DESK RESEARCH REPORT

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History of Changes

VERSION	AUTHOR ORGANIZATION	DATE	CHANGES
Version 1	HOWEST	03/07/2025	Draft
Version 2	HOWEST	26/09/2025	Adapted draft
Version 3	HOWEST	01/10/2025	Final

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List of Acronyms

DBR	**Design-Based Research**
EIP on AHA	European Innovation Partnership on Active and Healthy Ageing
ESF+	European Social Fund Plus
OECD	Organisation for Economic Cooperation and Development
PBL	Project-Based Learning
PLN	Professional Learning Network
SOCIA	Social Innovation Academy

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Introduction

Purpose and objectives of the desk research

In the face of complex and evolving societal challenges, the role of education is expanding beyond the transmission of knowledge to include the cultivation of skills and values that promote democratic engagement, social responsibility, and sustainable development. In this context, social innovation has emerged as a crucial concept within the educational sphere. Education systems are increasingly expected to prepare learners not only for the labour market but also to become active and responsible citizens capable of driving meaningful social change.

This research, conducted within the broader context of the EU-SIDE initiative, focuses on identifying and defining the competencies essential for social innovation in teacher education in Europe. Its aim is to provide a comprehensive understanding of the principles, frameworks, and pedagogical approaches that can empower teachers to address societal challenges through innovative educational practices.

The study explores the definition, domains, and stages of social innovation, with a particular focus on its application in education. It investigates the policy context in which social innovation is situated, identifies thematic areas such as inclusion, integration, well-being, sustainability, and digitalization, and links them to relevant European policy frameworks. Furthermore, it examines how democratic education, and curricular innovation can serve as vehicles for social innovation in educational settings.

A vital component of this research is the analysis of competence frameworks that support social innovation, including European models such as EntreComp, DigComp, and GreenComp. These frameworks are complemented by an in-depth review of core cognitive, interpersonal, and professional competencies, as well as domain-specific skills relevant to contemporary social challenges. The report also outlines strategies for developing these competencies through innovative educational practices.

Methodology

Core academic literature was identified and reviewed through advanced searches in major academic databases, including but not limited to Scopus, Web of Science, and ERIC. Search strategies combined relevant keywords such as “social innovation,” “education,” and “competence frameworks”. Selection criteria ensured that only high-quality, peer-reviewed sources published within the last decade (with an exception for groundworks or basic frameworks) were considered to guarantee the currency and relevance of findings.

To ensure the inclusion of recent practice-based insights and nationally relevant initiatives, literature and documents on social innovation were also sourced from project partners across Belgium, Spain, Ireland, the Netherlands, Finland and Portugal. Each partner identified key national reports, policy briefs, and exemplary case studies reflecting local interpretations and applications of social innovation in education. These partner-contributed documents allowed the research to capture country-specific trends and unique local perspectives that might not be reflected in international academic databases. In addition, throughout the desk research report, illustrative initiatives were included to highlight the practical impact and contextual specificities of social innovation within the field of education. This approach aimed to balance the generalizability of academic evidence with the specificity of local experience, grounding the analysis in real-world practice.

By consolidating existing research, frameworks, and pedagogical practices, this desk research lays the groundwork for a set of pedagogical design principles aimed at enhancing teacher education. Its ultimate objective is to empower educators across Europe to engage in and lead socially innovative initiatives, thereby contributing to more inclusive, democratic, and sustainable societies.

Background of the EU-SIDE project

The European Social Innovation & Democratic Education (EU-SIDE) project is an initiative within the Erasmus+ Teacher Academies framework, aimed at fostering social innovation competencies among educators across Europe (European Commission, 2024). Social innovation in education is essential to address contemporary societal challenges, such as inclusion, integration, health and well-being, sustainable living, and digitalization. By empowering teachers with the skills necessary to implement democratic and innovative educational practices, the EU-SIDE project seeks to prepare educators to guide students in tackling these complex issues.

The project recognizes the need to establish a European network that promotes international collaboration among teachers, educators, researchers, and decision-makers. This network will facilitate the development of a unified strategy for social innovation education, emphasizing the cultivation of democratic values and social responsibility. One of the primary goals is to create a comprehensive competence framework that aligns with the European values of democracy, human rights, equality, solidarity, and sustainability.

To achieve its objectives, the EU-SIDE project adopts a comprehensive approach that combines research, teacher education training, real-world application, and continuous validation. The project's methodology is grounded in Design-Based Research (DBR), promoting practical, evidence-based strategies for integrating social innovation into educational contexts. Through collaborative training programs, international mobility opportunities, and community-building initiatives, the project aims to establish an international community of practice dedicated to social innovation in education.

Context and definition

Social innovation defined

Social innovation has gained significant prominence since the early 21st century, emerging as a key topic in both academic research and the strategic agendas of global political actors. Its relevance surged particularly after the 2008 economic and financial crisis, which exposed the limitations of traditional economic policy and models in addressing deeply rooted societal issues (Social Innovation Academy, 2020). Since then, social innovation has been increasingly recognized as a vital tool for responding to complex and multifaceted challenges such as climate change, environmental degradation, territorial poverty, and inequality, situated in different areas (OECD, 2021; Social Innovation Academy, 2020). The growing acknowledgment of social innovation's transformative potential has led to its evolution into a dynamic and interdisciplinary field of study, encompassing diverse perspectives and methodological approaches.

Despite the growing body of literature, defining social innovation remains a complex and contested task. Scholars like Stoica (2023) highlight the conceptual ambiguity of social innovation, which stems from its broad scope and its application across varying contexts. Nevertheless, this very complexity underscores its value. Social innovation is not merely a

concept—it is a call for novel approaches to social and political development, and increasingly, for educational reform aimed at equipping future generations with the tools to navigate and transform their societies (Stoica, 2023).

Numerous definitions have been proposed to clarify the essence of social innovation. According to the OECD (2021), social innovation refers to processes and solutions designed to improve the welfare and wellbeing of individuals and communities, particularly by addressing the world's most intractable problems. Caulier-Grice and colleagues (2012) define it more specifically as "new solutions (products, services, models, markets, processes etc.) that simultaneously meet a social need (more effectively than existing solutions) and lead to new or improved capabilities and relationships and better use of assets and resources" (p. 18). Phills and colleagues (2008) further emphasize that the social value created through innovation should benefit society at large, rather than serving primarily private interests. Importantly, these definitions highlight not only the outcome of innovation but also the processes and relationships that drive it.

Social innovation is deeply embedded in specific social, cultural, economic, and political contexts. It is not value-neutral; rather, it is socially and politically constructed (Caulier-Grice et al., 2014). Projects may emerge in response to pressing social needs and often aim to reshape social interactions and structures. As outlined by the European Commission's Bureau of European Policy Advisors (BEPA, 2014), social innovation is inherently concerned with wellbeing, governance, empowerment, and capacity building. It manifests in various forms: new technologies and services, civic participation models, social competences, or legislative changes, all oriented toward systemic improvement.

To better understand the concept, Caulier-Grice, and colleagues (2012) identify key characteristics of social innovation: it is new to the context, improves upon existing practices, can occur across sectors, and includes both content and process dimensions. It also enhances social relations, promotes resilience, and strengthens the socio-political capacities of its beneficiaries. These aspects are essential when exploring innovation within six key thematic areas: inclusion, integration, health and wellbeing, sustainable living, and digitalization for society.

In this report, we adopt the Social Innovation Academy's (SOCIA) (2020) broad yet practical definition: social innovation is **"any innovation that is social in its end or in its means, or simply any working innovative solution to help address a pressing societal challenge."** However, as the field matures, it must move beyond surface-level interventions to prioritize systemic change

and structural transformation. The effectiveness of social innovation lies not in its novelty alone but in its capacity to deliver sustainable, equitable, and inclusive outcomes for all members of society. Central to this transformative potential are the core principles of collaboration, inclusion, adaptability, and sustainability, which guide the development and implementation of meaningful solutions. In this context, education plays a pivotal role in fostering the knowledge, values, and skills necessary to sustain social innovation over time.

Thematic domains in social innovation

Social innovation is a multifaceted and interdisciplinary phenomenon that inherently engages with the social, cultural, political, and economic domains of society. Understanding how these domains interplay provides a comprehensive framework for grasping the scope and impact of social innovation initiatives.

Social domain

Firstly, the social domain forms the core of social innovation efforts (Caulier-Grice et al., 2012). It encompasses the structures and relationships within communities, addressing issues such as inequality, social exclusion, health disparities, and educational inequities. Social innovation aims to enhance the welfare and well-being of individuals and communities by fostering social cohesion, trust, and collaborative agency. By transforming social relations and building networks of solidarity, social innovation contributes to more inclusive and resilient societies. For instance, projects that promote the inclusion of marginalized groups or create community-led health programs actively reshape the social fabric to better meet human needs (European Commission, 2023).

Cultural domain

Closely linked is the cultural domain, which influences the values, norms, traditions, and identities that shape societal behaviour. Social innovation often requires cultural shifts or adaptations to challenge entrenched stigmas, stereotypes, or unsustainable habits (ESFRI, n.d.). Successful social innovations are those that integrate local cultural knowledge and practices, ensuring relevance and acceptance within the target communities. This cultural sensitivity not only enhances the effectiveness of innovations but also respects diversity and empowers marginalized cultural groups. Examples include initiatives that revive indigenous environmental stewardship or foster intercultural dialogue, thereby promoting mutual understanding and social cohesion (Saaida, 2023; Sica et al., 2025; Zheng et al., 2021).

Political domain

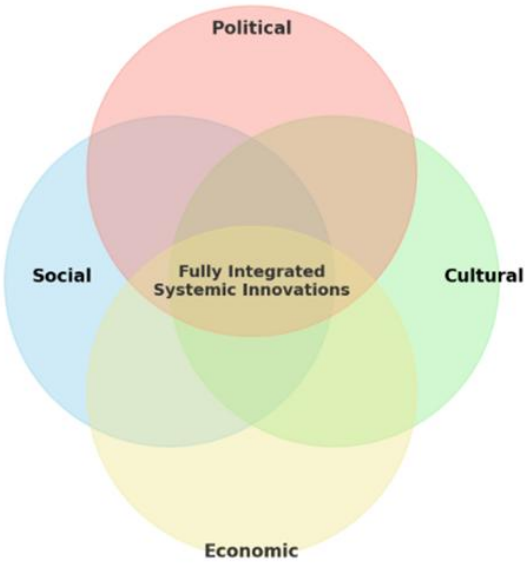
The political dimension is equally vital, as social innovation often intersects with issues of governance, power dynamics, and democratic participation (Caulier-Grice et al., 2012). Effective

social innovation depends not only on politically administered funding (e.g., European Commission, 2013; 2020), but also on institutional openness and active civic engagement, whereby citizens are meaningfully involved in decision-making processes. Such participatory democracy enhances political empowerment, particularly for vulnerable and marginalized groups, enabling them to shape the policies and governance frameworks that impact their lives (Stoica, 2023). Social innovation mechanisms such as participatory budgeting, citizen assemblies, and advocacy networks demonstrate how innovations can drive systemic political change, promote transparency, and enhance institutional trust. By altering power dynamics, social innovation can catalyse reforms that support social justice and equity.

Economic domain

Finally, the economic domain provides the material and structural context within which social innovation operates. Traditional economic models often exclude vulnerable groups or prioritize profit over social welfare. Social innovation challenges these paradigms by promoting alternative economic approaches such as the social and circular economy, fair trade, and social entrepreneurship. By creating new economic opportunities, redistributing resources, and supporting inclusive labour markets, social innovation fosters economic resilience and reduces inequalities. For example, cooperative enterprises that empower disadvantaged communities economically illustrate how social innovation can create sustainable livelihoods while addressing social goals (Cuntz et al., 2020; Social Innovation Academy, 2020).

Importantly, social innovation rarely functions within a single domain in isolation. Instead, it often addresses interconnected challenges that span multiple domains simultaneously.



Venn-diagram illustrating the interconnectedness of social innovation areas

A social innovation project aimed at integrating refugees, for instance, might tackle social inclusion by providing access to services, promote cultural integration through intercultural dialogue, engage politically by advocating for policy changes, and foster economic empowerment through employment and skills development programs. This integrated approach not only addresses immediate needs but also challenges and transforms the systemic barriers underlying social problems.

Stages in social innovation

The Social Innovation Process Model describes how social innovation emerges and develops. It helps to understand the complex steps and dynamics involved in creating innovative solutions to social challenges (Murray et al., 2010). The Social Innovation Process Model is the most widely accepted social innovation framework in Europe. It has gained broad endorsement, ranging from leading social innovation experts (such as Mulgan, 2007; Moulaert, 2019 and Nicholls, 2012) to prominent social innovation organizations (including Nesta, SIX, and The Young Foundation), as well as the European Commission (Social Innovation Academy, 2019).

Although different variations of this model exist, they often share several common stages.

1. Initiation (Problem identification)

In this phase, a social problem is recognized and acknowledged. Stakeholders (such as citizens, social organizations, and governments) identify the need for change. This often occurs through observation, data analysis, or signals from the community.

2. Idea generation (Proposals)

Based on the identified problem, ideas for potential solutions are developed. This can happen individually or collectively and is often stimulated through creative workshops, brainstorming sessions, or co-creation with the community.

3. Prototyping and experimentation

The most promising ideas are transformed into prototypes or pilot projects. This experimental phase focuses on testing feasibility and impact, often in a small-scale setting. The goal is to learn from practice and gather insights into what works and what doesn't.

4. Implementation

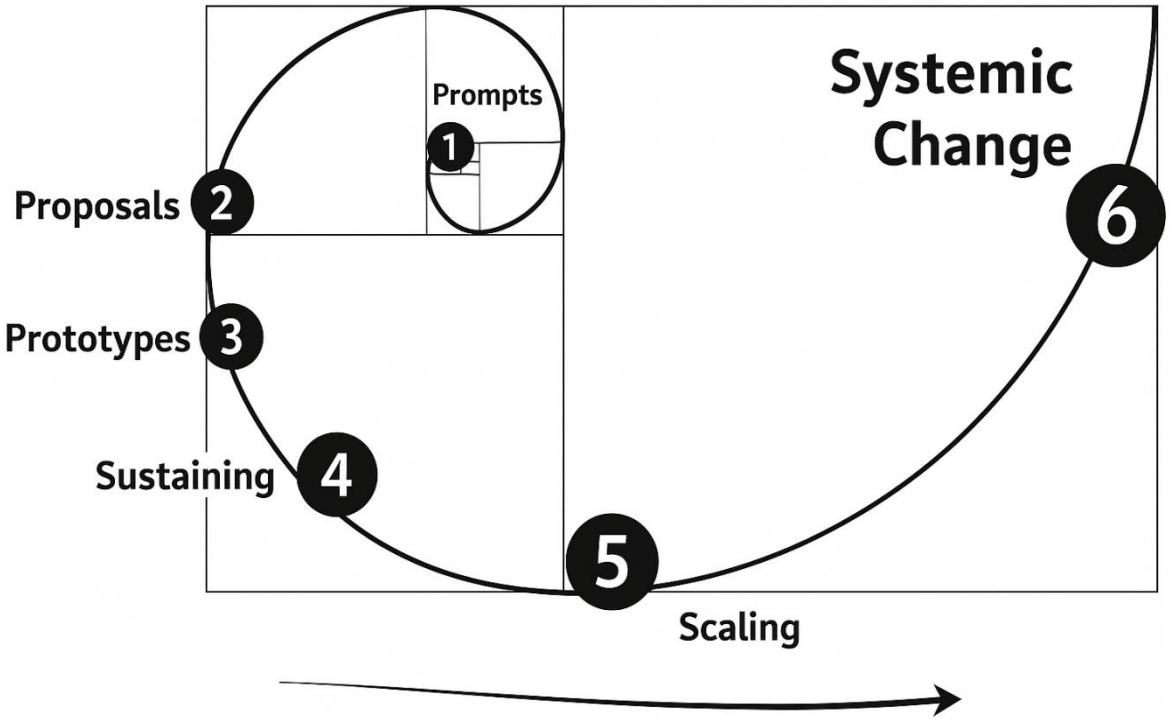
After successful experimentation, the innovation is scaled up and integrated into existing structures. This may involve introducing new policies, securing structural funding for the project, or forming partnerships.

5. Diffusion and scaling

In this phase, the innovation is more broadly disseminated and scaled to other regions, organizations, or sectors. This often requires strong partnerships and a clear strategy to build support.

6. Institutionalization and embedding

The innovation becomes integrated into policies and everyday practices. It becomes an established way of addressing social issues, often requiring policy support, funding, and structural adjustments.



Six stages of Social Innovation (Murray et al., 2010)

The Social Innovation Process Model is not a linear framework. Innovations may revert to earlier stages when new challenges or insights arise. Additionally, the process can vary depending on context, scale, and the actors involved (Murray et al., 2010).

The key challenge for social innovators lies in identifying the most promising ideas to advance to the pilot stage, as well as determining which pilots are most likely to enhance existing practice models. From these pilots, it is crucial to select the projects with the potential to become

sustainable ventures and those ventures that warrant scaling to achieve systemic change (European Commision, 2013).

Areas of social innovation

Social innovation seeks to address complex societal challenges by generating new solutions and transformative practices. In recent years, six key thematic areas have emerged as central to this field: inclusion, integration, health, well-being, sustainable living, and digitalization for the benefit of society. These areas are deeply interconnected and often overlap, with many innovative initiatives engaging with multiple domains simultaneously. Importantly, these thematic priorities are consistently reflected and reinforced in European policy frameworks (e.g., The European Education Area 2025, Council Recommendation on Education for Environmental Sustainability...), which recognize their critical role in promoting sustainable and inclusive societal development.

The following sections will examine each of these six areas in greater detail, drawing on contemporary academic literature and relevant policy documents. In addition, fifty key topics identified by the Social Innovation Academy (SOCIA) Erasmus+ project (2020) will be mapped onto these thematic categories. Each section will also present a representative case study from the countries of the EU-SIDE partners to illustrate how social innovation is applied in practice within each domain.

Inclusion: ensuring equal opportunities

Inclusion in social innovation aims to provide equal access to resources and opportunities for all individuals, regardless of their background, socioeconomic status, or identity. Central to this concept is the reduction of social inequities through initiatives that promote social justice, economic empowerment, and community participation. Projects that focus on inclusion often address systemic barriers that prevent marginalized groups from fully participating in society (Brik & Brown, 2024).

Based on the findings of the SOCIA Erasmus+ project (Social Innovation Academy, 2020b), fifteen pertinent topics can be categorized within the domain of inclusion:

1. Youth unemployment
2. Long-term unemployment
3. Skills mismatch in the labour market

4. Social exclusion of vulnerable groups
5. Child poverty (also relevant to Well-being)
6. Early school leaving (also relevant to Well-being)
7. Gender inequality
8. Work-life balance (also relevant to Well-being)
9. Discrimination and racism
10. Financial inclusion
11. Access to credit for social enterprises
12. Volunteering and social capital (also relevant to Well-being)
13. Civic engagement and active citizenship (also relevant to Integration)
14. Community empowerment and participation (also relevant to Integration)
15. Social entrepreneurship and innovation (also relevant to Sustainable Living)

An illustrative example from both inclusion and digitalization for society in social innovation from Portugal is the “Academia de Código” initiative. This social innovation project offers intensive, free programming bootcamps for unemployed individuals, including those from disadvantaged or marginalized backgrounds. The aim is to empower participants by equipping them with digital skills that increase their employability in the technology sector, a field often perceived as inaccessible to many. By bridging the gap between digital literacy and employment, Academia de Código promotes both economic inclusion and social mobility, making it a strong model of inclusive innovation in practice (Academia de Código, n.d.).

Integration: building cohesive communities

Integration focuses on facilitating the social, economic, and cultural integration of diverse groups within a community and/or demographic location. Social innovation in this area aims to promote intercultural dialogue, enhance social cohesion, and support newcomers, such as migrants and refugees, as they adapt to new environments (European Economic and Social Committee, 2023; European Commission, 2022).

The outcomes of the SOCIA Erasmus+ program (Social Innovation Academy, 2020b) identify ten significant topics of social innovation initiatives within the area of integration:

1. Ageing population and demographic change (also relevant to Health)
2. Integration of migrants and refugees
3. Disability inclusion (also relevant to Health)

4. Access to affordable housing
5. Homelessness (also relevant to Well-being)
6. Rural depopulation (also relevant to Sustainable Living)
7. Urban-rural divide
8. Peace, justice, and strong institutions
9. Trust in institutions (also relevant to Well-being)
10. Crisis preparedness and resilience (also relevant to Health)

A strong example from Ireland is the Nasc Women's Program, developed by Nasc – The Migrant and Refugee Rights Centre. This initiative supports migrant and refugee women in overcoming challenges such as social isolation, language barriers, and limited access to employment or education. The program offers English language classes, personal development sessions, and guidance on practical issues like housing and childcare. Through this accessible and holistic approach, the program not only empowers individuals but also promotes active participation in Irish society (Nasc, n.d.).

Health: enhancing public health outcomes

Social innovation in health seeks to improve public well-being by addressing gaps in healthcare access and delivery. This involves not only enhancing physical health but also incorporating mental health support into community-based care. Initiatives often emphasize preventive care, inclusive health services, and mental well-being as integral parts of public health (Niekerk et al., 2021; Tucker et al., 2022).

From the SOCIA Erasmus+ program (Social Innovation Academy, 2020b), four key topics of social innovation initiatives centred on health can be identified:

1. Health inequalities
2. Access to healthcare services
3. Mental health and well-being
4. Pandemic response and recovery (also relevant to Crisis preparedness in Integration)

A notable example from Finland is the Digital Health Village (*Terveyskylä*), developed by Helsinki University Hospital (HUS). This comprehensive digital platform offers a range of services, including mental health support, to the Finnish population. The platform provides access to information hubs, digital care pathways, and remote consultations, facilitating easy access to

healthcare services from the comfort of one's home. By integrating various healthcare services into a single digital platform, the Digital Health Village enhances the accessibility and efficiency of healthcare delivery, particularly for individuals in remote areas or those with mobility challenges (Helsinki Universital Hospital, n.d.).

Well-being: improving quality of life

Fostering well-being extends beyond physical conditions to include emotional, social, and psychological dimensions. Social innovation in this domain aims to cultivate environments that enhance individual and collective happiness, reduce stress, and encourage active and meaningful engagement within communities (Mafra et al., 2024; Galdini & De Nardis, 2023).
Drawing on the findings of the SOCIA Erasmus+ project (Social Innovation Academy, 2020b), nine relevant topics can be classified within the domain of well-being:

1. Work-life balance (listed under Inclusion)
2. Homelessness (listed under Integration)
3. Child poverty (listed under Inclusion)
4. Early school leaving (listed under Inclusion)
5. Volunteering and social capital (listed under Inclusion)
6. Trust in institutions (listed under Integration)
7. Community empowerment and participation (listed under Inclusion)
8. Civic engagement and active citizenship (listed under Inclusion)
9. Access to quality education

A strong European example of social innovation focused on well-being is Banco del Tiempo (Time Bank) in Madrid, Spain. This initiative enables people to exchange services using time as currency, such as trading an hour of tutoring for an hour of gardening. It fosters emotional and social well-being by building community ties, reducing isolation, and valuing everyone's contributions equally. Participants gain a sense of purpose and support while easing financial stress through mutual aid. The model has been successfully replicated in other cities, demonstrating its potential to enhance quality of life through inclusive, community-driven exchange (City Council of Madrid, n.d.).

Sustainable living: promoting environmental responsibility

Sustainable living within social innovation emphasizes the development of resilient communities that actively seek to live within ecological boundaries while ensuring social and economic well-being. Initiatives in this area aim to reduce environmental impact by implementing green infrastructure solutions, such as urban gardens, renewable energy systems, and sustainable transportation networks. Furthermore, these projects promote the circular economy by encouraging resource efficiency, waste reduction, and product life extension. Efforts also focus on fostering sustainable consumption patterns through education, behavioural change, and community engagement, thereby supporting long-term environmental stewardship and social equity (Aeiforia Architects, n.d.; Govigli, 2022; Ravazolli et al., 2021).

Based on the findings of the SOCIA Erasmus+ project (Social Innovation Academy, 2020b), ten pertinent topics can be categorized within the domain of sustainable living:

1. Sustainable urban development
2. Environmental sustainability
3. Climate change adaptation and mitigation
4. Circular economy and resource efficiency
5. Food security and sustainable agriculture
6. Water scarcity and management
7. Energy poverty
8. Renewable energy transition
9. Sustainable mobility and transport
10. Air quality and pollution

A clear example of social innovation promoting sustainable living is the Repair Café movement, which originated in the Netherlands and has expanded throughout Europe. This initiative organizes community events where people bring broken household items to be repaired for free by volunteers with relevant skills. By encouraging repair rather than disposal, the project actively reduces waste, lowers ecological footprints, and supports the principles of the circular economy. Beyond its environmental benefits, Repair Cafés foster social cohesion by creating spaces for knowledge sharing, skill-building, and intergenerational collaboration. Through this grassroots approach, the movement not only promotes more responsible consumption patterns but also strengthens community resilience and collective empowerment, making it a powerful example of sustainable living in practice (Repair Café International, n.d.).

Digitalization for society: bridging the digital divide

Digitalization as a domain of social innovation plays a crucial role in fostering inclusivity and enhancing social outcomes through the strategic use of technology. It encompasses efforts to promote digital literacy, broaden access to digital tools, and improve the efficiency and accessibility of public services. Crucially, this approach seeks to empower marginalized groups—including the elderly, migrants, and low-income individuals—by equipping them with the skills and resources necessary to participate fully in the digital society (Qureshi, 2021; Safarov, 2021). In doing so, digitalization contributes to reducing inequality, strengthening social cohesion, and creating more responsive, citizen-centred systems. As emphasized by the Social Innovation Academy (2020), social innovation must embrace digital transformation not as an optional enhancement but as a foundational element. Leveraging new technologies is essential for building more inclusive, adaptive, and resilient societies in an increasingly connected world.

Two key topics of social innovation initiatives related to digitalization for society can be identified from the SOCIA Erasmus+ program (Social Innovation Academy, 2020b):

1. Digital divide and digital literacy
2. Media literacy and misinformation

A strong example within this area from Belgium is Digital For Youth, a non-profit initiative founded by Close the Gap and DNS Belgium. The project collects used laptops from businesses, securely wipes and refurbishes them, and distributes them to schools and youth organizations that support underprivileged young people. By providing access to digital devices and occasionally organizing digital skills training, DigitalForYouth.be ensures that thousands of young people are not excluded from education or digital participation due to a lack of resources. The initiative gained national visibility during the COVID-19 pandemic, when the need for digital inclusion in education became even more urgent, and it continues to play a vital role in bridging the digital divide in Belgium (Digital For Youth, n.d.).

Interconnectedness of the areas of social innovation

While each area of social innovation targets specific challenges, they are inherently interconnected. For example, promoting digital literacy not only fosters inclusion but also supports integration by enabling newcomers to access digital services (Similarly, sustainable urban projects can enhance well-being by creating greener, healthier living environments (e.g. Safarov, 2021; Ravazolli et al., 2021). This is further evidenced by the substantial overlap of numerous social innovation topics across multiple areas identified in the SOCIA Erasmus+ project (Social Innovation Academy, 2020b).

To maximize social impact, innovative initiatives often integrate multiple focus areas into comprehensive approaches. Policymakers and practitioners in all fields, including education, must recognize these interdependencies to develop holistic solutions that address the complexities of modern social challenges (Goodyear, 2022; Social Innovation Academy, 2019).

European policy frameworks

To develop a comprehensive, Europe-wide competence framework aimed at promoting social innovation in education, it is essential to incorporate the fundamental principles outlined in existing European policy frameworks related to social innovation. Numerous EU policies contribute to the advancement of social innovation indirectly by fostering cross-sector collaboration, sustainable development, digital inclusion, entrepreneurship, and social cohesion. Increasingly, social innovation is recognized as a transversal dimension that permeates a broad range of policy areas, rather than being confined to a single, isolated framework.

In 2013, the European Union introduced the *EU Social Innovation Strategy*, which emphasizes the role of innovations that pursue social goals through the transformation of social relations, behaviours, or systems (European Commission, 2013). The strategy promotes the integration of social innovation into the development of public policies and service delivery models, aiming to foster a culture of innovation within public administrations. It underscores the significance of multi-stakeholder collaboration, engaging governments, businesses, academia, and civil society, to co-create effective responses to complex social challenges. Furthermore, the strategy advocates enhanced measurement and dissemination of social innovation outcomes to support knowledge exchange and replication across Europe (European Commission, 2013). The Social Innovation Strategy served as a starting point for the development of numerous subsequent policy frameworks, strategies, funding, and action plans focused on social innovation.

The *European Social Fund Plus (ESF+)* serves as the European Union's primary financial instrument for investing in people, aiming to promote employment, social inclusion, education, and skills development (European Commission, 2020b). A significant facet of ESF+ is its emphasis on social innovation, particularly through the *Social Innovation+ initiative*, which supports transnational projects that develop, replicate, and scale up innovative solutions to societal challenges (European Commission, 2020c). This initiative fosters mutual learning, capacity building, and networking among stakeholders, thereby enhancing the effectiveness and reach of social innovation across Member States. By supporting the creation of National

Competence Centers for Social Innovation, ESF+ facilitates the integration of innovative practices into national and regional contexts, aligning with the EU's broader objectives of fostering a more inclusive and equitable society (European Commission, 2020c).

Complementing the ESF+, the European Pillar of Social Rights outlines 20 key principles aimed at delivering new and more effective rights for citizens, focusing on equal opportunities, fair working conditions, and social protection and inclusion. These principles are: education, training and life-long learning; equal treatment between women and men; equal opportunities; help to get a job; work that is flexible and lasts for a long time; pay; clear information about your job; listening to workers; work-life and home-life; health and safety; childcare and support to children; protection from being very poor; unemployment benefits; people who don't have enough money; old age pensions; healthcare; people with disabilities; long-term care; housing; and basic services. These principles serve as a guiding framework for the EU's social policy agenda, emphasizing the importance of quality education, active support for employment, and access to essential services. Social innovation plays a pivotal role in actualizing these principles by developing and implementing novel solutions that address complex social issues, thereby enhancing the well-being of European citizens. Through initiatives supported by ESF+, social innovation contributes to the realization of the Pillar's objectives, fostering a more cohesive and resilient European social landscape (European Commission, 2023).

Within the area of social innovation in health, the European Innovation Partnership on Active and Healthy Ageing (EIP on AHA) stands out as a flagship initiative addressing the increasing challenges posed by Europe's aging population. This partnership fosters social innovation by facilitating collaboration among healthcare providers, technology firms, researchers, policymakers, and user groups to develop innovative solutions that empower older adults to live independently, maintain good health, and engage actively in society. The EIP on AHA supports projects that integrate digital health technologies with social care innovations, including novel service models and community-based interventions, with the dual aim of enhancing quality of life and reducing healthcare expenditure (European Commission, 2015).

Linked to the areas of integration, well-being and sustainable living in social innovation, the *European Urban Agenda* fosters collaboration between cities, member states, and the European Commission to address urban challenges in a coordinated manner. Recognizing the critical role of cities as innovation hubs, the agenda promotes social innovation to improve social cohesion, housing affordability, and access to quality public services. It encourages cities to develop

integrated, people-centred approaches that combine social, economic, and environmental objectives. Through thematic partnerships and knowledge sharing, the Urban Agenda helps scale up successful social innovation practices to enhance urban resilience and inclusivity (European Commission, n.d.).

At the core of the sustainable living area and closely connected to health, the *European Green Deal* represents the EU's flagship strategy, aiming to make Europe the world's first climate-neutral continent by 2050 (European Council, 2025). While its primary focus is environmental sustainability and combating climate change, the Green Deal strongly encourages social innovation as part of the transition to a green economy. It supports new social and business models such as circular economy initiatives, community energy projects, and sustainable urban development that integrate social inclusion. The Green Deal emphasizes a just transition, ensuring that social innovation helps mitigate the social impacts of economic and environmental transformation by creating new jobs and opportunities for vulnerable populations (European Council, 2025).

Policy frameworks with a specific focus on education

In recent years, the European Union has increasingly recognized the need to align education policy with broader societal challenges, such as sustainability, digital transformation, and social inclusion. Through a range of strategic frameworks and recommendations, the EU outlines its vision for a future-oriented education system that fosters active citizenship, lifelong learning, and cross-sector collaboration. Social innovation serves as a critical lens through which these policy efforts can be interpreted. By examining selected EU policy documents, this section explores how educational priorities at the European level intersect with and support socially innovative practices, highlighting the potential of education as a driver of systemic change.

The *Council Recommendation on Education for Environmental Sustainability* (Council of the European Union, 2022) underlines the importance of investing in education for environmental sustainability and interconnecting learning across the environmental, economic, and social pillars of sustainable development. This aligns closely with the goals of social innovation, which often involves developing participatory, community-driven solutions to environmental challenges. Social innovation in education can support this recommendation by fostering innovative learning environments, promoting cross-sector collaboration, and encouraging active citizenship in pursuit of ecological and social well-being.

The *Council Conclusions on European Teachers and Trainers for the Future* (Council of the European Union, 2020) emphasize the pivotal role of educators in shaping inclusive, equitable, and forward-looking education systems. By advocating for continuous professional development, cross-sector collaboration, and the integration of innovative pedagogies, these conclusions align closely with the principles of social innovation. Social innovation in education seeks to develop and implement novel solutions to address complex societal challenges, such as educational inequality and the need for lifelong learning. The Council's focus on empowering teachers and trainers to adapt to societal changes and to foster active citizenship directly supports the advancement of socially innovative practices within educational settings.

The *European Digital Education Action Plan (2021–2027)* (European Commission, 2021) outlines a strategic vision for high-quality, inclusive, and accessible digital education across Europe. It emphasizes the development of a robust digital education ecosystem and the enhancement of digital skills and competences for the digital transformation. Social innovation plays a crucial role in realizing this vision by fostering novel solutions to address societal challenges in education. It encourages the co-creation of innovative teaching methods, promotes inclusive access to digital learning resources, and supports the development of digital competences among educators and learners. By integrating social innovation, the Action Plan aims to ensure that digital education initiatives are not only technologically advanced but also socially responsive and equitable.

The *EU Work Plan for Education and Training (2021–2030)* (Council of the European Union, 2021) provides a strategic framework to enhance education systems across Europe by focusing on five key priorities: improving quality, equity, and inclusion; promoting lifelong learning and mobility; enhancing educator competences and motivation; strengthening higher education; and supporting green and digital transitions. This Work Plan aligns closely with social innovation by encouraging novel and inclusive approaches that address complex societal challenges. Through fostering inclusive education systems and integrating sustainability and digital technologies, the Plan promotes social cohesion, active citizenship, and empowers learners to contribute to transformative societal change. In this way, the EU Work Plan serves as a catalyst for social innovation within education and training throughout Europe.

Collectively, these EU policy frameworks underscore a growing commitment to transforming education in ways that reflect the core principles of social innovation: collaboration, inclusion, adaptability, and sustainability. Whether through empowering educators, integrating environmental and digital dimensions, or promoting equity and lifelong learning, these policies

lay the groundwork for education systems that are both resilient and responsive to societal needs. By embedding social innovation into education policy and practice, the European Union not only addresses immediate educational goals but also contributes to broader socio-economic transformation across Europe.

Social innovation in education

Although social innovation is an emerging area of interest in both policy and research, as evidenced by the analysis of European policy frameworks above, it remains underrepresented within the formal education sector. Research conducted by the Social Innovation Academy (2020) underscores that education has yet to assume a central role in the broader discourse on social innovation. Nevertheless, the same research emphasizes the crucial role of education in developing the competencies and skills necessary for fostering social innovation across society. To effectively integrate social innovation into education, differentiated strategies are required for various educational levels; primary, secondary, and higher education alongside non-formal educational environments.

Democratic education as a driver of social innovation

Although many social innovations originate outside the traditional educational sphere, educational institutions can serve as key drivers of social transformation. Goodyear (2022) notes that students and staff in education are often actively involved in initiating or sustaining social innovation projects. Education not only serves as a site of knowledge generation but also as facilitator of community engagement and interdisciplinary collaboration, offering a fertile ground for the co-creation of solutions to social challenges.

Within this context, democratic education plays a crucial role. Democratic education emphasizes active citizenship, critical thinking, and collective decision-making, competencies essential for fostering social innovation. It creates learning environments where students are encouraged to question dominant paradigms, engage in dialogue, and co-create knowledge with peers, teachers, and the broader community (Sibett, 2022). By promoting shared responsibility, equity, and inclusion in educational settings, democratic education aligns closely with the principles of social innovation. It provides students not only with academic knowledge but also with the civic mindset and participatory skills needed to address complex societal issues (Biesta, 2006; Sant, 2019).

Participatory democracy further enhances this dynamic. Research indicates that social innovation is particularly effective in contexts where citizens actively participate in political processes—an essential characteristic of participatory democracy (Stoica, 2023). In European

countries with higher levels of participatory democracy, social innovation tends to thrive. Mechanisms such as participatory budgeting, citizen assemblies, and community-led initiatives empower individuals to take part in shaping public policies and resource allocation. Involving citizens directly not only leads to more contextually relevant and sustainable solutions but also fosters institutional responsiveness and trust. Educational settings that integrate these democratic practices—through student governance models, service learning, and collaborative projects—can cultivate future generations equipped to lead transformative social change. Thus, democratic education, supported by a culture of participatory democracy, becomes a foundation for embedding social innovation into the fabric of society. It nurtures the values, attitudes, and practices necessary for inclusivity, resilience, and justice (Choi & Cristol, 2021; Dacombe, 2021).

Fostering social innovation in education demands a rethinking of the very spaces and practices through which learning occurs. As education increasingly responds to societal complexities, learning environments must become spaces of collaboration, care, and critical engagement. To effectively prepare learners for social innovation in practice, three key elements must be considered: the language, concepts and curriculum development, the learning spaces and pedagogical practices, and the alignment of these practices with the developmental stages of learners. The following section explores how these elements can be addressed.

Curriculum development

A robust conceptual foundation is fundamental to advancing social innovation within educational contexts. Establishing a shared language and a coherent theoretical framework enables educators, researchers, and policymakers to engage in meaningful dialogue around social innovation practices, fostering clarity and consistency in both discussion and implementation. Research on teaching and learning environments plays a critical role in this process by offering evidence-based insights and models that inform how social innovation can be effectively integrated into educational settings (Goodyear, 2022).

Such conceptual groundwork is especially vital when curricula are adapted to address the increasingly complex and interconnected global and societal challenges faced by contemporary learners. These challenges demand educational responses that transcend traditional disciplinary boundaries and knowledge transmission. Consequently, curriculum redesign efforts must consciously incorporate participatory and justice-oriented design principles. These

principles emphasize inclusivity, collaboration, and critical engagement, ensuring that learning experiences foster not only intellectual growth but also social awareness and ethical reflection (Dombrowski et al., 2026; Reyna, 2022).

Embedding social innovation values within curricula involves more than revising content; it necessitates rethinking pedagogical approaches, assessment methods, and the very aims of education (Alden Rivers et al., 2015). By integrating concepts such as equity, sustainability, and democratic participation, educational programs can cultivate learners who are not only technically competent but also socially responsible and ethically informed. This holistic preparation empowers learners to function as engaged citizens and innovators capable of contributing thoughtfully to societal transformation (de Vere & Charny, 2017).

Learning spaces and pedagogical practices

To effectively nurture social innovation, learning environments must undergo a fundamental transformation. It is no longer sufficient to treat these spaces as neutral containers for content delivery; instead, they must be understood as active, relational contexts that shape the ways in which learners engage with knowledge, with one another, and with the world. From a post digital and postcritical perspective, this reimagining calls for environments, both physical and virtual, that are intentionally designed to foster collaboration, critical reflection, and mutual care (Alden Rivers et al., 2015; Social Innovation Academy, 2019, 2020)

Such learning spaces should not only support the acquisition of knowledge but also cultivate the capacities necessary for addressing complex social challenges. These include the ability to work across disciplines, to engage empathetically with diverse perspectives, and to participate meaningfully in collective problem-solving (Schröer, 2021). Whether situated in a traditional classroom, a digital platform, or a community-based setting, the design and use of these spaces must embody the core values of social innovation: equity, justice, and sustainability (Otten et al., 2022; Social Innovation Academy, 2020).

Pedagogical practices within these spaces play a crucial role in reinforcing these values. Educators are called upon to function as facilitators of participatory, inquiry-based learning, rather than transmitters of fixed content. This involves creating a culture of trust and openness, where students are encouraged to question assumptions, challenge dominant narratives, and co-create knowledge in dialogue with others. In doing so, learning environments become not just

places of instruction, but incubators for transformative social change (Goodyear, 2022; McDonnell-Naughton & Păunescu, 2022; Schröer, 2021).

Differentiated approaches by educational level

Effective cultivation of social innovation requires educational approaches that are tailored to the developmental stages and capacities of learners across different age groups. In primary education, the foundations are laid through the development of social and emotional skills such as empathy, cooperation, and basic problem-solving. Age-appropriate project work, collaborative play, and community-oriented activities help children explore social issues in ways that feel concrete and connected to their everyday experiences. These early encounters nurture curiosity, a sense of fairness, and the first seeds of agency that will grow throughout later schooling (Coma-Roselló, 2022).

As students transition into lower secondary education, they are ready for more structured project-based learning that deepens teamwork, critical thinking, and creativity. At this stage, learners benefit from guided opportunities to investigate real-world problems in their school or community, applying emerging skills in communication and inquiry. This provides a gradual bridge from concrete experiences toward more abstract thinking about societal challenges.

In the upper years of secondary education and VET, students are increasingly capable of engaging with complex, interdisciplinary challenges. Pedagogical emphasis can shift towards critical inquiry, systems thinking, and collaborative problem-solving. Learners at this level can co-design interventions with peers, teachers, and community stakeholders, gaining practical experience in implementing and reflecting on change processes (Maynard, 2023). In vocational contexts, these activities also provide authentic, practice-oriented opportunities to link social innovation directly to professional skills and future employment pathways.

To embed social innovation meaningfully across primary, secondary, and VET contexts, a differentiated, developmentally grounded approach is essential. While younger learners need structured support and tangible entry points, older learners thrive when challenged to think systemically, act collaboratively, and reflect on their impact. Education systems can support this progression by equipping educators with adaptable tools, fostering cross-level knowledge exchange, and promoting reflective teaching practices. In this way, schooling from the early years through to VET can become a powerful catalyst for social innovation, preparing young people of all ages to contribute to more inclusive and sustainable futures.

Competences for social innovation

Social innovation has emerged as a critical approach to addressing complex societal challenges that traditional methods have failed to resolve effectively (Halpaap et al., 2020) that ask for specific competences. As governments, organizations, and communities increasingly recognize the need for innovative solutions to social problems, understanding the competencies required for successful social innovation becomes paramount (European Social Fund Plus, 2025). In this part of the desk research report we further focus on the specific competencies needed for social innovation, focusing on the previously outlined six key areas that reflect contemporary societal priorities: inclusion, integration, health, well-being, sustainable living, and digitalization for society. However, despite the growing recognition of the importance of these competencies, a clear articulation of how they are developed and embedded within education and training systems remains underexplored. This knowledge gap highlights the need for stronger links between educational provision and the competence demands of social innovation in practice.

The concept of social innovation encompasses various approaches to creating positive social change through new products, services, processes, or organizational models (SIHI, 2025). Unlike traditional innovation focused primarily on economic returns, social innovation emphasizes social value creation and systemic change (Belgian Social Security, 2025). This dual focus requires a unique set of competencies that combine entrepreneurial skills with deep social awareness and collaborative abilities (Buapetch et al., 2022). Nevertheless, a comprehensive competence framework for social innovation has not yet been established, and addressing this gap constitutes a central objective of the EU-SIDE project.

In the following sections, insights regarding social innovation competencies are reported. Beginning with an overview of relevant European frameworks and research projects. We then synthesize the results of a literature review on competences for social innovation. The six key areas identified earlier serve as an organizing framework for structuring and reporting these findings.

European competence frameworks

The following section provides a summary of relevant European competence frameworks related to social innovation competencies. A review of these frameworks reveals a consistent structure in which general topics are linked to specific competences. In two of the three frameworks, scales are included to indicate the degree of competence acquisition. Given that this project, EU-SIDE, will be implemented across the broad educational spectrum it may be

beneficial to also define competence scales tailored to the intended target groups.

EntreComp: The Entrepreneurship Competence Framework

EntreComp (2016) is the European reference framework for entrepreneurial competences. It defines entrepreneurship as the ability to turn opportunities and ideas into value for others, whether this value is financial, cultural, or social. This framework conceptualizes entrepreneurship as a lifelong competence and provides a common language and structure to support entrepreneurship education in education, work, and broader society.

EntreComp is organized around three main domains:

- Ideas and opportunities (e.g., creativity, vision, ethical and sustainable thinking)
- Resources (e.g., self-awareness, motivation, financial and material resources)
- Into Action (e.g., taking initiative, collaboration, learning through experience)

Each main domain comprises five underlying competences.

1. Ideas and opportunities
   - Spotting opportunities: Recognizing and seizing opportunities.
   - Creativity: Thinking creatively and generating new ideas.
   - Vision: Developing a clear vision for the future.
   - Valuing ideas: Assessing and defending the value of ideas.
   - Ethical and sustainable thinking: Applying ethical and sustainable thinking in decision-making.
2. Resources
   - Self-awareness and self-efficacy: Knowing your own strengths and weaknesses and believing in your abilities.
   - Motivation and perseverance: Staying motivated and persevering in the face of setbacks.
   - Mobilizing resources: Engaging people, resources, and networks.
   - Financial and economic literacy: Applying financial insight and economic knowledge.
   - Mobilizing others: Convincing, inspiring, and mobilizing others.
3. Into Action
   - Taking the initiative: Taking initiative and seizing opportunities.

- Planning and management: Planning and organizing purposefully.
- Coping with uncertainty, ambiguity, and risk: Dealing with uncertainty and risks.
- Working with others: Collaborating in diverse teams.
- Learning through experience: Learning from personal experiences and reflection.

EntreComp proposes eight proficiency levels with concrete learning outcomes. These levels describe how one can develop from beginner to expert in entrepreneurial competences, structured around four main phases (Foundation, Intermediate, Advanced, Expert), each split into two sub-levels. Each level indicates the degree to which someone can independently, responsibly, and impactfully create value.

At the first proficiency level, the learner begins to create value under supervision, focusing on discovering personal qualities, recognizing simple problems, and developing basic skills. At the second level, the learner independently explores various ways to address problems, still with some support, with social skills and collaboration becoming more prominent.

From the third level, independence grows. The learner experiments with turning ideas into value, dares to think critically, and learns from experiences, often in collaboration with others. At the fourth level, the learner takes the initiative to implement ideas, takes responsibility for outcomes, and learns to handle risks and uncertainties. From the fifth level, the learner becomes more skilled at realizing ideas, with increased attention to improving processes, deepening knowledge, and taking responsibility for value creation. The sixth level is characterized by effective collaboration with others and managing increasingly complex challenges, with responsibility for collective results and mobilizing resources.

The final two levels focus on expertise and innovation. At the seventh level, the learner develops competences to tackle complex challenges in a changing and uncertain environment, actively contributing to developments within their field or organization. At the eighth and most advanced level, the learner addresses groundbreaking challenges, develops new knowledge and practices, and drives transformation within and beyond their context, with significant and often pioneering impact.

This structure enables the stepwise development of entrepreneurial competences, from initial awareness and action to leadership and innovation with broad impact. EntreComp is flexible

applicable in both formal and informal learning, from primary education to the business sector, especially due to its eight proficiency levels: from beginner to expert, with concrete learning outcomes per level.

DigComp: The Digital Competence Framework

DigComp (2022) is the European framework for citizens' digital competences. It provides a common reference framework to define, measure, and develop digital skills. This framework supports policymakers, educational institutions, and citizens in promoting digital literacy and aligns with the rapidly changing digital society.

DigComp is divided into five competence domains:

- Information and data literacy
- Communication and collaboration
- Digital content creation
- Safety (including privacy, well-being, and environmental awareness)
- Problem-solving

Within these domains, 21 specific competences are defined.

1. Information and Data Literacy
   - Browsing, searching, and filtering data: Effectively searching and filtering digital information.
   - Evaluating data, information, and digital content: Assessing reliability and relevance.
   - Managing data, information, and digital content: Organizing and storing digital data.

2. Communication and Collaboration
   - Interacting through digital technologies: Communicating via digital channels.
   - Sharing through digital technologies: Sharing information and content.
   - Engaging in citizenship through digital technologies: Participating digitally in society.
   - Collaborating through digital technologies: Collaborating with digital tools.
   - Netiquette: Demonstrating appropriate online behavior.
   - Managing digital identity: Managing and protecting digital identity.

3. Digital Content Creation

- Developing digital content: Creating and editing digital content.
- Integrating and re-elaborating digital content: Combining and reusing content.
- Copyright and licenses: Respecting copyright and licenses.
- Programming: Applying basic programming principles.

4. Safety

- Protecting devices: Protecting devices from threats.
- Protecting personal data and privacy: Safeguarding privacy and personal data.
- Protecting health and well-being: Ensuring digital well-being and health.
- Protecting the environment: Using digital technology with environmental awareness.

5. Problem-Solving

- Solving technical problems: Resolving technical issues.
- Identifying needs and technological responses: Recognizing needs and finding appropriate digital solutions.
- Creatively using digital technologies: Using digital technology creatively.
- Identifying digital competence gaps: Assessing where digital skills can be improved.

Digicomp defines eight proficiency levels, ranging from beginner to expert, each accompanied by concrete learning outcomes. The progression moves from basic skills (1–2), through independent work (3–4), to advanced application (5–6), and highly specialized innovation (7–8). These levels are aligned with both European and Dutch qualification frameworks.

The first proficiency level of DigComp is characterized by the performance of simple digital tasks under direct supervision. At this level, the user of digital technology can carry out basic actions when clear instructions are provided, such as opening a file or following a simple online search. At the second level, a solid foundation is established: the user can independently perform simple digital tasks after they have been explained. There remains an element of routine and familiarity, but the user is able to search for basic information or engage in simple digital communication without ongoing support.

The third level marks the transition to a more independent use of digital technology. Here, the user can independently solve general digital problems and adapt their behavior when new digital

challenges arise. Examples include choosing appropriate digital tools for a specific purpose or independently finding solutions to minor technical issues.
At the fourth level, the user deepens their digital competences. There is evidence of a thorough understanding and the ability to solve complex digital problems. The user can guide others, for instance by explaining digital processes or collaborating on digital projects.

The fifth level marks the beginning of advanced proficiency. The user possesses digital leadership skills and can systematically transfer knowledge to others. This is reflected, for example, in organizing training sessions or coordinating digital projects within an organization.

The sixth level is specialized: the user can lead complex digital projects in changing contexts and utilizes advanced digital tools. At this stage, the user is expected to develop and implement digital strategies, for example in digital transformation processes.

At the seventh level, the user is highly specialized and strategic. This involves creating innovative digital solutions that are relevant to their field or organization. The user applies state-of-the-art knowledge and develops new digital practices.

The eighth and highest level is characterized by innovation and leadership in digital competences. The user develops groundbreaking knowledge, leads research or large-scale digital innovation, and contributes to the development of the field or sector as a whole. The impact at this level is broad and pioneering, with a clear role as a pioneer and source of inspiration for others.

The DigComp framework not only provides a clear and structured overview of digital competences but also serves as a developmental model through which citizens can systematically enhance their digital skills. By combining comprehensive competence areas with differentiated proficiency levels, DigComp proves highly applicable across various domains—ranging from education and policymaking to professional practice and individual development. In an era where digital literacy is a prerequisite for full participation in society, DigComp functions as a vital reference point for strengthening digital resilience and promoting inclusivity across Europe.

GreenComp: The European Sustainability Competence Framework

GreenComp (2022) is the European reference framework for sustainability competences, developed as part of the European Green Deal. Its aim is to foster the knowledge, skills, and attitudes necessary for a sustainable society and economy. This framework emphasizes the importance of a holistic, systems-oriented, and action-oriented approach to sustainability. GreenComp comprises four competence domains:

- Embodying sustainability values (values, justice, nature)
- Embracing complexity in sustainability (systems thinking, critical thinking, problem framing)
- Envisioning sustainable futures (futures literacy, adaptability, exploratory thinking)
- Acting for sustainability (political and social engagement, collective action, individual initiative)

Within these areas, 12 specific competences are defined.

1. Embodying Sustainability Values
   - Valuing sustainability: Valuing and pursuing sustainability in choices and behaviour.
   - Supporting fairness: Promoting justice and inclusion.
   - Promoting nature: Encouraging respect and care for nature.
2. Embracing Complexity in Sustainability
   - Systems thinking: Understanding how systems are interconnected.
   - Critical thinking: Thinking critically about sustainability issues.
   - Problem framing: Clearly defining sustainability problems and challenges.
3. Envisioning Sustainable Futures
   - Futures literacy: Imagining different future scenarios.
   - Adaptability: Responding flexibly to changes and uncertainties.
   - Exploratory thinking: Thinking curiously and openly about possible solutions.
4. Acting for Sustainability
   - Political agency: Acting politically and socially engaged.
   - Collective action: Collaborating on sustainable solutions.

- Individual initiative: Demonstrating sustainable behaviour independently and inspiring others.

In conclusion, the EntreComp, DigComp, and GreenComp frameworks offer valuable insights into the design and structure of competence models relevant to social innovation. Each framework presents a clearly defined set of competence domains, specific learning outcomes, and two of the models provide progressive proficiency levels, making them highly adaptable across diverse educational contexts. Their structured approach—linking broad thematic domains to concrete competences and scalable proficiency levels—provides a strong methodological foundation for the development of a framework on social innovation competences applicable in educational context. Given the EU-SIDE project's wide scope across all levels of education, these frameworks demonstrate the importance of contextual flexibility, lifelong learning perspectives, and measurable outcomes. They also underscore the need for integrating transversal skills, such as collaboration, critical thinking, ethical awareness, and digital literacy, into social innovation education. Building on these existing models, it will enable us to construct a robust, context-sensitive competence framework that supports the development of social innovation capabilities for the intended target groups.

Building social innovation competencies

Drawing from recent findings from academic literature (2015-2025), this research identifies both basic competencies essential for developing a social innovation mindset and advanced competencies for implementing and scaling social innovations. The literature was systematically selected through searches in major scholarly databases, including Scopus, Web of Science, and Google Scholar, using keywords such as "social innovation competencies," "social innovation education," and "democratic education" with a focus on peer-reviewed journal articles, book chapters, and high-impact conference proceedings. These competencies encompass cognitive, interpersonal, and technical dimensions that enabling individuals and organizations to address complex societal challenges through innovative approaches. Understanding and categorizing these competencies is crucial for designing educational and professional development programs that prepare social innovators to respond effectively to contemporary social issues.

For The following categorization of competencies adopts a two-tier structure distinguishing basic competencies that enable individuals to adopt a social innovation approach, and advanced competencies that facilitate effective implementation within specific areas. This framework aligns with recent developments in competency-based education and training for social

innovation.

Basic competencies for social innovation

Research has identified several basic competencies associated with social innovation. The following section delineates these core competencies, which the literature typically categorizes into three domains: cognitive abilities, interpersonal and communication skills, and professional attributes.

Core Cognitive Competencies

Research identifies several fundamental cognitive competencies essential for social innovation.

Creative thinking emerges as the most frequently mentioned competency, enabling innovators to generate novel solutions to complex social problems (SIHI, 2025). Creative thinking is traditionally described as the ability to detect previously unidentified relationships and produce novel and original experiences as a new pattern (Davut, 2008). A recent update to this definition considers creative thinking the skill to generate, evaluate and improve thought that can bring about novel solutions, promotion of knowledge and influential expressions of imagination (OECD, 2019). This involves the ability to combine multiple perspectives and generate new ideas that address root causes rather than symptoms (De La Cruz et al., 2024).

System thinking represents another crucial cognitive competency, allowing social innovators to understand complex interdependencies within social systems (European Education Research, 2024). This competency enables practitioners to identify leverage points for intervention and anticipate potential unintended consequences of their innovations. Key subskills of systems thinking include: 1) identifying or constructing multiple relevant elements 2) recognizing or constructing relationships and 3) Analysing or constructing a system including both first- and second order structures (Wang, 2025). Recent studies emphasize the importance of combining micro and macro perspectives to grasp complexity effectively (OECD, 2025).

Critical thinking and analytical skills form the foundation for evidence-based social innovation. These competencies enable social innovators to evaluate existing solutions, assess needs accurately, and design interventions based on sound evidence (Ayala et al., 2024). The ability to critically analyse social problems and potential solutions is essential for developing effective and sustainable interventions.

Within critical thinking we can distinguish subskills. From a literature review of twenty-nine academic articles, Ayala and colleagues (2024) distinguish six subskills:

- Argumentation: Defending the allegation of one's position, listening to, analysing, and evaluating other people's claims to respond to them and make conclusions. Argumentation is a vital subskill of critical thinking. Argumentation involves constructing and evaluating arguments, which are logical and evidence-based justifications for a particular claim or position (Noroozi, 2023; Yulian, 2021).

- Interpretation: Be able to categorize, decode significance, clarify the meaning of situations, phenomena, experiences, rules, and procedures, and communicate that information to others. It involves analysing and making sense of data, observations, and evidence, leading to meaningful and informed conclusions. (Ghaani & Pauline Roslin, 2021; Al-Rahbi et al.,2022; Poštić et al., 2023).

- Analysis: Ability to examine ideas, identify reasons, arguments, and claims, as well as relationships among descriptions, concepts, statements, or opinions. It allows people to break down complex problems into manageable components, identify patterns in data, and draw meaningful insights. It helps to make data-driven decisions and draw conclusions based on empirical evidence (Ghaani & Pauline Roslin; 2021; Al-Rahbi et al., 2022; Songsil et al., 2019; Poštić et al., 2023; Yulian, 2021; Lee et al., 2019; Wong et al., 2022).

- Evaluation: Involves query evidence and analyses alternatives. Critical thinkers usually assess the credibility and validity of evidence (Ghaani & Pauline Roslin, 2021; Al-Rahbi et al., 2022; Songsil et al., 2019; Poštić et al., 2023; Wong et al., 2022).

- Explanation: Clarify or provide understanding about a concept, phenomenon, or situation. It involves stating results, edifying procedures, and presenting arguments. It is defined as contextual considerations upon which one's results were based and to present one's reasoning in the form of cogent arguments (Ghaani & Pauline Roslin, 2021; Al-Rahbi et al., 2022b; Poštić et al., 2023).

- Decision-making involves selecting the best course of action or making informed choices based on available evidence, logical reasoning, and evaluating potential outcomes(Chen, et al., 2023).

Interpersonal and communication competencies

Empathy stands out as a fundamental interpersonal competency for social innovation. This involves the ability to understand and share the experiences of affected communities, ensuring that innovations address real needs rather than perceived problems (Ramadani et al., 2022). Empathy enables social innovators to build trust with stakeholders and design solutions that resonate with end users (Ujj et al., 2024).

Communication skills are essential for articulating vision, engaging stakeholders, and building support for social innovations. Effective communication encompasses both verbal and written skills, as well as the ability to adapt messaging for different audiences (London School of Economics, 2018). Recent research highlights the importance of storytelling abilities in inspiring

Collaboration and teamwork competencies enable social innovators to work effectively across organizational and sectoral boundaries (Pappas et al., 2018). This includes the ability to facilitate multi-stakeholder processes, manage diverse teams, and navigate conflicting interests. The collaborative nature of social innovation requires strong interpersonal skills and cultural sensitivity (Pappas et al., 2018).

Professional attributes

Adaptability and resilience are crucial personal attributes for social innovators, given the uncertain and complex nature of social challenges. These competencies enable individuals to persist through setbacks, adapt to changing circumstances, and maintain motivation despite obstacles (Chima & Germano, 2020). Research emphasizes the importance of emotional regulation and stress management in sustaining long-term engagement with social innovation (Zietsma & Toubiana, 2019).

Ethical awareness and moral reasoning form other essential foundations for social innovation (Villar Olaeta, 2017), including understanding the ethical implications of interventions and maintaining accountability to affected communities. Social innovators must navigate complex ethical dilemmas while ensuring that their innovations contribute to genuine social benefit (De La Cruz et al., 2024).

Advanced competencies for social innovation

To provide an overview of the advanced competencies required for social innovation, the six areas of social innovation were employed as an organizing framework. The following section offers a detailed discussion of the competencies associated with each area, illustrated with examples of

initiatives that specifically cultivate these skills.

Inclusion

Advanced competencies for inclusion-focused social innovation centre on diversity and equity leadership (Obeng Kyere et al., 2023), involving understanding systemic barriers to participation and designing interventions that actively promote inclusive outcomes. Practitioners must develop skills in participatory design and community engagement to ensure that marginalized voices are central to innovation processes (Daniel & de Vere, 2017).

Cultural competency represents a critical advanced skill for inclusion initiatives (Sarker, et al., 2024). This encompasses understanding how cultural factors influence social problems and ensuring that innovations are culturally appropriate and responsive. Recent research emphasizes the need for unconscious bias awareness and privilege recognition as essential competencies for inclusive social innovation (Obeng Kyere et al., 2023).

Policy advocacy and institutional change competencies enable social innovators to address systemic barriers to inclusion (European Social Fund, 2025). This entails understanding policy processes, building coalitions for change, and navigating institutional structures to promote inclusive outcomes (Obeng Kyere et al., 2023).

Oficina do Brinquedo (Portugal) responds to the need for children with special needs, particularly those with cerebral palsy and related neurological conditions, to access meaningful play and learning experiences. Through a partnership between APAC and the School of Technology at IPCA, students adapt electronic toys to function with specialized switches, ensuring that all children, regardless of physical or neurological limitations, can engage with them. The initiative also offers a system for borrowing and acquiring adapted toys, thereby actively promoting inclusion, and enabling the full participation of children in play.

Integration

Social innovation focused on integration requires cross-cultural communication and intercultural mediation skills (Spulber & Nesterova, 2023). Practitioners must understand the

complexities of social integration processes and design interventions that facilitate positive interactions between diverse groups, including skills in *conflict resolution and bridge-building* between communities (IEEE, 2025).

Network building and partnership development represent crucial competencies for integration-focused innovations (Pansuwong et al., 2023). Social innovators need to identify and engage diverse stakeholders, build trust across different communities, and facilitate collaborative relationships (Obeng Kyere et al., 2023).

Refu Interim, recently Compagnie Cordial (Belgium) promotes social integration by strengthening relationships between refugees and local communities. They address the challenges refugees face during the lengthy and complex application process, such as social isolation and difficulty connecting with residents. Their approach involves engaging refugees in volunteer work with various cultural organizations, providing them with guidance and warm social contacts. This model fosters community cohesion and helps refugees build meaningful connections, contributing to their integration. The initiative has proven sustainable, growing annually and successfully navigating multiple policy cycles.

Health

Health-focused social innovation requires community engagement and participatory health promotion competencies. Practitioners have to understand how social determinants influence health outcomes and design interventions that address root causes of health disparities (Thomas & Johnson, 2021). This encompasses skills in health education and behaviour change facilitation.

Social entrepreneurship skills are particularly important in health innovation, including business model development, funding acquisition, and organizational sustainability (Groot & Dankbaar, 2014). Recent research emphasizes the need for *interdisciplinary collaboration* between health professionals, social workers, and community leaders (Thomas & Johnson, 2021).

Data analysis and health informatics competencies enable social innovators to leverage technology for health improvement. These competences cover understanding how to collect, analyse, and interpret health data to inform intervention design (EIT Health, 2024).

At Howest University of Applied Sciences in Bruges (Belgium), the course 'Interprofessional Collaboration' brings together students from applied health sciences, social work, sports and exercise, occupational therapy, and nursing programs to work jointly on real-world challenges. Drawing on their respective disciplinary perspectives, students contribute collaboratively to the development of integrated solutions.

Well-being

Both the broad literature and specific case studies underline the need to consider changing how we think about inner well-being and its role in social change (Chima & Germano, 2020). In the realm of social innovation education, we need to consider how existing educational systems may operate at the expense of student well-being. Re-examining incentive structures for students and faculty, exploring how to better protect student work-life balance, and "practicing what we preach," both broadly and within local contexts, are all essential for creating a culture of well-being (Chima & Germano, 2020).

Social innovation focused on well-being requires mental health literacy and trauma-informed approaches (Rosales, 2023). Practitioners must understand the psychological dimensions of social problems and design interventions that promote psychological safety and healing. This includes competencies in *mindfulness and resilience building* (Chima & Germano, 2020).

Community psychology and social support network development represent advanced competencies for well-being initiatives. Social innovators need to understand how social

connections influence well-being and design interventions that strengthen community bonds (Ujj et al., 2024).

Holistic assessment and person-cantered design competencies enable practitioners to address the multiple dimensions of well-being (Rosales, 2023). This encompasses an understanding of how physical, mental, social, and spiritual factors interact to influence overall well-being.

Adopta un abuelo (Spain) addresses unwanted loneliness among the elderly in Spain by connecting them with volunteers. The initiative has reached over 14,000 volunteers and 10,000 elderly people nationwide, fostering intergenerational relationships and social inclusion for older adults. By fostering meaningful connections between volunteers and elderly individuals, this initiative combats loneliness and enhances the emotional well-being and social integration of older adults throughout Spain.

Sustainable living

Environmental social innovation requires sustainability literacy and ecological systems understanding (Santos & Maia, 2023). Practitioners have to comprehend the connections between social and environmental challenges and design interventions that address both simultaneously.

Green entrepreneurship and circular economy knowledge represent crucial advanced competencies (Ujj et.al., 2024). Social innovators must understand sustainable business models and design innovations that promote resource efficiency and environmental protection. Recent research emphasizes the importance of climate change adaptation and resilience planning skills (Özkan & Kılıç,2024).

Community mobilization for environmental action requires specialized competencies in environmental education and behaviour change (Kolleck, 2019). Practitioners need to

understand how to motivate communities to adopt sustainable practices and create social norms that support environmental protection (Kolleck, 2019).

STEAM-Gym (in cooperation with NHL Stenden, The Netherlands) engages highly gifted secondary school students (ages 10–14) in hands-on, design-based education cantered on sustainability and the Sustainable Development Goals. In the Innovation lab, students identify complex, real-life problems such as biodiversity loss or insufficient sports participation among youth and work collaboratively to design and prototype technological or creative solutions. For example, one group developed a website to encourage children to try different sports, while another created a podcast about the decline of seal populations in the Dutch Wadden Sea. This approach not only deepens students' understanding of sustainability issues but also empowers them to become active contributors to environmental solutions, fostering a mindset of responsibility and innovation for a more sustainable future.

Digitalization for society

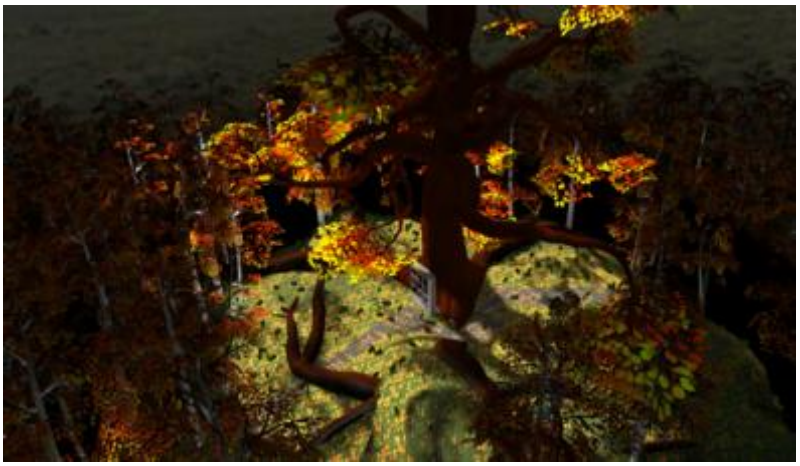
Digital social innovation requires digital literacy and technology assessment competencies (Santos & Maia, 2023). Practitioners must understand how digital technologies can address social challenges while being aware of potential negative consequences (Qureshi et al., 2021). This includes skills in digital inclusion and accessibility design.

Data ethics and privacy protection represent critical competencies for digital social innovation (van den Hoven, 2020). Social innovators need to be able to navigate complex ethical issues related to data collection, algorithmic bias, and digital surveillance (Marzano et al., 2019).

Cybersecurity and digital safety competencies enable practitioners to protect vulnerable populations from digital harm (van den Hoven, 2020). This includes understanding online risks and designing interventions that promote safe technology use.

The field of social innovation competencies continues to evolve in response to emerging challenges and opportunities (European Commission, 2014). Artificial intelligence and automation are creating new possibilities for social innovation while requiring *new competencies*

in human-AI collaboration and algorithmic governance (Calzada, 2021). Further research should examine how these technological developments influence competency requirements.



"Our Shared Virtual World" is a Finnish initiative co-developed by public libraries and universities to promote digital literacy through a freely accessible virtual reality (VR) experience for all citizens. The project created a VR application, Forest Elf, using participatory design methods that involved library staff and diverse community members in workshops, ensuring the tool would be inclusive and meet varied needs. The application was deliberately designed to be flexible, accessible, and adaptable for libraries of different sizes and for users of all ages and backgrounds, supporting lifelong learning and active citizenship. The project highlights public libraries as low-threshold, trusted spaces for digital inclusion and social innovation, especially for groups who may otherwise lack access to advanced technologies. By embedding participatory and democratic principles, the initiative aims to sustain digital innovation and reduce inequalities in technology access and skills (Ylipulli, et al., 2023).

Pedagogical approaches for developing social innovation skills

Developing competencies for social innovation requires a deliberate, research-informed approach that integrates theory with practice, fosters critical and creative thinking, and cultivates collaborative problem-solving skills (The World Economic Forum, 2024). Social innovation education is inherently interdisciplinary, aiming to equip learners with the abilities needed to address complex societal challenges through new solutions, business models, and policies.

Lyons and Bender (2023) identify three core dimensions that are essential to incorporate in social innovation education: empathy, locus of control and speculative thinking. These dimensions form the foundation for cultivating socially competent individuals who are capable of navigating

complex societal challenges. Their development requires more than content knowledge; it demands pedagogical strategies that engage learners affectively, cognitively, and reflectively.

The following section explores effective pedagogical approaches that support the development of competencies within social innovation education. Specifically, it examines the roles of project-based learning, problem-based learning, design thinking, collaborative networks, mentorship and peer learning, and reflective practice as methods to foster social competence in meaningful and sustainable ways.

Project based education

Project-based learning (PBL) is a student-driven, teacher-facilitated instructional approach in which learners engage in extended, in-depth projects that address real-world problems (Omelianenko & Artyukhova, 2024). Within the context of social innovation, PBL is particularly effective because it:

- Promotes the acquisition of essential 21st-century skills, including creativity, collaboration, communication, and critical thinking.
- Encourages students to take ownership of their learning, fostering deeper engagement and motivation.
- Provides authentic learning experiences where students must apply theoretical knowledge to practical, complex challenges.

A successful PBL unit in social innovation typically includes (Stanley, 2023):

- An authentic social issue or challenge as the driving question.
- Inquiry-based exploration and research.
- Collaborative teamwork.
- Creation of a public product or solution.
- Iterative reflection and feedback.

Research shows that PBL not only enhances academic learning but also builds the confidence and adaptability necessary for effective social innovators (Omelianenko & Artyukhova, 2024). Assessment in PBL is multifaceted, focusing on both the process (collaboration, inquiry, problem-solving) and the final product, aligning well with competency-based learning frameworks.

Problem based education

Problem-based learning (PBL) is a practice- and competence-based methodology where learners work in small groups to analyse, discuss, and propose solutions to problems inspired by real-world contexts (Ghani, et al., 2021).

In social innovation education, PBL (Barbina, 2024):

- Places learners in active roles, requiring them to identify their own learning objectives and resources needed to solve the problem.
- Develops problem-solving skills, critical thinking, and the ability to work effectively in teams.
- Encourages self-directed learning, as students must navigate ambiguity and complexity similar to real social innovation scenarios.

PBL is often facilitated in varying formats, from asynchronous online modules to synchronous, facilitator-led group sessions. This flexibility allows for adaptation to different learning environments and participant needs. The methodology is particularly suited for social innovation, where multifaceted problems demand collaborative and interdisciplinary approaches (Ghani et al., 2021).

Recent research identifies several effective approaches for developing social innovation competencies (Barbina, 2024). Experiential learning and project-based education emerge as particularly effective methods for building both basic and advanced competencies. These approaches enable learners to develop skills through real-world application while building confidence and self-efficacy.

Design thinking

Design thinking is a human-cantered, iterative process that integrates empathy, creativity, and rationality to address complex societal challenges. Its application in social innovation education involves several key phases (Villanueva-Paredes et al., 2024):

- Empathy and field research: Immersing in the community, conducting interviews and surveys to deeply understand stakeholders' needs and the root causes of social problems.
- Ideation and collaboration: Engaging diverse stakeholders in workshops and brainstorming sessions to generate innovative ideas and co-create solutions.

- Prototyping and testing: Developing and testing prototypes in real-world settings, gathering feedback, and iterating on solutions.

Design thinking's emphasis on stakeholder engagement, creative problem-solving, and iterative development aligns closely with the competencies required for effective social innovation. It also fosters systems thinking, enabling learners to understand and address the interconnectedness of social issues (Kaplan, 2025).

Collaborative / professional learning networks

Collaboration is at the heart of social innovation (Iqbal & Piwowar-Sulej, 2022). Professional learning networks (PLNs) and collaborative communities provide platforms for knowledge exchange, peer support, and collective problem-solving (Iqbal & Piwowar-Sulej, 2022). Research highlights several benefits (Schröer, et.al., 2024):

- Exposure to diverse perspectives and expertise, which is critical for tackling complex, cross-disciplinary challenges.
- Opportunities for co-creation and shared ownership of solutions.
- Continuous professional development through feedback, reflection, and shared experiences.

Effective PLNs for social innovation often include structured activities such as case study discussions, joint projects, and reflective practice sessions (Iqbal & Piwowar-Sulej, 2022). These networks can span local, regional, and international contexts, enriching the learning experience and fostering a broader understanding of social innovation ecosystems (Schröer, et.al., 2024).

Mentorship and peer learning programs

Mentorship and peer learning are powerful tools for competency development in social innovation (Bufali et al., 2023). Ideally peer mentoring models conduct (Foster, 2023):

- Early and proactive mentor engagement supports learners in navigating challenges and identifying opportunities.
- Comprehensive mentor training in areas such as ethics, cultural competency, and emotional intelligence is essential.
- Holistic support, addressing academic, social, and personal needs, enhances learners' sense of belonging, confidence, and career readiness.

Mentorship programs should emphasize inclusivity and representation, ensuring mentors can

relate to and affirm the experiences of diverse mentees (Bufali et al.,2023). Regular supervision and feedback are also crucial for sustaining program effectiveness.

Reflective practice

Reflective practice is fundamental to developing social innovation competencies. It enables learners to (Howell, 2021):

- Critically examine their assumptions, values, and actions in relation to social change.
- Engage in continuous learning by integrating theory with lived experience and practice.
- Develop self-awareness, adaptability, and a commitment to personal and social transformation.

Reflective practice and continuous learning competencies are essential for ongoing development (Howell, 2021). Social innovation occurs in rapidly changing contexts that require practitioners to continuously update their knowledge and skills. This includes competencies in self-assessment and professional development planning.

Social innovation in school organisation

An organizational perspective is essential for understanding how schools, can foster the well-being of staff and students, encourage collaboration, and build the capacity for social innovation. While individual teacher competencies are critical, it is the organizational environment that determines whether such competencies can be sustainably developed and practiced.

Research highlights that teacher and student well-being is a precondition for sustained engagement in innovative practices. High workloads, bureaucratic burdens, and lack of recognition often erode the energy and creativity needed for social innovation (Chima & Germano, 2020; OECD, 2021). Schools therefore need to implement systemic strategies that protect work–life balance, ensure psychological safety, and reduce unnecessary administrative pressures.

Principles of organisational support

Organizational support for social innovation in education extends far beyond ad hoc workshops or informational leaflets. Instead, it requires structural and cultural change that enables teachers to act as co-creators of innovation. Five principles stand out:

1. **Empowerment:** granting teachers autonomy and resources to experiment with new pedagogical and organizational models (Hargreaves & Fullan, 2012).
2. **Collaboration:** establishing professional learning networks, cross-disciplinary teams, and partnerships with community actors (Stoll et al., 2006).
3. **Inclusivity:** ensuring diverse voices, including marginalized staff and students, are actively engaged in decision-making and innovation processes (Ainscow, 2020).
4. **Reflexivity:** embedding regular opportunities for critical reflection and peer feedback to evaluate practices and adapt accordingly (Schön, 1983).
5. **Sustainability:** aligning organizational strategies with long-term ecological, social, and psychological well-being (Sterling, 2010).

These principles resonate strongly with European competence frameworks such as EntreComp, DigComp, and GreenComp, which emphasize transversal skills like collaboration, critical thinking, ethical awareness, and sustainability (European Commission, 2022).

Change management in schools

Introducing and sustaining social innovation in education requires deliberate and well-structured change management strategies. Schools are not neutral spaces; they are complex organizations shaped by established routines, power dynamics, and cultural traditions. For this reason, successful change initiatives cannot rely solely on top-down directives, but must instead balance strong leadership with genuine participation from those directly involved.

One important element is distributed leadership, which positions teachers as active agents of change rather than passive recipients of reform (Harris, 2013). This approach is reinforced by participatory governance models that give both teachers and students a meaningful voice in shaping institutional policies, thereby fostering ownership and trust (Sibbet, 2022). Equally vital are iterative change processes, inspired by design-based research cycles, which enable schools to test new ideas in practice, collect feedback, and refine approaches before wider implementation (Murray et al., 2010). To make such processes effective, organizations must also invest in capacity building through continuous professional development, ensuring that educators have the knowledge and skills to engage productively with innovation (Day & Sachs, 2004). Finally, nurturing a change-oriented culture is essential. This means embracing risk-taking and recognizing that occasional setbacks are not failures but opportunities for collective learning and improvement (Fullan, 2021; Senge, 2006).

Taken together, these strategies reveal that change management in schools is far more than a technical exercise in implementation. It is a process of cultural transformation that redefines schools as collaborative, adaptive, and socially innovative organizations.
Educational organizations hold a dual responsibility: to safeguard the well-being of their staff and students and to create the structural conditions for collaboration and innovation. By adopting principles of empowerment, collaboration, inclusivity, reflexivity, and sustainability and by embedding change management practices that balance leadership with participation, schools can position themselves as central actors in cultivating the social innovation competencies necessary for democratic and sustainable futures.

Conclusion

As social challenges become increasingly complex and interconnected, the need for skilled social innovators will continue to grow. Educational institutions and professional development programs must adapt their approaches to ensure that teachers and learners are equipped with the competencies needed to create positive social change. This requires ongoing collaboration between researchers, educational practitioners, and communities to refine understanding of social innovation competencies and develop effective approaches to building them.

Embedding social innovation meaningfully within education requires a multi-faceted and developmentally responsive approach. It calls for a reimagining of curricula, pedagogical practices, and learning spaces in ways that reflect the values of equity, participation, and sustainability (e.g. Alden Rivers et al., 2015; de Vere & Charny, 2017). Democratic education, participatory practices, and conceptual clarity provide the foundation upon which this integration can be built (e.g. Goodyear, 2022, 2015; Social Innovation Academy, 2020). Moreover, tailoring educational strategies to different learner stages ensures that students can grow into socially conscious and capable innovators (Coma-Roselló, 2022; Maynard, 2023).

At the same time, it is important to acknowledge the limitations of this desk research. The findings are based exclusively on secondary sources, making them dependent on the scope and quality of existing literature and policy documents. This means that certain perspectives or recent developments may not yet be fully represented. Furthermore, the analysis focuses primarily on European contexts and frameworks, which may reduce its transferability to other regions with different socio-political or educational systems. The absence of empirical data collection also limits the possibility of validating theoretical insights against lived experiences in practice; this step will be addressed as the EU-SIDE project proceeds. Finally, given the dynamic and evolving nature of social innovation, the conclusions drawn here must be regarded as provisional and open to revision as new evidence and practices emerge.

When building a competence framework that is applicable across the European educational context, it is essential to take existing European frameworks into account. Their established structures, embedded focus on transversal skills, and emphasis on scalable competence development offer critical guidance for designing a robust, future-proof framework for social innovation. The analysis of the EntreComp (2016), DigComp (2022), and GreenComp (2022) frameworks reveals a consistent and structured approach to defining, organizing, and scaling competences across diverse domains. These existing European competence frameworks

provide not only thematic clarity through well-defined competence areas and descriptors, but also practical applicability by offering progressive proficiency levels and learning outcomes. By building upon and aligning with these frameworks, the EU-SIDE project can ensure conceptual coherence, educational relevance, and policy alignment, ultimately fostering the systematic development of social innovation competences across Europe.

Furthermore, the development of a competence framework for social innovation must be firmly grounded in current academic research. Academic literature from 2015 to 2025 reveals a substantial and growing body of work that explores the competencies required for social innovation, clearly distinguishing between basic and advanced levels. These competencies span cognitive, interpersonal, and professional dimensions, reflecting the multifaceted and evolving nature of social innovation practice. At the advanced level, competencies are understood in relation to the six key areas of social innovation: inclusion, integration, health, well-being, sustainable living, and digitalization for society. These areas provide a practical and structured lens to assess, develop, and apply social innovation competences in real-world contexts. Moreover, given the complexity involved in developing competencies for social innovation, a deliberate, research-informed training approach is essential: one that integrates theoretical and practical knowledge, encourages critical and creative thinking, and nurtures collaborative problem-solving skills (World Economic Forum, 2024).

In sum, advancing a competence framework for social innovation requires both theoretical rigor and practical adaptability. By bridging European policy frameworks with recent academic insights, and by embedding these competencies meaningfully within education systems, the EU-SIDE project is well positioned to empower a new generation of learners and educators to tackle the pressing social challenges of our time, while continuing to refine its approaches in response to new evidence and evolving contexts.

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