designing scalable solutions and supporting the broader application of the campus model to urban settings. Students and faculty are deeply involved in applied research and real-world learning, using the campus as a living testbed for energy, mobility, and sustainability innovations. Technology providers and private companies supply digital tools and expertise, and collaborate on development projects. Examples of such companies are those designing and building technological infrastructures for energy efficiency, photovoltaic panel companies, etc.

The primary motivation behind the initiative was to create a replicable model for sustainable and smart urban living, using the university campus as a real-life laboratory. This model supports innovation, enhances the relevance of academic learning, and boosts regional development toward energy efficiency and become an effective smart city.

Benefits of this multi-stakeholder collaboration include stronger connections between academia and industry, enabling a more integrated approach to innovation. It has also helped align educational activities with real-world societal challenges, making learning more relevant and applied. Additionally, the initiative has gained increased visibility and access to funding through collaborative projects and partnerships.

The Savona Campus Living Lab Smart City has brought significant benefits, but also faces several challenges. The main challenges include the operational management of the Smart Polygeneration Microgrid and the Smart Energy Building, bureaucratic practices related to energy regulations, and the maintenance of advanced infrastructures. For instance, once the contract with the company that built the Smart Polygeneration Microgrid ended, maintenance issues arose in terms of, for example, who to contract them to, when to carry out maintenance since the campus is always open. Additionally, coordinating heterogeneous devices and ensuring service continuity adds further complexity. These issues were addressed by involving various stakeholders, such as the

owner, which is a public institution (the University), and companies which built the Microgrid and the Building and others companies and the funders. The bureaucratic issues have been overcome step by step, in the sense that many people have worked on them, there have been many discussions between public and private actors to find the most suitable ways, in a grey area where public or private legislation cannot be not clearly applied, and they are in the field of experimentation and not of adopting certified protocols, etc.

Use of Digital Technologies and/or the Living Lab Approach

The Savona Campus Living Lab Smart City fully embodies the Living Lab approach by integrating real-life experimentation into education, research, and campus operations. The initiative transforms the university environment into a dynamic, technology-rich setting where students, faculty, and stakeholders collaborate in testing, co-creating, and applying sustainable innovations.

A wide range of digital technologies have been implemented across the campus. Key systems include IoT networks with sensors and actuators that enable real-time environmental monitoring and smart energy management. These are complemented by energy supervision and control platforms embedded within the Smart Polygeneration Microgrid (SPM) and Smart Energy Building (SEB), which support the integration and optimization of various energy sources. The campus also uses advanced optimization algorithms and machine learning tools to forecast energy demand and automate resource allocation. To ensure the reliability and resilience of these systems, cybersecurity solutions have been adopted to protect critical infrastructures and guarantee continuity of service.

These technologies serve both operational needs (such as energy efficiency and building automation) and educational purposes. Students directly engage with these systems in labs, internships, and thesis projects, applying theoretical concepts to real-world challenges. Faculty also use them in interdisciplinary teaching and applied research. Benefits of this digital ecosystem include enhanced experiential learning, development of digital and transversal skills, increased campus sustainability performance, and stronger alignment between education and innovation.

The initiative's impact is measured using a combination of quantitative and qualitative indicators. These include energy performance metrics such as CO₂ reductions and energy consumption levels, reflecting the implemented technologies' effectiveness. Additionally, the initiative evaluates research outputs and the degree of student participation in applied projects as indicators of

academic and educational value. These projects are developed within STEM' bachelor and master's courses, PhD programmes and research carried out from the faculty. Its visibility and recognition are further demonstrated by the campus's positioning in international sustainability rankings, such as UI GreenMetric and ISCN, which validate its role as a model for innovation and ecological transition in higher education.

The response from students and educators has been very positive. Students value the opportunity to work on real-life sustainability projects, which enhance their technical and transversal skills. At the same time, educators benefit from a richer, data-informed teaching environment that supports interdisciplinary learning. Stakeholders—including industry and public institutions—recognize the campus as a smart, sustainable urban development model and a hub for applied innovation and training. This integrated approach has also contributed to elevating the campus's position in university rankings, particularly in fields related to energy, sustainability, and smart technologies.

Practical Transferability in SE Curricula

The Savona Campus Living Lab Smart City is primarily rooted in sustainability and technological innovation. Its pedagogical approach is interdisciplinary and experiential, combining real-world challenges with active student participation in designing and testing solutions. Students are not passive recipients of knowledge but are involved in applied research, decision-making processes, and project development that address societal and environmental needs.

As such, the Living Lab model at Savona Campus can be adapted within SE curricula to promote sustainable entrepreneurship, inclusive innovation, and the development of solutions tailored to community needs. A key initial step for faculties aiming to replicate this model involves investing in smart energy infrastructure, such as microgrids, renewable energy systems, storage, and real-time monitoring platforms, enabling partial energy autonomy and system optimization. It is crucial that these technologies are fully integrated into teaching and research activities by using operational data in labs, thesis work, and applied projects. Faculty engagement in infrastructure management ensures alignment with academic goals, while partnerships with technology providers and public institutions support innovation, maintenance, and funding. Finally, a dedicated technical-administrative governance model is necessary to effectively coordinate infrastructure, education, and research in an SE-oriented framework.

Conclusions

The Savona Campus Living Lab Smart City illustrates how higher education institutions can become active drivers of sustainable innovation by integrating digital technologies, stakeholder collaboration, and real-life experimentation into their educational models. One key lesson from this case is the effectiveness of using the campus itself as a learning and innovation environment—allowing students to work on tangible, impactful projects that mirror real-world social and environmental challenges.

It also shows that embedding Living Lab principles into academic practice fosters meaningful engagement among students, faculty, and the wider community, bridging the gap between education, research, and societal transformation. Looking ahead, the initiative plans to expand its technological infrastructure, deepen collaboration with local governments and enterprises, and serve as a model for smart, sustainable campuses across Europe.

Discussion Questions:

1. In what ways does the Savona Campus function as a Living Lab, and how does this benefit both education and innovation?
2. How do digital technologies enhance the sustainability goals of the Savona Campus initiative?
3. What are the key challenges of managing a real-world innovation environment within a university setting?
4. How does the initiative foster collaboration between students, faculty, industry, and public institutions?
5. What skills and competencies do students gain from participating in projects within the Living Lab?
6. How can the Savona model be adapted to promote social economy education more directly?
7. What role does stakeholder involvement play in the success and scalability of the initiative?
8. In what ways can experiential learning contribute to more effective teaching in social economy curricula?
9. What are the limitations of applying a smart city model within a university context?
10. How could this type of initiative influence broader policy or regional development strategies?

References

1. Bracco, S., Delfino, F., Galati, F., & Laiolo, P. (2021). Università di Genova: dal Campus alla “Living Lab Smart City”. FMI 40, Edicom Srl. Retrieved from https://issuu.com/edicomsrl/docs/fmi_40_def_link/s/12096641
2. Delfino, F., Ferro, G., Robba, M., & Rossi, M. (n.d.). *Il Campus di Savona – Sito Pilota progetto Living Grid*. Università degli Studi di Genova. Retrieved from <https://www.energia2020.unige.it>
3. Bracco, S., Delfino, F., Procopio, R., Rossi, M., Brignone, M., & Robba, M. (2018). *Planning Open-Air Demonstrating Smart City Sustainability at the Campus of Savona*. *Sustainability*, 10, 4636; doi:10.3390/su10124636.

TEACH-BEASTS – TEACHING TO BE AWARE STUDENTS

Country: Multinational with applications in Italy and Spain

Abstract

The initiative aims to modernize higher education by integrating STEM education with Design Thinking and Project-Based Learning. It seeks to enhance student engagement, digital and transversal skills, and creativity, while promoting hands-on, challenge-driven learning that addresses real-world social, environmental, and technological issues.

The initiative is not a Living Lab. It integrates various digital tools, including Miro, simulation software, data analysis platforms, and artificial intelligence. These tools support collaborative learning, innovation, and digital skill development.

Although Teach-BEASTs does not explicitly target SE, but is designed for STEM education, its methods are highly adaptable to SE education. Its emphasis on active, challenge-based learning has proven effective in increasing student engagement and making learning more relevant to real-world contexts and complex societal challenges. Integrating digital collaboration tools supports technical proficiency and fosters essential transversal skills such as communication, teamwork, and systems thinking. However, robust educator training and strong institutional backing are indispensable for such methodologies to take root.

Keywords: Design Thinking, Digital Education, Interdisciplinary Learning, Project-Based Learning, Higher Education Innovation

Introduction

The Teach-BEASTs – Teaching to BE Aware Students initiative is a European Erasmus+ project that fosters innovative teaching and learning methodologies within higher education. Coordinated by the University of Information Technology and Management in Rzeszow (Poland) and implemented in collaboration with institutions in Italy (University of Bologna – Department of Management) and Spain (Universidad Ramon Llull, Barcelona), it ran from February 2022 to February 2025.

The project is multinational and targets university educators and students, particularly in STEM-related disciplines. Its main objective is to improve teaching quality and student engagement in STEM education by integrating Design Thinking (DT) and Project-Based Learning (PBL) methodologies.

Teach-BEASTs promotes the development of digital and transversal skills, aiming to prepare students to tackle contemporary challenges. The project is grounded in the belief that shifting from traditional, lecture-based teaching to more interactive, challenge-driven learning can significantly enhance educational outcomes. It equips educators with new pedagogical tools and creates interdisciplinary, student-centered learning environments.

Stakeholder involvement

Various stakeholders collaborated in Teach-BEASTs. The key actors involved include:

- University educators and academic staff, who are both the target group and active participants in the co-creation and testing of new teaching methodologies. Their motivation lies in improving student engagement and adapting higher education to societal and technological demands.
- University students, who benefit from hands-on, real-world learning experiences that enhance both their digital and transversal skills. Their involvement is crucial for testing and refining the learning models.
- Project partner institutions, including Wrocław University of Economics and Business (Poland), the University of Bologna (Italy) and Universidad Ramon Llull (Spain), which contribute academic expertise, infrastructure, and cross-country coordination.
- External experts and facilitators, particularly in DT and PBL, who help guide the pedagogical transformation process and support faculty training.

The initiative was developed from a shared motivation among these stakeholders to address limitations in traditional STEM education, such as low engagement, limited interdisciplinarity, and lack of real-world applicability.

Collaboration benefits include the exchange of best practices across national and disciplinary boundaries, the creation of a common pedagogical framework adaptable to different institutional contexts, and the strengthening of ties between educators and students through co-creative learning environments.

Challenges encountered include aligning institutional expectations and curricula across countries, ensuring consistent levels of digital readiness and pedagogical openness among faculty, and balancing the flexibility required for innovation with the administrative constraints of academic programs.

Use of Digital Technologies and/or the Living Lab Approach

Teach-BEASTs primarily uses Miro, a collaborative online whiteboard platform, which facilitates group work, brainstorming, and prototyping in synchronous and asynchronous learning environments. From page 17-18 of the Manual: “Miro allows students to work together virtually, brainstorming ideas, visually organising project information, and creating mind maps in real-time. This fosters a collaborative learning environment and enhances communication within student teams. The board is thought to be used and edited by the team as it’s dealing with the challenge, so that students will easily follow the structured process: its templates mirror the Milestones documents and Presentation slides provided and help students understand what and when to do the required tasks⁷⁴.

Students received "Missions", an instructions manual/guidelines which explains them what they need to do to apply the different tools in their project and a link to the Syllabus example updated with PBL process⁷⁵.

Other tools are Google drive, where students are asked to document everything created, shared or that can be used several times.

Supporting tools for effective implementation to support successful implementation of DT within your STEM courses using project-based learning are:

- a comprehensive presentation slide deck
- Milestones for students, which serve as structured, step-by-step guidelines outlining the tasks to be completed by a specific deadline.

⁷⁴ Here is the access to the Miro Board:

https://miro.com/app/board/uXjVLpNGSk0=?share_link_id=626323210028

⁷⁵ all material is available at:
<https://drive.google.com/drive/folders/1gT3pw9j7hTnCFPr6pleWQbTSR46xT3x1>

Miro enhances digital literacy and support project-based, collaborative learning in both in-person and remote settings.

While the initiative does not formally identify as a Living Lab, its co-creative, interdisciplinary, and real-world oriented approach aligns closely with its principles. Students, educators, and external experts collaborate in designing, testing, and refining educational content and tools in authentic learning environments.

Benefits of using these technologies include increased student engagement through interactive, visual, and participatory tools; real-time collaboration across institutions and countries; and strengthened problem-solving, critical thinking, and teamwork competencies.

Challenges include varying levels of digital readiness and technological infrastructure across partner institutions, the need for continuous faculty training to use the tools in a pedagogically sound way effectively, and ensuring accessibility and inclusiveness, particularly for students unfamiliar with digital platforms.

Impact measurement and evaluation are conducted through qualitative feedback from students and faculty after each learning module, quantitative tracking of student performance and participation in project-based activities, and comparative assessments of engagement and skill acquisition before and after implementing Teach-BEASTs methodologies.

Target group response has mainly been positive. Students report higher motivation levels, a better understanding of complex challenges, and appreciation for active, team-based learning formats. Faculty participants have also shown growing interest and confidence in adopting innovative practices, despite initial hesitations or unfamiliarity with digital tools.

Practical Transferability in SE Curricula

Although Teach-BEASTs is primarily rooted in STEM education, its pedagogical model holds strong transferability potential to SE curricula. PBL and DT create a framework that encourages learners to engage with real-world projects (e.g., coding, circuit design, robotics, etc.), constraints (like cost, time, and resources), often related to social and environmental challenges.

A compelling DT challenge should be:

- **Human-centred:** Rooted in real-world problems or needs experienced by people to ensure that students focus on creating solutions with legitimate impact

- **Specific:** Clearly defined and without ambiguity. A well-articulated challenge provides a clear starting point for students' exploration
- **Inspiring:** Capable of igniting creativity and innovation. The challenge should be sufficiently difficult to encourage out-of-the-box thinking while remaining achievable and it must be perceived as an opportunity to apply theoretical knowledge to practical problem-solving
- **Feasible:** Aligned with the project's constraints, including time, resources, and student capabilities.

Two examples are provided to understand how to set up the challenge within a technical-based course:

1. **Broad area:** Computer Science
 - **Specific problem:** Employees struggle with debugging code effectively, leading to frustration and lost time.
 - **Challenge:** Develop a tool or method to reduce the burden caused by bad code.
2. **Broad area:** Engineering
 - **Specific problem:** Elderly patients with mobility issues struggle to move in the hospital.
 - **Challenge:** Create a solution that enhances the independence and safety of elderly patients with mobility issues while they are hospitalised.

Two examples are provided to understand how to set up the challenge within a science-based course:

1. **Broad area:** Physics
 - **Specific problem:** The district heating factory is facing high CO₂e emissions in the surrounding environment and general employee discontent with working conditions.
 - **Challenge:** Develop a precision environmental control system that optimises the condition within rooms for employees and climate change issues, improving green footprint and health outcomes.
2. **Broad area:** Healthcare
 - **Specific problem:** Elderly patients experience loneliness in hospitals.
 - **Challenge:** Create a solution to reduce feelings of loneliness among elderly hospital patients.

From page 7 of the Manual: "This method sparks students to gain a deeper understanding of real-world issues by exploring them from different perspectives and it's an opportunity to connect innovation challenges to the UN Sustainable

Development Goals, in order to empower students to create solutions with a positive and environmental impact and lead them to solve complex problems by considering both business viability and sustainability". These approaches align well with the goals of SE education. They can be adapted to explore themes such as social entrepreneurship, cooperative governance, circular economy models, or community-driven innovation by framing projects that involve local stakeholders and simulate or directly address societal issues.

The pedagogical strategy is student-centered, collaborative, and experiential. Students work in multidisciplinary teams, co-create solutions, and present their work using digital platforms. Through problem-based learning, students face real-world STEM challenges, developing critical thinking and problem-solving skills in a practical context. The process encourages cross collaboration between STEM disciplines, mirroring the collaborative nature of real-world work environment. Students run into real-world experiences first-hand by prototyping and iterative testing, allowing them to refine and improve their solutions. By linking STEM topics with the UN Sustainable Development Goals, students learn how to create solutions with a positive global impact.

Within the initiative, a technical-based course and a science-based course have been developed as examples. Technical-based course have their focus on the application of theory to real-world cases to guide students toward nowadays digital-age job market. Science-based courses have their focus on linking theory to real-world cases to help students understand how discipline works in the context of the challenge. Professors are asked to follow the project development step by step, guiding students to their final solution. Some steps are suggested for integrating and potentiating DT and PBL (e.g., see page 14 and page 24 of the Manual). Within the courses, students are assigned to a specific challenge, created by the professor to effectively motivate students (see pag. 15 of the Manual). A broad challenge is preferable rather than a specific problem, allowing students to identify the core issue and develop their projects accordingly. Collaborating with companies and public organisations can provide real-world challenges for students. In this initiative, students are supposed to look for a company that wants to collaborate with them. Empowering students to identify challenges and partner with companies fosters independence and entrepreneurial skills. Students must test the implemented solution in a real environment experiencing the specific challenge, editing their solution according to the feedback received, if needed. This activity should be carried out outside of classroom hours. Once the solution

is tested, students are required to send to their professor a deliverable, that can be an infographic or a video clip (e.g., use *flexclip*, create max 2-3 min of videoclip). Such a process might be implemented in SE courses to foster key transversal competencies, including critical thinking and ethical decision-making, collaboration, digital fluency for social impact, and systems thinking with stakeholder engagement. Benefits for students include a stronger sense of relevance and purpose in their academic journey, the development of entrepreneurial mindsets and problem-solving capacities, and experience with participatory and inclusive methodologies that mirror the core values of the SE.

Conclusions

The Teach-BEASTs case study offers several key lessons for modernizing higher education and its potential application in SE education.

Firstly, it demonstrates that innovative pedagogies such as PBL and DT can significantly enhance student engagement, digital skills, and real-world problem-solving abilities when supported by digital tools. These methods enrich STEM education.

Secondly, the initiative highlights the need for greater investment in faculty development and institutional flexibility, as the success of innovative methods depends on educators' capacity and willingness to adopt them.

The project also emphasizes that multi-stakeholder collaboration, involving students, faculty, and external experts, advances a dynamic learning environment and simulates the interdisciplinary ecosystems necessary for tackling today's global challenges.

In the future, the initiative aims to expand the implementation of its methodologies across different academic disciplines and institutions, continue refining digital toolkits and training modules for educators, and promote further cross-border collaboration among universities through European networks.

Overall, Teach-BEASTs is a replicable and scalable model for integrating digital innovation and participatory pedagogy into higher education, paving the way for a more agile, inclusive, and socially responsive learning ecosystem.

Discussion Questions:

1. What are the main strengths of Teach-BEASTs in improving learning outcomes in higher education?

2. How do Project-Based Learning and Design Thinking contribute to student engagement and skill development?
3. In what ways can the methods used in Teach-BEASTs be adapted to SE education?
4. How do digital tools like Miro and AI-based platforms enhance collaborative learning?
5. What challenges do universities face when integrating emerging technologies into teaching?
6. Why is faculty training essential for implementing innovative teaching practices, and how can it be improved?
7. How does the interdisciplinary and real-world focus of Teach-BEASTs align with the principles of the Living Lab approach?
8. What potential barriers might arise when transferring this model to SE curricula in a different institutional or cultural context?
9. How can universities foster long-term collaboration with external stakeholders, such as companies or social enterprises, in such initiatives?
10. In your view, what role should digital innovation play in addressing social and environmental challenges through education?

References

1. Department of Management - University of Bologna (2023). *Teach-BEASTs – Teaching to BE Aware Students: Project Overview*. Alma Mater Studiorum – Università di Bologna. <https://scienzeaziendali.unibo.it/en/research/research-projects/european-projects/teach-beasts-teaching-to-be-aware-students>
2. Esade Research – Fusion Point (2023). *Teach-BEASTs: Competitive Project Report* (Project Ref. 2022-1-PL01-KA220-HED-000089791). European Commission – Erasmus+. <https://www.esade.edu/faculty-research/en/research-yearbook>
3. Teach-BEAST Consortium (2023). *Teach to BE Aware Students: Training Workshop Master* (Project No. 2022-1-PL01-KA220-HED-000089791). Erasmus+ Programme.
4. Teach-BEAST Consortium (2023). *DT Meets STEM: A Manual for Implementing Design Thinking in STEM Courses*. Erasmus+ Programme.
5. Teach-BEAST website: <https://en.crd.wsiz.edu.pl/>

Abstract

Kalomathe is a Greek initiative providing free, accessible online education on the Social Economy through a self-organized, multi-stakeholder network. Operating nationally, it primarily uses open-source digital tools to support participatory planning, coordination, and education, as well as to foster collaboration, knowledge co-creation, and grassroots innovation. As an online platform, it also leverages multimedia tools as core educational material. Kalomathe offers key insights into how digital technologies and participatory methods can be integrated into social economy education.

Keywords: Social Economy, online education, open-source software, multistakeholder network, participatory processes

Introduction

"Kalomathe" the educational platform for the Social and Solidarity Economy (SSE), is a nationwide network consisting of 32 participants, including both natural and legal persons. These participants are based in 5 of Greece's 13 administrative regions. The online platform itself hosts over 950 registered users and it offers video courses and attached exercises structured into the following educational subjects:

- Introduction to SSE
- Team: The Core of an SSE Initiative
- Choosing economic activity
- Institutional Framework for the SSE
- Marketing for the SSE
- Business Plan for SSE Initiatives
- Commons
- Community Economic Development
- Energy Communities

In addition, the network has organized more than ten workshops on SSE across various regions of Greece, providing a space for SSE participants, experts, and interested individuals to engage in discussions on sector-specific topics such as food, the creative economy, and energy communities. It has also supported the development of two SSE networks—one sectoral and one regional.

Kalomathe started as an informal network in 2018, as a funded initiative of the Heinrich Böll Foundation in Thessaloniki and acquired the legal form of a non-profit association in 2020. Its primary goal is to provide reliable and free education

in the fields of the SSE and related subjects, such as the commons, local development, and alternative development. At the same time, it aims to raise awareness and inform people about issues related to SSE, as well as to create a space for dialogue among actors directly or indirectly involved in the field of SSE, along with interested individuals, who may be located in different regions of the country and/or engaged in different disciplines.

Though it started as a foundation-led initiative, it now operates independently, as a self-organized network where academics, experts working in SSE support organizations, activists, and SSE ventures—both formal and informal—co-plan and co-develop its activities.

Stakeholder involvement

Kalomathe was developed in response to the need for universal, continuous, and free access to education on SSE at the national level. Its goal is to collect and systematize relevant knowledge through an online, open-access platform. At the same time, it addresses the need for a broad networking space among SSE actors, including SSE initiatives, supporting institutions, and individuals.

From its earliest stages until today, a defining feature of Kalomathe has been its commitment to participatory processes—ranging from participatory planning to participatory implementation. Its members meet regularly—both in annual in-person assemblies, held over three days in a shared residency to foster community building, and in two to three additional online general assemblies each year. Additionally, its administrative board convenes monthly to coordinate the network's operations.

These participatory processes have fostered strong connections among members, particularly at the local level, with positive outcomes in terms of access to knowledge and resources. Alongside networking, these processes help surface the key topics and needs of the SSE community, which are then integrated into Kalomathe's planning and addressed through its activities. However, the lack of dedicated financial resources—since it no longer receives funding—poses significant challenges for the network's operation. It hampers member participation and engagement—elements that are crucial for moving from planning to implementation. Moreover, while diversity of perspectives is essential for networking and social innovation, it can also make it difficult to reconcile different experiences and approaches among actors operating in various sectors or regions. Finally, another key challenge has been the adoption and effective use

of digital infrastructure and online tools, which are essential for coordinating and supporting participation in such a broad and decentralized network.

Use of Digital Technologies and/or the Living Lab Approach

As both an online platform and a national network, Kalomathe relies on a range of digital tools to support its operations. In line with its commitment to the promotion of the commons and its aim to keep operational costs low, it primarily uses open-source software. Specifically, Loomio is used for governance—facilitating discussions and collective decision-making—while Trello supports task allocation and project management. Google Drive is employed for file storage and organization. For its core educational activities, Kalomathe uses Moodle (<https://edu.kalomathe.gr/>) as its online learning platform and WordPress for its website (<https://kalomathe.gr/>). In terms of communication, dissemination, and networking, the network makes use of email and social media channels, including Facebook, Instagram, and YouTube. These digital tools have enabled Kalomathe to maintain a participatory structure at the national level, while also enhancing transparency and the circulation of knowledge.

However, there has been some initial resistance from members regarding the adoption of certain tools, which were seen by some as unnecessary or overly complex. To address this, the network developed user-friendly manuals and guides, supporting members in familiarizing themselves with the digital tools. As a result, many members have since incorporated these tools into their broader personal and professional routines. Furthermore, as explained above, Kalomathe functions as a type of living lab for the SSE in Greece, fostering cooperation among different SSE stakeholders in project planning and implementation, knowledge co-creation, and grassroots innovation, especially in educational and networking contexts.

Kalomathe's impact was evaluated through an online survey conducted in 2021. The questionnaire, completed by 55 users, revealed the following:

- 85% of respondents rated the platform positively or very positively overall
- 76% of respondents stated that the platform contributed to their acquisition of new knowledge
- 67% of respondents believed that the online training provided through the platform would significantly benefit their personal or professional life
- 83% of respondents found the digital environment user-friendly or very user-friendly.

Practical Transferability in SE Curricula

Kalomathe, an initiative active in online and informal SE education, serves as a valuable example of how formal SE education can be enriched through the use of multimedia and digital tools, participatory processes, and non-traditional pedagogical approaches. Its educational materials are already being used as complementary resources by SE students.

More specifically, Kalomathe draws inspiration from non-formal educational approaches such as experiential learning, while integrating multimedia tools—including videos and interactive online exercises—as core components of its curriculum. It also demonstrates how a multi-stakeholder SE network can self-organize to address educational needs in the field, offering a bottom-up response that remains responsive and relevant. The network reviews and adapts its priorities and planning every two years, based on current developments and emerging needs in the SE sector. As such, Kalomathe could be a valuable partner for academic institutions seeking to integrate SE into their curricula through digital technologies, given its significant experience and expertise in this area.

Conclusions

As an ongoing initiative, Kalomathe aspires in the coming period to update its digital infrastructure and expand its network to additional regions across Greece. In terms of its educational activities, it plans to engage in vocational training—for example, by offering SSE educational programs to unemployed individuals. Its members are also currently discussing a proposal to incorporate some of its educational materials into secondary education.

The case of Kalomathe offers valuable lessons for the development of inclusive, adaptive, and digitally-enabled educational initiatives in the SSE. First and foremost, its participatory character is a defining strength: by involving diverse SSE stakeholders—including academics, activists, practitioners, and support organizations—at every stage, from planning to implementation, Kalomathe ensures that its activities remain grounded in the real needs of the field. This co-creation process fosters ownership, trust, and knowledge-sharing among members, while reinforcing the democratic values at the heart of SSE. Secondly, Kalomathe's biannual strategic reassessment allows it to stay relevant and responsive in a rapidly evolving socio-economic context. By reviewing its priorities every two years, it can effectively align its educational offerings and activities with emerging challenges and opportunities. For example, after the years of the

COVID-19 pandemic, when personal interactions had declined, it focused its efforts on reactivating its members and fostering networking among them. It is now planning to expand both its network and its educational activities, partly by leveraging current funding programs, some of which are specifically targeted to the SSE. Finally, Kalomathe demonstrates how digital technologies can serve as enablers of participatory governance and national-scale coordination. By integrating a range of open-source tools—such as Loomio, Trello, and others—it facilitates transparent communication, collaborative decision-making, and efficient task management. Recognizing that not all members are equally familiar with these tools, the network has proactively developed user-friendly manuals and guides, helping to lower barriers to participation and ensuring inclusive engagement across regions and backgrounds.

Discussion Questions:

1. How does Kalomathe's participatory approach contribute to the success and relevance of its educational initiatives in the Social and Solidarity Economy?
2. In what ways does Kalomathe embody the principles of SE through its structure, processes, goals and activities?
3. What challenges can arise from managing a decentralized, participatory network like Kalomathe, and how has the initiative attempted to address them?
4. How does Kalomathe seek to ensure adaptability and responsiveness in the field of SE?
5. Do digital tools enable or limit inclusivity and participation in networks like Kalomathe? In what ways, and for which groups of people?
6. Would you consider Kalomathe's strategy of providing guides and manuals to support digital tool adoption among its members effective? What else could be done?
7. What role does non-formal education—like the kind promoted by Kalomathe—play in complementing or enhancing formal SE education?
8. In what ways can Kalomathe's experience inform the integration of digital technologies into SE curricula?
9. Do you think Kalomathe can be replicated in other national contexts? What conditions would be necessary for its success elsewhere?

References:

1. <https://kalomathe.gr/>
2. <https://edu.kalomathe.gr/>

TRAINING AND LIFELONG CENTRE OF THE UNIVERSITY OF THE AEGEAN

Country: Greece

Abstract

The initiative titled “**Concepts and Skills in Digital Innovation and the Social and Solidarity Economy**” is implemented in **Greece** by the **Department of Geography of the University of the Aegean** through its **Training and Lifelong Centre (Greek: KEDIVIM)**. The programme seeks to strengthen social and solidarity economy education through flexible, inclusive, and digitally supported learning. Its primary goal is to provide foundational knowledge and practical tools to individuals who are **not in education, employment, or training (Ed. NEETs⁷⁶)**, while also being accessible to a broader audience interested in social economy practices. To achieve this, the endeavor employs a fully **40-hour asynchronous pedagogical approach**, centered around a digital platform that hosts pre-recorded lectures, written materials, active links, and assessment tools. Key digital outputs include a **learning management platform**, a **repository of educational resources**, and an **interactive map of social and solidarity economy actors within the entire EU and in Greece**. These tools allow participants to engage with both theoretical content and real-world applications independently and at their own pace. Although the Living Lab model is not used, the initiative prioritizes applied learning and sectoral orientation through digital means.

One of the key forward-looking components is the establishment of a **social enterprise**, designed to be operated by participants, particularly NEETs. This enterprise will further disseminate the programme’s knowledge and outputs, promote social economy awareness, and extend the university’s engagement with

⁷⁶ For the exact understanding of the definition of NEETS and their ultimate role in today’s society, one is urged to consult with the following links: <https://www.euronews.com/business/2024/05/01/debunking-misconceptions-what-is-a-neet-and-why-do-they-need-support> / https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Statistics_on_young_people_neither_in_employment_nor_in_education_or_training.

society. The programme also benefits from the promotion and communication support of a **small and/or medium-sized enterprise, namely APOPSI⁷⁷**, contracted by the university, enhancing its outreach and visibility.

The initiative is learner-centered and offers several lessons for social economy education. It demonstrates how digital flexibility can reduce barriers to access, how pre-existing European project outputs can be effectively repurposed for national use, and how universities can act as catalysts for both **educational innovation** and **social impact**.

Keywords: Social and solidarity economy, Not in Education, Employment or Training (NEETs) and their socio-economic needs, inclusive and innovative education, Asynchronous learning.

Introduction

The upcoming Training Programme on Social and Solidarity Economy, titled **“Concepts and Skills in Digital Innovation and the Social and Solidarity Economy”**, is a newly developed educational initiative implemented by the **Department of Geography of the University of the Aegean in Greece**, under the academic supervision of **Athina Avagiannou**. In partnership with the SME **APOPSI**, which is responsible for dissemination, the University—through its **Training and Lifelong Learning Centre (Greek: KEDIVIM)**—organizes a **40-hour training programme** focused on **digital innovation** and the **social and solidarity economy**. Launching on **10 June 2025** and concluding on **10 July 2025**, the initiative targets primarily vulnerable and marginalized **young people not in education, employment, or training (NEETs)**, while remaining open to **adults of all ages and backgrounds** interested in socially responsible economic practices. The programme promotes **democratic participation, social inclusion, and sustainability**, and offers training in the following areas:

- Digital innovation and SSE fundamentals;
- Skills for launching and managing social enterprises;
- Digital literacy and sustainability in the Social and Solidarity Economy sector.

The content is based on a previously conducted and completed **European project**, funded under the **EU Grants mechanism**, in which the University of the Aegean acted as lead beneficiary. The material—available in **Greek and English**—has been adapted for national use and delivered asynchronously via a digital

⁷⁷ For more information regarding the SME (**APOPSI**), which is contracted by the University of the Aegean to assist with the promotion of the endeavor, the link of their website is attached [here](#).

platform, with no external funding or formal partnerships in this phase. The university's internal resources support the full implementation.

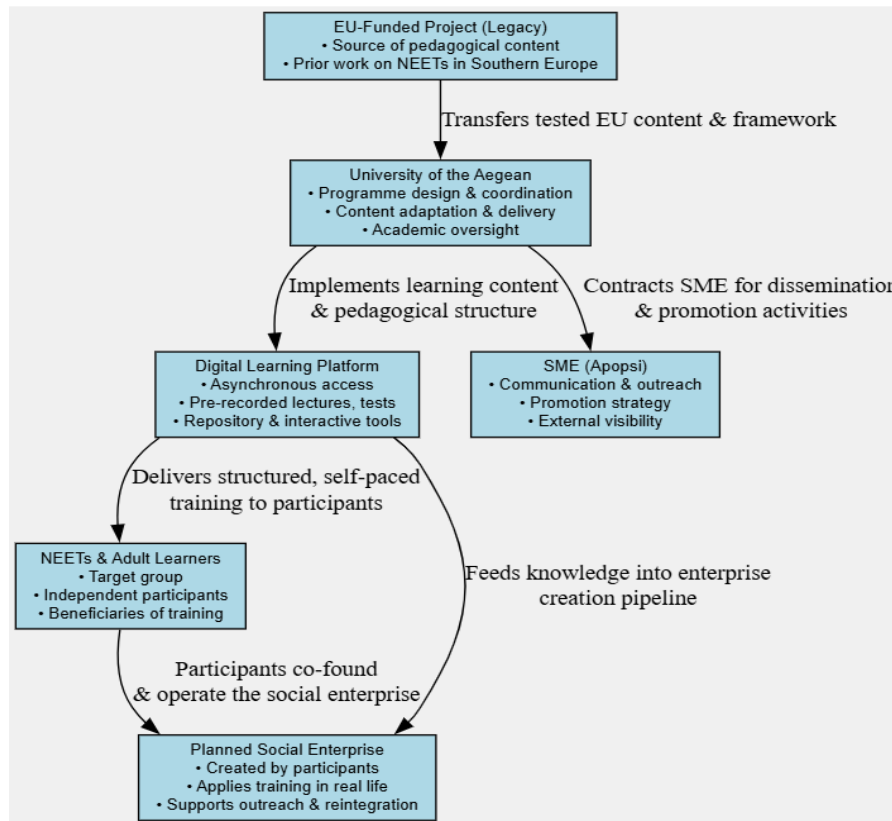


Figure 1: Concepts and skills in digital innovation and the social and solidarity economy, identified in the hereunto initiative.

Key outcomes, in light of the above-mentioned figure 1, include **capacity building, skills development, and labor market reintegration**, particularly for NEEETs. Upon completion, trainees will understand core Social and Solidarity Economy concepts, be able to create digital content, navigate platforms for funding and outreach, and explore avenues for establishing collaborative or independent social enterprises. The endeavor also showcases how **university-led, flexible learning structures** can contribute to civic innovation, inclusive employment, and local economic development through the reuse of validated European educational resources.

Stakeholder involvement

As it is thoroughly mentioned above, the initiative is organized through a collaboration between the Training and Lifelong Learning Center of the University of the Aegean-KEDIVIM (Department of Geography) and the SME/company **APOPSI**, which specializes in providing educational services.

This initiative was developed in response to **two** pressing challenges⁷⁸:

- the exclusion of **marginalized** and **vulnerable youth**—including immigrants, refugees, and others not in education, employment, or training
- the urgent need to promote sustainable economic practices through the lens of social and solidarity economy. The core motivation is to provide these groups with accessible, values-based social and solidarity economy education that can lead to reintegration into the workforce and active participation in socially oriented economic structures.

Key actors and overarching stakeholders include the academic team responsible for content development and coordination, whose commitment to educational justice and civic impact underpins the entire effort. Participants themselves (Ed. particularly vulnerable and marginalized NEETs) are considered central stakeholders, both as beneficiaries and as future contributors to the social economy. The programme also welcomes older adults and career changers, reflecting its open and inclusive design. A wider stakeholder environment supports the initiative. These include local NGOs, social enterprises, community organizations, public employment services, and vocational centers, all of whom are envisioned as collaborators in the translation of training into applied outcomes. University staff ensure logistical and academic delivery, while an external SME (as mentioned above: **APOPSI**) contributes additional essential support in dissemination and outreach, amplifying the visibility of the initiative across different networks. Although formal partnerships have not yet been activated, the structure encourages future stakeholder engagement. The **asynchronous** format offers flexibility and reach for all involved stakeholders — yet poses challenges for measuring engagement and real-time collaboration. The endeavor’s asynchronous nature prevents real-time assessment of participants’ understanding, making it difficult to identify learning gaps—**and thus hindering any adaptation of the lesson or videotaped lecture as the training progresses**. Stakeholder participation—particularly learner motivation and organizational interaction—must be evaluated through indirect metrics, requiring the development of new tools for tracking involvement and impact. Despite this, the approach allows for autonomous, scalable implementation, and opens the door to deeper collaboration in future cycles. However, the challenge lies in

⁷⁸ Those challenges shape the ground for the identification of the initiative’s major stakeholders, namely vulnerable and marginalized youth especially not in employment, education and training.

measuring engagement and facilitating **interactive learning experiences**. The initiative's reliance on self-paced learning environments means that **feedback loops and stakeholder monitoring** must be built digitally and retrospectively, which the team acknowledges.

Use of Digital Technologies and/or the Living Lab Approach

The endeavor is built upon a robust and **digital infrastructure**, with a central online platform serving as the primary learning environment. Through asynchronous access, participants engage with structured learning materials, active links, interactive assessments, and evaluation tools at their own pace. The content is internationally informed, drawn from global literature and frameworks, rather than limited to the Greek context (although the initiative will be implemented in Greece, therefore enhancing its internationalized methodology), ensuring broader applicability and a well-grounded pedagogical approach.

Supplementing the main platform are two digital tools:

- an **interactive map** offering an overview of social economy actors and initiatives
- a **repository** that compiles best practices, documents, and extended learning resources. These tools enrich user orientation and provide ongoing support to learners and practitioners in the social and solidarity economy.

While the programme does not apply a Living Lab methodology—lacking co-creation or iterative testing in real-time—it benefits from the flexibility and scalability of self-paced, pre-developed digital content. This approach supports inclusion, especially for individuals with limited time or access, and allows for continuous content refinement. However, it also presents challenges in tracking real-time engagement and fostering interaction. Evaluation relies on progress tracking, automated assessments, and learner self-reflection.

Although the endeavor is in its **preliminary stages**, it is viewed positively by involved stakeholders. As stated by the person responsible for the initiative: *“Though in its early stages, the initiative has already been positively received by peer reviewers and potential stakeholders, namely NEETs; immigrants and students who want to enter and/or re-enter the workforce; marginalized and vulnerable youth and young workers; NGOs and civil society organizations; other SMEs; local authorities; policy makers in education and employment sectors; social enterprises and*

cooperatives, who recognize its accessibility, digital tools, thematic clarity, and reusability across diverse educational and social contexts".

Practical Transferability in SE Curricula

The endeavor supports the core aims of social economy education by providing **accessible, targeted learning** on the **principles, actors, and innovations** within the **social and solidarity economy**. It addresses educational gaps for individuals who are not in education, employment, or training by introducing cooperative practices, ethical entrepreneurship, and participatory economic models. All content is adapted from a European Union co-funded programme and tailored for relevance within the Greek context.

Delivered through a fully **asynchronous platform**, the learning structure includes **pre-recorded lectures, written materials, interactive digital tools unit-based assessments**, and tools such as an **interactive map of social and solidarity economy actors** and a **resource repository**. This format enables participants to move independently through the material, promoting flexibility and applied understanding of real-world contexts. **All materials have been developed by the University of the Aegean, ensuring high academic credibility and alignment with institutional expertise**. The emphasis is on internationally informed content, not restricted to the national framework.

The endeavor is structured as a **40-hour asynchronous programme**, covering two main thematic areas:

- Digital Innovation in the Contemporary Era
- Social and Solidarity Economy.

The aim is to provide both theoretical grounding and practical skills in launching and managing social economic initiatives. This design benefits learners with limited access to formal education, offering autonomy and practical engagement. While the absence of live sessions limits peer exchange, tools like the interactive map enhance contextual learning and relevance. The initiative thus balances independence with sectoral orientation. It is prognosed that more than **10** participants will take part in the hereunto endeavor with a relative high success rate.

There are no formal eligibility criteria for participation in the endeavor. It is open to all individuals, regardless of academic background or prior experience, reflecting its commitment to inclusivity and broad accessibility. As of the time of the interview, there had been **no confirmed participant enrolments**. However, the interviewee emphasized that the programme will run even with a single

participant, underlining the institution's commitment to inclusion and public value. Future repetition of the programme will depend on the **level of engagement in this first cycle**.

Beyond education, the endeavor aims to create social impact by supporting the formation of a participant-led social enterprise. This entity will allow learners—particularly NEETs—to apply their skills in outreach, education, and services within the social economy. It also reflects the university's outward-looking mission, connecting academic outputs to public value and sustaining the legacy of the European-funded project on which the initiative is built.

Conclusions

The case study underscores the importance of **accessibility** and **flexibility** in reaching socially excluded groups, especially those not in education, employment, or training. The **asynchronous format**, backed by a strong digital infrastructure, since it is technically stable, user-friendly, feature rich (see the sections above) and scalable due to the fact that it can handle multiple users without performance issues, effectively lowers participation barriers while maintaining structure and clear learning outcomes. It also demonstrates the value of **adapting EU-funded materials** at the national level, ensuring both continuity and contextual relevance.

Another key insight is the potential of a **multi-stakeholder ecosystem**. Even without formal partnerships in the initial phase, the collaboration between university staff, a promotional SME, and anticipated engagement with organizations supporting vulnerable and marginalized groups highlights the scalability of such models. The endeavor affirms the role of **universities as drivers of social innovation**, bridging academic knowledge with societal impact. Looking ahead, a central goal is the creation of a **participant-led social enterprise**, translating acquired knowledge into practice and fostering long-term engagement in the social and solidarity economy. Plans also include broadening participation and developing strategic partnerships, while enhancing the university's outreach by embedding the endeavor's outcomes in wider institutional and community initiatives. This aims to translate theoretical and digital training into **tangible economic participation**, empowering learners to re-engage with the labor market via social economy pathways. It also highlights the ambition to **extend the endeavor's lifecycle beyond its training phase**, embedding it in community ecosystems.

Finally, a possible impact of the endeavor is the generation of meaningful **social impact** through the broader dissemination of the concept of social economy. It also has the potential to strengthen **synergies between universities and external institutions**, fostering collaboration beyond the academic sphere and promoting the **circulation of knowledge produced within higher education institutions** into wider societal contexts. The interviewee indicated that the endeavor could potentially be repeated in the future; however, this decision will depend on the level of **participation and engagement** observed during the current session.

Discussion Questions:

1. How does the asynchronous structure of the endeavor support or challenge the inclusion of individuals who are not in education, employment, or training? How does it benefit the aspects of social and solidarity economy?
2. What are the potential advantages and drawbacks of delivering social and solidarity economy education without live, synchronous interaction?
3. How might the creation of a social enterprise by programme participants serve as a tool for experiential learning and social reintegration?
4. What roles do different stakeholders play in the success of the endeavor, and how could these relationships be formalized or expanded in future iterations?
5. In what ways does the inclusion of tools such the ones mentioned above enhance the pedagogical value of the programme?
6. What barriers (social, technical, institutional) might prevent NEETs from fully benefiting from the endeavor, and how could they be addressed?
7. To what extent can this initiative be considered a replicable model for social economy education in other national or regional contexts?

References

1. The social media announcement of the programme,
<https://www.instagram.com/apopsigroup/p/DFFLeg-sq2j/>
2. The promotion of the programme,
<https://www.apopsi.education/product/ennoies-kai-dexiotites-stin-psifiaki-kainotomia-kai-stin-koinoniki-kai-allileggya-oikonomia/>

FARI - AI FOR THE COMMON GOOD

Country: Belgium

Abstract

The FARI initiative, led by the Vrije Universiteit Brussel (VUB) and the Université libre de Bruxelles (ULB), focuses on the development, study, and promotion of AI, data, and robotics technologies in an ethical, transparent, and sustainable manner. The primary goal is to assist the Brussels region and its inhabitants in addressing societal challenges through the application of AI. FARI brings together leading researchers and experts in AI, data, and robotics to tackle local and long-term challenges.

The initiative employs a range of digital technologies, including AI, data analytics, and robotics, to foster digital skills and innovation within the social economy sector. FARI utilizes Brussels as a living laboratory for AI applications, engaging various stakeholders in co-creation and real-world experimentation. This approach aligns with the Digital Value Creation and Living Labs methodologies, emphasizing real-world applications of AI and collaborative development and testing of solutions.

Keywords: Common Good, Digital Innovation, Ethical AI, Social Economy, Living Lab.

Introduction

FARI - AI for the Common Good is an independent, not-for-profit initiative established by the Vrije Universiteit Brussel (VUB) and the Université libre de Bruxelles (ULB). The initiative aims to study, develop, and foster the adoption of AI, data, and robotics technologies in a manner that is inclusive, ethical, and sustainable. The mission of FARI is to help citizens, politicians, companies, and not-for-profit organizations address local, everyday, and long-term challenges in the Brussels-Capital Region, Belgium, and Europe.

The initiative was officially launched in March 2021 during the European AI Week and has since achieved several milestones, including the completion of pilot projects, the creation of training programs, and the establishment of a Test & Experience Center. FARI operates at the intersection of academia, industry, and civil society, ensuring a comprehensive approach to AI for the Common Good.

One of the notable milestones is the completion of several pilot projects. These initiatives have been instrumental in demonstrating the practical application of AI in addressing societal challenges. For instance, FARI has undertaken projects in healthcare, environmental sustainability, and public administration. In healthcare, pilot projects focused on improving patient care through AI-driven diagnostics

and personalized treatment plans, showcasing the potential of AI to enhance medical outcomes. In environmental sustainability, FARI has explored AI applications for monitoring and reducing carbon emissions, contributing to global climate goals. These pilot projects have not only provided valuable insights and outcomes but also set a precedent for how AI can be ethically and effectively integrated into various sectors.

Another significant achievement is the creation of comprehensive training programs designed to enhance digital literacy and AI competency among diverse audiences. These programs cover a wide range of topics, from foundational AI principles to advanced applications in robotics and data analytics. They are tailored to meet the needs of students, professionals, and the general public, ensuring inclusivity and accessibility. Such programs include hands-on learning experiences, interdisciplinary collaboration, and the involvement of industry experts who bring real-world insights into the classroom. By equipping participants with relevant skills and knowledge, FARI is fostering a new generation of AI-literate individuals capable of contributing to and benefiting from AI advancements.

Additionally, the establishment of the Test & Experience Center marked a pivotal milestone for FARI. This center, located in the center of Brussels, serves as a hub for experimentation and innovation, providing a physical space where stakeholders can collaborate on AI projects and test new technologies in a controlled environment. Notable activities at the Center include workshops, hackathons, and collaborative research projects that bring together academics, industry professionals, and civil society representatives.

Stakeholder involvement

The development and execution of the FARI initiative involve a wide range of stakeholders, including academia, public institutions, industry partners, and civil society organizations. The key stakeholders are:

- **Academia:** VUB and ULB provide the academic backbone and governance for FARI, ensuring that the initiative is grounded in research and education.
- **Public Institutions:** The Brussels Capital Region, through its institutions Paradigm and Innoviris, plays a crucial role in funding and supporting the initiative.
- **Industry Partners:** Companies collaborate with FARI to develop and test AI applications, ensuring real-world relevance and impact.

- **Civil Society Organizations:** These organizations bring diverse perspectives and ensure that the initiative addresses societal needs and challenges.

One of the primary challenges in the collaboration among stakeholders is the alignment of objectives. Academia, industry, and civil society often have different priorities and timelines. For example, academic research may focus on long-term fundamental questions, while industry partners may seek faster marketable solutions often focusing on prototyping. Civil society organizations, on the other hand, prioritize social impact and ethical considerations. Navigating these differing objectives requires ongoing dialogue and negotiation to ensure that the initiative's goals are aligned with the needs and expectations of all stakeholders. Technological advancement poses another set of challenges. The rapid pace of technological developments means that stakeholders must continuously adapt to new scenarios and update their knowledge and skills. Ongoing training and capacity-building efforts are required to ensure that all partners can contribute effectively. Additionally, the integration of new technologies into existing systems and processes can be complex and require significant change management efforts for which different stakeholders can be equipped at different levels.

Legal and ethical considerations are also critical challenges. The development and deployment of AI technologies raise important questions about data privacy, consent, fundamental rights, and the ethical use of digital tools. Addressing these concerns requires a collaborative approach, involving legal experts, experts in ethics, and representatives from civil society.

Governance structures must be established to oversee the initiative, ensure accountability, and facilitate decision-making among diverse stakeholders. This involves developing clear roles and responsibilities, as well as mechanisms for conflict resolution and consensus-building that ensure long-term sustainability of the collaboration efforts.

Despite these challenges, the cooperation among stakeholders has led to significant results and impacts. For example, the collaboration has resulted in the development of innovative AI solutions that address societal challenges, such as improving healthcare outcomes, enhancing environmental sustainability, and promoting social equity. These solutions have been piloted in real-world settings in collaboration with public and private entities, demonstrating their potential to drive positive change.

To ensure that diverse groups can benefit from the opportunities created by AI technologies, the training programs are designed to be inclusive and accessible.

In summary, the collaboration among stakeholders in the FARI initiative involves navigating a range of challenges related to alignment of objectives, technological advancement, legal and ethical considerations, sustainability, and governance. Despite these challenges, the cooperation has led to significant results, including the development of innovative AI solutions, enhanced impact through diverse expertise, comprehensive training programs, and policy influence.

Use of Digital Technologies and/or the Living Lab Approach

FARI integrates a variety of digital technologies to enhance learning, collaboration, and value creation within the social economy sector. The key digital technologies and tools used include:

- **AI and Machine Learning:** Central to FARI's mission, these technologies enable the development of intelligent systems capable of addressing societal challenges. AI is used to create solutions that are not only innovative but also ethical and transparent, ensuring they align with societal values and needs.

Three examples of how FARI is applying machine learning in projects that improve public services in practical scenarios:

Employment Project: Matching Profiles in the Job Market

The Employment Pilot Project utilizes machine learning to develop an algorithmic matching system that streamlines job recruiting and job-seeking processes. Key aspects involve:

- **Algorithmic Matching:** The system automates the formatting of job offers and profiles, enhancing matching processes and addressing biases in traditional catalog-based matching.
- **Multilingual Processing:** Handles job listings and profiles in French, Dutch, and English, catering to Brussels' multilingual environment.
- **Recommendation Systems:** Plans to introduce a recommendation system that uses user data to suggest jobs, similar to what platforms like Netflix and Amazon do with entertainment content.

Animal Welfare and AI

This project leverages machine learning to address illegal online pet trading:

- **Automated Detection:** Uses AI algorithms to detect and classify online animal-selling announcements based on compliance with Animal Welfare Legislation.
- **Data Generation:** Produces data and statistics to help public administrations track illegal activities and misuse of licenses.

- **Current Capacity:** The system can detect around 200 announcements per day and aims to become a daily operational tool for public administration.

SimpLex: Innovation for Administrative Simplification

SimpLex employs machine learning and AI to simplify administrative processes:

- **AI and NLP:** Uses natural language processing and machine learning to facilitate access to regional regulations and improve regulatory compliance testing.
- **Rules as Code:** Adopts a guided approach to simplify legislation drafting and reduce implementation costs.
- **Accessibility and Comprehensibility:** Focuses on making regulations more accessible and easier to understand for a diverse population.
- **Data Analytics:** FARI employs data analytics to derive insights and inform decision-making processes. By analyzing large datasets, FARI can identify trends, predict outcomes, and make data-driven decisions that enhance the effectiveness of its initiatives.

An example is the AI Strategy for the Brussels Region. This project uses data analytics to create a roadmap for implementing AI within Brussels' administrations. Relevant activities include:

- **Data Collection and Benchmarking:** Fieldwork, data collection, and workshops are conducted to validate initial research. This involves benchmarking AI strategies from other regions worldwide to inform Brussels' strategy.
- **Digital Transformation:** The project aims to use data-driven approaches to transform e-Administration into a fully digital administration, providing new services to citizens and enterprises.
- **Strategic Planning:** Utilizes data analytics to ensure the AI strategy aligns with the region's needs and overall direction, focusing on areas like data governance, technical capabilities, and ethical considerations.
- **Robotics:** With a focus on human-centric robotics, FARI develops robotic systems that can assist and interact with humans in various contexts. These systems are designed to be user-friendly and accessible, ensuring they can be integrated into everyday life to improve quality of life and address specific societal needs.
- **Digital Learning Platforms:** FARI uses platforms like Moodle to support hybrid learning experiences. These platforms combine traditional in-classroom teaching with online resources, providing a flexible and comprehensive learning environment. This approach allows students to

access educational materials at their own pace and convenience, enhancing their learning experience.

The Living Lab approach is a core component of FARI's methodology. Brussels serves as a real-world laboratory where AI applications are tested and refined. This approach involves continuous feedback and iteration, ensuring that the solutions developed are effective and meet the needs of the community. The Living Lab methodology allows FARI to engage various stakeholders, including citizens, policymakers, companies, and non-profit organizations, in the co-creation and real-world experimentation of AI solutions. This collaborative environment fosters innovation and ensures that the technologies developed are relevant and impactful.

The FARI Test & Experience Center serves as a hub for public engagement with AI technologies, offering various services and facilities to different target groups including learners, researchers, policymakers, and civil society organizations. Many of the activities focus on the involvement of learners and methodologies akin to Living Labs:

Engagement of Learners and Public:

- The Center provides in-person experiences, demos, and prototypes aimed at helping the public, including learners, understand and engage with AI technologies.
- It offers workshops, training, and experience-oriented facilities that encourage active participation and experimentation.
- An immersive virtual environment (a space called the CAVE) allows stakeholders to visualize and simulate digital content, enhancing experiential learning.

Methodologies:

- The Center's setup promotes a Living Lab-like environment by facilitating real-world testing and co-creation. It engages diverse stakeholders, including learners and educators, to test and provide feedback on AI applications.
- Activities such as guided demo tours, workshops, and co-creation activities involve participants in practical learning and experimentation.

By integrating these digital technologies and methodologies, FARI creates a dynamic and innovative environment that supports the development and implementation of AI solutions for the common good. This approach not only enhances the learning and collaboration experience but also ensures that the solutions developed are ethical, transparent, and sustainable.

Practical Transferability in SE Curricula

Elements of FARI's projects that are most scalable include its use of open-source technologies, modular designs, and collaborative frameworks. Pilot projects can be replicated in new settings, with adjustments based on local feedback and outcomes.

FARI did not publish educational material for trainers/teachers, but the initiative offers several key lessons and insights that can be transferred to social economy (SE) curricula:

- **Interdisciplinary Collaboration:** FARI demonstrates the importance of interdisciplinary collaboration, bringing together academia, industry, and civil society to address complex societal challenges.
- **Ethical and Sustainable AI:** The initiative emphasizes the need for ethical and sustainable AI, ensuring that technological advancements are aligned with societal values and needs.
- **Hands-on Learning:** FARI's hands-on training approach, which combines academic teaching with practical applications, can be adapted to SE education to enhance student engagement and skill development.
- **Digital Innovation:** The integration of digital technologies like AI, data analytics, and robotics can foster digital skills and innovation within SE education.

By incorporating these elements into SE curricula, educators can create a dynamic and relevant learning environment that prepares students to tackle real-world challenges using digital technologies.

The FARI AI initiative is quite comprehensive and considering its transferability more in general we have to consider multiple factors:

- The technologies employed by FARI, such as machine learning and data analytics, can be adapted to other regions or sectors. However, the successful transfer of these technologies depends on the existing technological infrastructure in the target environment. For example, the AI-driven employment matching system can be adapted to other regions by adjusting for local job market data and language requirements.
- The adaptability of these technologies also depends on the availability of skilled personnel who can manage and operate these systems and that will probably entail training local staff or collaborating with local educational institutions might be necessary to build the required skills.
- Legal frameworks such as data protection laws and regulations concerning AI use vary by country (they especially vary for countries outside the EU).

Transferring FARI's initiatives will require a thorough understanding of local regulations to ensure compliance. Ethical considerations around AI, such as bias mitigation, transparency, and accountability, must be addressed in the local context. For example, the AI employment matching system should be adapted to local labor laws and cultural norms around employment.

- FARI's success is largely due to its collaborative model involving academia, public institutions, industry, and civil society. For other regions, establishing a similar ecosystem of stakeholders will be crucial. Engagement with civil society organizations is necessary to help in understanding local challenges and ensuring that AI solutions are inclusive and address community needs effectively, but that can prove difficult in certain contexts.
- Finally the local demand for technologies such as AI-driven solutions must be assessed, as well as the capacity to implement such technologies.

Conclusions

The FARI initiative exemplifies how digital technologies and the Living Lab approach can be effectively integrated into educational and societal contexts to address complex challenges. By focusing on ethical and sustainable AI, FARI aims to ensure that technological advancements are aligned with societal values and needs. This approach fosters innovation while ensuring that the solutions developed are transparent, inclusive, and beneficial for a wide range of stakeholders, including citizens, policymakers, enterprises, and non-profit organizations. The involvement of both public and private actors is crucial in this context, as it brings together diverse perspectives and resources, enhancing the initiative's impact and relevance.

The initiative's emphasis on interdisciplinary collaboration is another key factor contributing to its success. By bringing together academia, industry, and civil society, FARI creates a dynamic environment where different stakeholders can collaborate, share knowledge, and co-create solutions. This collaborative approach is essential for addressing complex societal challenges that require a multifaceted understanding and diverse skill sets. The hands-on learning experiences provided by FARI further enhance this interdisciplinary approach, allowing participants to apply theoretical knowledge to real-world problems and gain practical skills in the process.

Future plans for FARI include expanding its training programs, developing new projects and partnerships, and continuing to foster innovation and societal impact through AI. These plans reflect the initiative's commitment to continuous

improvement and adaptation, ensuring that it remains relevant and effective in addressing emerging challenges. By expanding its training programs, FARI can reach a wider audience and provide more individuals with the skills and knowledge needed to contribute to the development and implementation of ethical and sustainable AI solutions. Developing new projects and partnerships will further enhance the initiative's impact, allowing it to tackle a broader range of societal challenges and drive social and economic progress.

The initiative's success highlights the potential of digital technologies to drive social and economic progress, offering a model for other regions and institutions to follow. FARI's focus on ethical and sustainable AI, interdisciplinary collaboration, and hands-on learning provides valuable insights for social economy education. As digital technologies continue to evolve, initiatives like FARI will play an increasingly important role in ensuring that these advancements are used to benefit society as a whole, driving innovation and progress in a sustainable and ethical manner. In this sense the Brussels-Capital region is a pioneer among local public bodies.

Discussion Questions:

1. How does the interdisciplinary nature of FARI contribute to its effectiveness in addressing societal challenges?
2. What are the key benefits of using a Living Lab approach in the development and testing of AI applications?
3. How can the hands-on training approach employed by FARI be adapted to enhance student engagement in SE education?
4. What role do digital technologies play in fostering innovation and societal impact within the social economy sector?
5. How can the ethical and sustainable use of AI be promoted in other regions and contexts?
6. What are the challenges and opportunities associated with integrating AI and other digital technologies into SE curricula?
7. How can the collaboration among academia, industry, and civil society organizations be strengthened to address societal challenges effectively?
8. What strategies can be employed to ensure the scalability and replicability of initiatives like FARI in different regions and contexts?

References

1. FARI Website - courses: <https://www.fari.brussels/education>
 2. LinkedIn Page: <https://be.linkedin.com/company/fari-ai-for-the-common-good-institute>
 3. Launch of FARI: <https://ai.vub.ac.be/launch-of-fari-the-artificial-intelligence-institute-for-the-common-good-in-brussels/>
 4. FARI's Projects and Funding: https://commission.europa.eu/projects/fari-ai-common-good-institute-brussels-capital-region_en
-

DigiSEII

Countries: Belgium (with international scope involving partners from the Netherlands, France, Sweden, Greece, and Ukraine)

Abstract

The DigiSEII initiative, launched by the Innovation Factory, aims to support social enterprises and supporting organizations in their digital transition. It focuses on creating a learning platform with tailored training materials, conducting capacity-building activities, and facilitating peer-to-peer learning and networking among social enterprises.

The initiative integrates digital tools and platforms to enhance learning and collaboration. It employs a hybrid learning model that combines e-learning, face-to-face workshops, peer-exchange opportunities, mentorship, and networking activities. AI-powered skill assessments help create personalized learning pathways, ensuring that participants receive training tailored to their specific needs.

Key lessons include the importance of tailored, practical support for social enterprises, the benefits of collaboration and peer-to-peer learning, and the need to address financial constraints and skepticism about digitalization projects.

Keywords: Digital Transition, Social Enterprises, Capacity Building, Peer-to-Peer Learning, Hybrid Learning Model

Introduction

The DigiSEII initiative has an international scope and aims to enhance the digital capabilities of social enterprises and supporting organizations. This three-year project involves partners from six countries and is coordinated by Euclid Network. The initiative is designed to provide practical, tailored support through a learning platform (The DigiSEII initiative offers a hybrid learning platform that combines e-

learning modules, face-to-face workshops, and peer-exchange opportunities. This platform will be designed to be accessible and user-friendly, ensuring that social enterprises can easily navigate and utilize the resources provided), networking opportunities with similar enterprises and other stakeholders, financial support to invest in digital tools and innovative technologies, capacity-building activities including workshops, mentorship, and coaching. The Social Innovation Factory plays a crucial role in advising social enterprises and optimizing internal processes to support the digital transition.

The DigiSEII project is funded by the EU under the SMP-COSME 2023-SEED program and started in September 2024. It is designed to equip social enterprises (SEs) and their support organizations (SESOs) with essential digital tools and skills to scale their operations and enhance their impact. The project's main motivation is support to Digital transformation, innovation, and growth and to reach the project's objectives a variety of activities are foreseen as, for example:

- **Workshops on Digital Marketing:** Social enterprises will participate in workshops focused on leveraging social media, email marketing, and SEO to increase their visibility and reach.
- **Data Management Courses:** Training sessions on using data analytics tools to track performance, understand customer behavior, and make data-driven decisions.
- **E-commerce Platforms:** Hands-on sessions on setting up and managing online stores, including payment gateways, inventory management, and customer service tools.
- **CRM Software Training:** Social enterprises will learn how to use Customer Relationship Management (CRM) software to manage interactions with customers and improve business relationships.
- **Project Management Tools:** Training on tools like Trello, Asana, or Monday.com to help social enterprises manage projects, tasks, and team collaboration more effectively.
- **Cybersecurity Workshops:** Sessions on best practices for protecting digital assets, understanding data privacy laws, and implementing secure online transactions avoiding risks.
- **Grants for Digital Tools:** Financial assistance to help social enterprises purchase necessary software, hardware, or get access to specific resources.
- **Subsidized Access to Platforms:** Partnerships with digital tool providers to offer discounted or free access to essential platforms and services.

- Skill Assessments to assess the current digital skills of participants and identify areas for improvement.
- Custom Learning Pathways: Based on the skill assessments, personalized learning plans will be created to guide participants through relevant training modules and resources.

Certain activities are designed to enhance networking and foster collaboration:

- Peer Learning Sessions: Regular meetings where social enterprises can share their experiences, challenges, and solutions related to digital transformation.
- Transnational Exchange Programs: Events that bring together participants from different countries to collaborate on projects, take part in study visits, share insights, and develop joint initiatives.
- Hackathons: Intensive collaborative events where teams work together to develop innovative digital solutions for common challenges faced by social enterprises.

According to DigiSEII, for social enterprises, embracing digital tools is key to increasing efficiency, expanding reach, and fostering resilience. Since many SEs and SESOs struggle with limited digital skills, resources, and infrastructure, DigiSEII directly addresses these challenges, ensuring that SEs leverage technology to thrive in the context of an increasingly digital society.

Stakeholder involvement

Key Actors:

- Social Enterprises
- Supporting Organizations
- Academic Institutions (e.g., Business Schools)
- Euclid Network (Coordinator)
- Social Innovation Factory

The primary motivation behind the DigiSEII initiative is to address the digitalization challenges faced by social enterprises. By providing tailored training and support, the initiative aims to enhance their digital capabilities and overall impact.

Collaboration with stakeholders involves diverse expertise and resources, with each partner contributing to the development and execution of the initiative. Academic institutions, for example, play a significant role in designing the curriculum and pedagogical approaches, to ensure that the training materials are both rigorous and aligned with current best practices in digital education.

Euclid Network, serving as the coordinator of the initiative, leads the overall project coordination, ensuring that all partners remain aligned and focused on shared objectives. Beyond coordination, Euclid Network leverages its reach as an international network within the social economy, fostering collaboration among social enterprises, support organizations, and policymakers.

The Social Innovation Factory provides hands-on support and advisory services to social enterprises, guiding them through the complexities of digital transformation. Their expertise lies in optimizing internal processes within these enterprises, focusing also on the long term sustainability.

Social enterprises themselves are not only a target but integral stakeholders for this initiative, offering real-world insights that shape the training content and ensure its practical applicability. Their direct experience with the challenges and opportunities of digital transformation enriches the learning environment, making it more dynamic and responsive to actual needs. Through peer-exchange activities, social enterprises will share their experiences and learn among peers, fostering a collaborative spirit that is at the core of the project's design.

Supporting organizations will mobilise resources such as financial support, technical expertise, and networking opportunities to help social enterprises access the tools and knowledge they need. Their involvement in capacity-building activities, such as training and mentorship programs, will ensure that the support system available to social enterprises has practical impact.

While the collaboration among these diverse stakeholders presents challenges—particularly in aligning goals and ensuring active engagement—the benefits far outweigh the difficulties. The collective expertise and resources brought by each partner enhance the initiative's overall effectiveness, fostering innovation and creating a robust support network for social enterprises as they advance in their digital transformation processes.

Challenges include aligning the goals of different partners and ensuring active engagement from all stakeholders. Benefits lie in the diverse expertise and resources that each partner brings, enhancing the overall effectiveness of the initiative.

Use of Digital Technologies and/or the Living Lab Approach

The DigiSEII initiative integrates various digital tools and platforms to create a learning environment that supports capacity-building activities and peer-to-peer learning. Specific technologies include digital learning platforms and tools for enhancing collaboration and networking. The project offers a unique hybrid

learning model that combines e-learning, face-to-face workshops, peer-exchange opportunities, mentorship, and networking activities. AI-powered skill assessments help create personalized learning pathways, ensuring that participants receive training tailored to their specific needs.

Benefits of using digital technologies include increased accessibility to training materials and enhanced collaboration among social enterprises. Challenges include financial constraints and resistance to change, which are addressed by providing financial support and emphasizing the practical benefits of the initiative. The impact of the project is measured through various evaluation metrics, such as the number of social enterprises engaged, the development of training materials, and the creation of a learning platform. The response from stakeholders has been positive, with a focus on the practical, tailored support provided. The project is still in its early stages and there are no published evaluations yet.

The response from social enterprises and supporting organizations has been positive, with stakeholders valuing the initiative's focus on practical, tailored support. However, there is some skepticism about the long-term impact and sustainability of the project (based on previous experiences and a quite common bias about EU-funded projects).

Practical Transferability in SE Curricula

The DigiSEII initiative presents a structured approach that educational institutions can consider when designing curricula focused on digital innovation within the social economy. Its hybrid learning model, which integrates e-learning, in-person workshops, peer-exchange opportunities, and skill assessments, demonstrates a practical way to create flexible and participant-centered educational programs. This model can be particularly useful for institutions aiming to develop curricula that accommodate diverse learning needs and schedules, allowing students to balance their studies with professional or personal commitments.

The development of personalized learning pathways offers a method for educational institutions to tailor their curricula to individual student needs. By adopting similar assessment tools, institutions can identify specific skill gaps and strengths among their students, enabling them to design targeted training paths. This approach ensures that learners receive relevant and effective instruction, which can enhance their overall educational experience and better prepare them for real-world challenges in the social economy or other sectors.

DigiSEII's focus on equipping participants with practical digital skills, such as digital marketing, data management, and CRM software use, highlights the importance of integrating hands-on training into educational programs. Institutions can draw from this approach by partnering with technology providers to give students access to relevant digital tools and platforms.

The multi-stakeholder collaboration model also has high potential for transferability. Educational institutions can adopt a similar approach by forming alliances with local businesses, non-profits, and local public bodies. These partnerships can enrich curricula with real-world insights, resources, and applied learning opportunities, making the educational experience more relevant and impactful.

The scalability and adaptability of the DigiSEII model make it a viable reference for institutions of varying sizes and contexts. Whether an institution is developing a single course or a comprehensive program in social economy, the methodologies and principles of DigiSEII can be an inspiration especially for specific educational goals related to the acquisition of practical skills.

The DigiSEII initiative employs a hybrid learning model that combines various educational methods to create a comprehensive and engaging learning experience. This model includes:

- **E-Learning:** Participants will have access to digital learning platforms where they can engage with training materials at their own pace. This flexibility allows learners to balance their educational activities with other commitments, making it easier for social enterprises to participate.
- **Face-to-Face Workshops:** These workshops provide opportunities for direct interaction and hands-on learning. They are designed to be practical and focused on real-world applications, ensuring that participants can immediately apply what they learn to their own contexts.
- **Peer-Exchange Opportunities:** The initiative facilitates networking and collaboration among participants through peer-exchange activities. These opportunities allow social enterprises to share experiences, learn from each other, and build a supportive community.
- **Mentorship:** Mentorship is a key component of the DigiSEII initiative, providing participants with guidance and support from experienced professionals. This one-on-one interaction helps to address specific challenges and fosters personal and professional growth.
- **Networking Activities:** The project includes various networking events and activities that connect social enterprises with other stakeholders, such

as academic institutions, technology providers, and policymakers. These connections can lead to new collaborations and opportunities for innovation.

- **AI-Powered Skill Assessments:** The use of AI-powered skill assessments helps to create personalized learning pathways for participants. These assessments identify individual strengths and areas for improvement, allowing the initiative to tailor its training materials and activities to meet the specific needs of each participant.
- **Benefits for Students:** Students benefit from the initiative by gaining practical experience and enhancing their digital skills. The participative methodologies and hybrid learning approaches provide a dynamic learning environment that fosters collaboration and innovation. By engaging with real-world applications and working with peers and mentors, students develop a deeper understanding of digital technologies and their potential to drive social and economic impact.

Conclusions

The DigiSEII initiative offers several valuable lessons related to social economy education and digital innovation:

Importance of Tailored, Practical Support: One of the key lessons from the DigiSEII initiative is the importance of providing tailored, practical support to learners from social enterprises. By focusing on the specific needs and challenges of each enterprise, the initiative ensures that the training and resources provided are relevant and effective. This personalized approach helps social enterprises to better understand and leverage digital technologies, ultimately enhancing their operational efficiency and impact.

Benefits of Collaboration and Peer-to-Peer Learning: By creating a network of social enterprises, supporting organizations, and academic institutions, DigiSEII fosters a collaborative environment where participants can share experiences, learn from each other, and build a supportive community. This collaborative approach not only enhances the learning experience but also encourages the development of innovative solutions and best practices.

Addressing Financial Constraints and Skepticism: DigiSEII addresses the financial constraints and skepticism that social enterprises often face when adopting digital technologies. By providing financial support and emphasizing the practical benefits of digitalization, the initiative helps to overcome these barriers and encourages social enterprises to embrace digital innovation. This approach is

crucial for ensuring the long-term sustainability and success of digitalization efforts in the social economy sector.

Hybrid Learning Model: The initiative's hybrid learning model, combining e-learning, face-to-face workshops, peer-exchange opportunities, mentorship, and networking activities, has proven to be highly effective. This model provides a flexible and comprehensive learning experience that caters to the diverse needs and preferences of participants. The use of AI-powered skill assessments to create personalized learning pathways further enhances the effectiveness of the training.

Role of Academic Institutions: The involvement of academic institutions in the DigiSEII initiative underscores the important role that universities and research institutions can play in supporting social economy education. By contributing their expertise and resources, academic institutions help to ensure the quality and relevance of the training materials and activities provided.

Future Plans:

DigiSEII is in its early stages. Many activities are planned and will be developed, further enhancing its impact and reach:

Development of a Sustainable Learning Platform: One of the key future plans for the initiative is the development of a sustainable learning platform. This platform will provide a centralized hub for training materials, resources, and networking opportunities, ensuring that participants have ongoing access to the support and information they need. The platform will also facilitate the continuous updating and improvement of training materials, ensuring that they remain relevant and effective.

Expansion of Capacity-Building Activities: The initiative plans to expand its capacity-building activities, offering a wider range of training programs and workshops to social enterprises and supporting organizations. This expansion will help to reach a larger audience and provide more comprehensive support to participants, ultimately enhancing the digital capabilities of the social economy sector.

Hackathons: DigiSEII plans to conduct hackathons, bringing together social enterprises, technology experts, and other stakeholders to collaborate on the development of innovative digital solutions. These hackathons will provide a dynamic and creative environment for participants to work on real-world challenges and develop new ideas and technologies.

Developing Roadmaps: The initiative aims to develop roadmaps that outline the specific steps and strategies needed to successfully address the digitalization needs and demands of social enterprises. These roadmaps will provide a clear and structured approach to digital innovation, helping social enterprises to navigate the complexities of digital transformation and achieve their goals.

Strengthening Partnerships: DigiSEII plans to strengthen its partnerships with academic institutions, technology providers, and other stakeholders. These partnerships will be crucial for ensuring the success and sustainability of the initiative, providing access to expertise, resources, and funding opportunities.

Discussion Questions:

1. How can the DigiSEII initiative be further tailored to meet the specific needs of different social economy enterprises?
2. What strategies can be employed to ensure the active engagement of all stakeholders in the initiative?
3. How can the financial constraints of social enterprises be effectively addressed to enhance their participation in digitalization projects?
4. What are the potential long-term impacts of the DigiSEII initiative on the digital capabilities of social enterprises?
5. How can the hybrid learning approach be further integrated into social economy education to enhance learning outcomes?
6. What role can academic institutions play in supporting the digital transition of social economy enterprises?
7. How can the success of the DigiSEII initiative be measured and evaluated in the long term?
8. What are the challenges and benefits of using participative methodologies in social economy education?
9. What additional support (policy, funding, institutional) is needed to sustain and enhance the DigiSEII initiative?

References

1. Euclid Network. (2025). DIGI SEII: Empowering Social Enterprises Through Digitalisation. Retrieved from [Euclid Network](#).
2. Euclid Network. (2025). Human-Centered Digitalisation: A Conversation with Social Innovation Factory. Retrieved from [Euclid Network](#).

Endnotes

- i. **Albanese**, Mark A, George **Mejicano**, W Marshall **Anderson**, and Larry **Gruppen**. "Building a Competency-Based Curriculum: The Agony and the Ecstasy". *Advances in Health Sciences Education*, 15 (3) (2010): 439-54. <https://doi.org/10.1007/s10459-008-9118-2>.
- ii. Amanda **Piepponen**, Paavo **Ritala**, Joonas **Keränen**, Päivi **Maijanen**, Digital transformation of the value proposition: A single case study in the media industry, *Journal of Business Research*, Volume 150, 2022, Pages 311-325, ISSN 0148-2963, <https://doi.org/10.1016/j.jbusres.2022.05.017>.
- iii. **ARES** (2019). *Orientations stratégiques pour l'enseignement supérieur*. Decree on Student Engagement in Societal Projects, 2012. See also: "Éducation à la citoyenneté dans l'enseignement supérieur."
- iv. **Ayalew**, M. Z., **Getahun**, D. A., & **Negasi**, R. D. (2024). *Faculty and academic leaders' conceptions of competence and competence-based education*. *Cogent Education*, 11(1), <https://www.tandfonline.com/doi/full/10.1080/2331186X.2024.2372187>.
- v. **Beckett**, D., & **Hager**, P. (2000). Making Judgments as the Basis for Workplace Learning: Towards an Epistemology of Practice", *International Journal of Lifelong Education* 19 (4), p.300-311.
- vi. **Bednar**, A. K., **Cunningham**, D., **Duffy**, T. M., & **Perry**, J. D. (1992). Theory and practice: How do we link? In T. M. **Duffy** & D. H. **Jonassen** (Eds.), *Constructivism and the technology of instruction: A conversation* (pp. 17-34). Hillsdale, NJ: Lawrence Erlbaum, <https://www.taylorfrancis.com/chapters/edit/10.4324/9780203461976-4/theory-practice-anne-bednar-donald-cunningham-thomas-duffy-david-perry>.
- vii. Belgian and regional policy documents and analyses on digital education and innovation (Flemish Government policy notes; **ARES Council** recommendations), file:///C:/Users/User_1/Downloads/2030-Digital-Decade-roadmap-Belgium.pdf and Flemish Government (2019-2024). Policy Note on Education and Labour. See also: VLHORA Position Paper on Higher Education and Societal Transitions (2021).
- viii. Bendik **Bygstad**, Egil **Øvrelid**, Sten **Ludvigsen**, Morten **Dæhlen**, From dual digitalization to digital learning space: Exploring the digital transformation of higher education, *Computers & Education*, Volume 182, 2022, 104463, ISSN 0360-1315, <https://doi.org/10.1016/j.compedu.2022.104463>.

- ix. **Boud, D., & Walker, D.** (1991). „Experience and Learning: Reflection at Work“. Geelong, Victoria: Deakin University Press, (ERIC Document Reproduction Service No.384 696).
- x. **Bray, Mark & Adamson, Bob & Mason, Mark.** (2014). Comparative Education Research: Approaches and Methods: Second Edition. 10.1007/978-3-319-05594-7.
- xi. **Britain, S. and Liber, O.** (2004) A Framework for the Pedagogical Evaluation of Virtual Learning Environments, JISC-commissioned report. Available online: http://www.jisc.ac.uk/uploaded_documents/jtap-041.doc.
- xii. **Burnette, Diane M.** “The Renewal of Competency-Based Education: A Review of the Literature.” *The Journal of Continuing Higher Education* 64 (2) (2016): 84-93. <https://doi.org/10.1080/07377363.2016.1177704>.
- xiii. **Bygstad, B., Øvrelid, E., Ludvigsen, S., & Dæhlen, M.** (2022). From dual digitalization to digital learning space: Exploring the digital transformation of higher education. *Computers & Education*, 182, 104463. <https://doi.org/10.1016/j.compedu.2022.104463>.
- xiv. **CEDEFOP,** “learning by doing”, <https://www.cedefop.europa.eu/en/tools/vet-glossary/glossary/praxislernen>.
- xv. **Cho, M.-H., & Yi, C.-G.** (2022). Adaptive Social Innovation Derived from Digital Economy and Its Impact on Society and Policy. *Sustainability*, 14(6), 3408. <https://doi.org/10.3390/su14063408>.
- xvi. Christoph **Buck** et al. (2025). Making the most of digital social innovation: An exploration into success factors. *Journal of Business Research*, 190, 115215. DOI: 10.1016/j.jbusres.2025.115215, <https://ideas.repec.org/a/eee/jbrese/v190y2025ics0148296325000384.html>.
- xvii. Christoph **Buck**, Laura **Heim**, Katrin **Körner-Wyrтки**, Anna **Krombacher**, Maximilian **Röglinger**, Making the most of digital social innovation: An exploration into success factors, *Journal of Business Research*, Volume 190, 2025, 115215, ISSN 0148-2963, <https://doi.org/10.1016/j.jbusres.2025.115215>.
- xviii. Curry, Lynn, and Marcia **Docherty**. “Implementing Competency-Based Education.” *Collected Essays on Learning and Teaching* 10 (2017): 61-73. <https://files.eric.ed.gov/fulltext/EJ1147189.pdf>.
- xix. **Degen, K., Lutzens, R., Beschorner, P.** et al. Public education data at the crossroads of public and private value creation: Orchestration tensions and

- stakeholder visions in Germany's emerging national digital education ecosystem. *Electron Markets* 35, 19 (2025). <https://doi.org/10.1007/s12525-024-00752-w>.
- xx. **Dewey, J.** (1938). *Experience and Education*. New York: Collier Books, <https://www.schoolofeducators.com/wp-content/uploads/2011/12/EXPERIENCE-EDUCATION-JOHN-DEWEY.pdf>.
- xxi. Digital Innovation: Connotations, Characteristics, Value Creation, and Prospects, 11 Pages, Posted: 21 Jan 2025, Jun Cui, **SolBridge International School of Business**, Date Written: December 04, 2024.
- xxii. Elie **Abi Saad**, Marine **Agogu e**, Living Labs in science-industry collaborations: Roles, design, and application patterns, *Technovation*, Volume 135, 2024, 103066, ISSN 0166-4972, <https://doi.org/10.1016/j.technovation.2024.103066>.
- xxiii. Esin **Mukul**, G l cin **B y k zkan**, Digital transformation in education: A systematic review of education 4.0, *Technological Forecasting and Social Change*, Volume 194, 2023, 122664, ISSN 0040-1625, <https://doi.org/10.1016/j.techfore.2023.122664>.
- xxiv. European **Commission**, *Digital Education Action Plan 2021–2027: Resetting education and training for the digital age*, <https://education.ec.europa.eu/focus-topics/digital-education/action-plan>.
- xxv. European **Commission**, *Europe's Digital Decade: digital targets for 2030*, https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/europes-digital-decade-digital-targets-2030_en.
- xxvi. European **Commission**, *Social Economy Action Plan (2021)*, https://employment-social-affairs.ec.europa.eu/policies-and-activities/eu-employment-policies/social-economy-and-inclusive-entrepreneurship/social-economy-action-plan_en.
- xxvii. European **Commission**. (2023). Skills & social economy (European Year of Skills initiative). Retrieved from https://social-economy-gateway.ec.europa.eu/topics-focus/skills-social-economy_en.
- xxviii. European **Digital Innovation Hubs**, <https://digital-strategy.ec.europa.eu/en/policies/edihs>.
- xxix. For more information please consult: **CEDEFOP**. National Qualifications Framework Developments in Europe, 2017.

- xxx. **Gervais**, Jennifer. "The Operational Definition of Competency-Based Education." *The Journal of Competency-Based Education* 1, no. 2 (2016): 98-106. <https://onlinelibrary.wiley.com/doi/pdf/10.1002/cbe2.1011>.
- xxxii. **Gouveia S, de la Iglesia DH, Abrantes JL, López Rivero AJ**. Transforming Strategy and Value Creation Through Digitalization? *Administrative Sciences*. 2024; 14(11):307.
- xxxiii. **Gouveia, S., de la Iglesia, D.H., Abrantes, J.L., Rivero, A.J.L.** (2024). Value Creation and Strategic Management in the Era of Digital Transformation: A Bibliometric Analysis and Systematic Literature Review. In: de la **Iglesia, D.H.**, de Paz **Santana, J.F.**, López **Rivero, A.J.** (eds) *New Trends in Disruptive Technologies, Tech Ethics, and Artificial Intelligence. DiTTEt 2024. Advances in Intelligent Systems and Computing*, vol 1459. Springer, Cham. https://doi.org/10.1007/978-3-031-66635-3_15. & Woroch, Robert & Strobel, Gero. (2021). UNDERSTANDING VALUE CREATION IN DIGITAL COMPANIES - A TAXONOMY OF IOT-ENABLED BUSINESS MODELS.
- xxxiiii. **Hantrais**, Linda. (2009). *International Comparative Research: Theory, Methods and Practice*. [http://lst-iiep.iiep-unesco.org/cgi-bin/wwwi32.exe/\[in=epidoc1.in\]/?t2000=026274/\(100\)](http://lst-iiep.iiep-unesco.org/cgi-bin/wwwi32.exe/[in=epidoc1.in]/?t2000=026274/(100)).
- xxxv. **Hodge**, Steven. "The Origins of Competency-Based Training." *Australian journal of adult learning*, 47 (2) (2007): 179-209. <https://files.eric.ed.gov/fulltext/EJ797578.pdf>.
- xxxvi. **Holmes**, A. G. D., **Polman Tuin**, M., & **Turner**, S. L. (2021). *Competence and competency in higher education, simple terms yet with complex meanings: Theoretical and practical issues for university teachers and assessors implementing CBE*. *Educational Process: International Journal*, 10(3), 39–52, https://www.researchgate.net/publication/353279749_Competence_and_c ompetency_in_higher_education_simple_terms_yet_with_complex_meanin gs_Theoretical_and_practical_issues_for_university_teachers_and_assessor s_implementing_Competency-Based_Education_CBE.
- xxxvii. **Hossain**, M., **Leminen**, S., & **Westerlund**, M. (2018). A systematic review of living lab literature. *Journal of Cleaner Production*, 213, 976–988. <https://doi.org/10.1016/j.jclepro.2018.12.257>.
- xxxviii. *Journal of Cleaner Production*, Volume 213, 2019, Pages 976-988, ISSN 0959-6526, <https://doi.org/10.1016/j.jclepro.2018.12.257>.
- xxxviiii. **Klein-Collins**, Rebecca. "Sharpening Our Focus on Learning: The Rise of Competency-Based Approaches to Degree Completion." *Occasional Paper* 20 (2013),

<https://learningoutcomesassessment.org/documents/Occasional%20Paper%202020.pdf>.

- xxxix. **Kolb**, D. A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs, NJ: Prentice Hall, https://www.researchgate.net/publication/235701029_Experiential_Learning_Experience_As_The_Source_Of_Learning_And_Development.
- xl. Kristiina **Kriisa**, E-Estonia, **100% digital government services, with divorce as the final step, 27/01/2025**, <https://e-estonia.com/estonia-100-digital-government-services/>.
- xli. **Laurea University of Applied Sciences**. (n.d.). Digital Living Lab – Way of Working. [Web page]. Retrieved 2025, May 20 from <https://www.digitallivinglab.com/way-of-working>.
- xlii. **Loukopoulos**, A., **Taylor**, M., **Sotiropoulou**, A., **Hvalic Erzetic**, B., **Mikolič**, S., **Slavič**, I. P., & **Manti**, A. (2022). *Social entrepreneurship education enhancement through innovative training pedagogies across Europe*. Irish Journal of Management, 41(2), 135–154.
- xliii. Mokter **Hossain**, Seppo **Leminen**, Mika **Westerlund**, A systematic review of living lab literature,
- xliv. Mokter **Hossain**, Seppo **Leminen**, Mika **Westerlund**, A systematic review of living lab literature, Journal of Cleaner Production, Volume 213, 2019, Pages 976-988, ISSN 0959-6526, <https://doi.org/10.1016/j.jclepro.2018.12.257>.
- xlv. **Mughal**, F., & **Zafar**, A. (2011). Experiential Learning from a Constructivist Perspective: Reconceptualizing the Kolbian Cycle. *International Journal of Learning and Development*, 1(2), 27–37. DOI: 10.5296/ijld.v1i2.1179, <https://eprints.lancs.ac.uk/id/eprint/62024/1/952.pdf>.
- xlvi. **Mukul**, E., & Büyüközkan, G. (2023). Digital transformation in education: A systematic review of education 4.0. *Technological Forecasting and Social Change*, 194, 122664. <https://doi.org/10.1016/j.techfore.2023.122664>.
- xlvii. **Mulgan**, Geoff. (2019). Social Innovation: How Societies Find the Power to Change. 10.2307/j.ctvs89dd3.
- xlviii. **NEETS** and their ultimate role in today's society, <https://www.euronews.com/business/2024/05/01/debunking-misconceptions-what-is-a-neet-and-why-do-they-need-support> / https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Statistics_on_young_people_neither_in_employment_nor_in_education_or_training.

- xlix. **Piaget, J.** (1966). *The Psychology of Intelligence*. Totowa, NJ: Littlefield, Adams. (Original work published 1947), <https://www.taylorfrancis.com/books/mono/10.4324/9780203164730/psychology-intelligence-malcolm-piercy-berlyne-jean-piaget>.
- i. **Ragin, C. C.** (1987). *The Comparative Method: Moving Beyond Qualitative and Quantitative Strategies*. University of California Press, ISBN: 9780520280038.
- ii. **Ridley-Duff, Rory & Bull, Mike.** (2015). *Understanding Social Enterprise: Theory and Practice* (Sample Chapter).
- lii. **Ritter, W. F.** (2024). The history of landfills and landfill gas management in the U.S. *Academia Environmental Sciences and Sustainability*, 1(1). <https://doi.org/10.20935/AcadEnvSci6163>.
- liii. **Roelants, B., Eum, H., Esim, S., Novkovic, S., & Katajamäki, W.** (Eds.). (2019). *Cooperatives and the World of Work* (1st ed.). Routledge. <https://doi.org/10.4324/9780429285936>.
- liv. **Rubalcaba, L., Strokosch, K., Hansen, A. V., Røhnebæk, M., & Liefoghe, C.** (2022). Insights on Value Co-Creation, Living Labs and Innovation in the Public Sector. *Administrative Sciences*, 12(1), 42. <https://doi.org/10.3390/admsci12010042>.
- lv. **Saad, E. A., & Agogué, M.** (2024). Living Labs in science-industry collaborations: Roles, design, and application patterns. *Technovation*, 135, 103066. <https://doi.org/10.1016/j.technovation.2024.103066>.
- lvi. **Sadovska, V., Rastorgueva, N., Migliorini, P., & Melin, M.** (2024). *Engagement of stakeholders in action-oriented education for sustainability: A study of motivations and benefits and development of a process model*. *Journal of Agricultural Education and Extension*. (Advance online publication), <https://www.tandfonline.com/doi/full/10.1080/1389224X.2024.2415607>.
- lvii. **Schneider, N.** (2018). *Everything for everyone: The Radical Tradition That Is Shaping the Next Economy*. Bold Type Books.
- lviii. **Scholz, T.** An Introduction to Platform Cooperativism, Volume 84, Issue 3, 1970, https://www.academia.edu/22572831/An_Introduction_to_Platform_Cooperativism.
- lix. **Simina, V. K.** (2012). Socio-Constructivist Models of Learning. In N. M. Seel (Ed.), *Encyclopedia of the Sciences of Learning* (pp. 3128–3131). Springer, Boston, MA, https://www.researchgate.net/publication/302385670_Socio-Constructivist_Models_of_Learning.

- ix. **Storm**, A. (2024, September 16). Social Constructivist Theory: Understanding Vygotsky's Social Constructivism in Education. *Thinkific Blog*. Retrieved from <https://www.thinkific.com/blog/social-constructivist-theory/>, Social Constructivism: Vygotsky's Theory, <https://edpsych.pressbooks.sunycreate.cloud/chapter/social-constructivism-vygotskys-theory/>.
- lxi. **Tech for good**: What it means and how we can deliver on it, Mar 21, 2023, <https://www.weforum.org/stories/2023/03/tech-for-good-what-does-it-mean-and-how-can-we-deliver-on-it/>.
- lxii. The **SE4Ces** project's Wiki Platform is available at: <https://socialeconomy4ces-wiki.auth.gr/index.php?title=Homepage>.
- lxiii. Thomas **Trabert**, Sebastian **Beiner**, Claudia **Lehmann**, Steffen Kinkel, Digital Value Creation in sociotechnical Systems: Identification of challenges and recommendations for human work in manufacturing SMEs, *Procedia Computer Science*, Volume 200, 2022, Pages 471-481, ISSN 1877-0509, <https://doi.org/10.1016/j.procs.2022.01.245>.
- lxiv. **Torres**, Aubrey **Scheopner**, Jessica **Brett**, and Joshua **Cox**. "Competency-Based Learning: Definitions, Policies, and Implementation." Regional Educational Laboratory Northeast & Islands (2015). <https://files.eric.ed.gov/fulltext/ED558117.pdf>.
- lxv. **Trabert**, T., **Beiner**, S., **Lehmann**, C., & **Kinkel**, S. (2022). Digital Value Creation in sociotechnical Systems. *Procedia Computer Science*, 200, 471–481. <https://doi.org/10.1016/j.procs.2022.01.245>.
- lxvi. **Trabert**, Thomas & **Beiner**, Sebastian & **Lehmann**, Claudia & **Kinkel**, Steffen. (2022). Digital Value Creation in sociotechnical Systems. *Procedia Computer Science*. 200. 471-481. 10.1016/j.procs.2022.01.245.
- lxvii. **Trabert**, Thomas & **Beiner**, Sebastian & **Lehmann**, Claudia & **Kinkel**, Steffen. (2022). Digital Value Creation in sociotechnical Systems. *Procedia Computer Science*. 200. 471-481. 10.1016/j.procs.2022.01.245.
- lxviii. **Tuxworth**, Eric. "Competence Based Education and Training: Background and Origins." In *Competency-based education and Training*, 18-31: Routledge, 2005.
- lxix. **UNESCO**. (2017). *Education for sustainable development goals: Learning objectives*. Paris: United Nations Educational, Scientific and Cultural Organization, <https://unesdoc.unesco.org/ark:/48223/pf0000247444>. | **Açıkgöz**, T., & **Babadoğan**, M. C. (2021). Competency-based education: Theory and practice. *Psycho-Educational Research Reviews*, 10(3), 67–95.

- lxx. **UNESCO-UNEVOC.** (2020). Competency-based education (CBE). In *TVETipedia Glossary*. Retrieved from <https://unevoc.unesco.org/home/TVETipedia+Glossary> (original work by Commonwealth of Learning, *Open and Distance Learning: Key Terms and Definitions*, 2015, rev. 2020).
- lxxi. **Van den Heuvel, R., Braun, S., de Bruin, M., & Daniëls, R.** (2021). *A closer look at living labs and higher education using a scoping review*. *Technology Innovation Management Review*, 11(9/10), 31–44, https://www.researchgate.net/publication/358501858_A_Closer_Look_at_Living_Labs_and_Higher_Education_using_a_Scoping_Review.
- lxxii. **VLHORA** (2023). *Universities of Applied Sciences and Practice-Oriented Research in Flanders*. Retrieved from www.vlhora.be.
- lxxiii. **Vygotsky, L. S.** (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press. (Original work published 1930s), <https://www.jstor.org/stable/j.ctvjf9vz4>.
- lxxiv. **Westerlund, M., Leminen, S., & Habib, C.** (2018). Key constructs and a definition of living labs as innovation platforms. *Technology Innovation Management Review*, 8(12), 51–62. <https://doi.org/10.22215/timreview/1205>.
- lxxv. **Westerlund, M., Leminen, S., & Habib, C.** (2018). Key constructs and a definition of living labs as innovation platforms. *Technology Innovation Management Review*, 8(12), 51–62.