

From Awareness to Action: Online Learning and the Enhancement of University Students' Understanding and Intentions in Social Entrepreneurship

Ludmiła Walaszczyk and Remigiusz Mazur

Łukasiewicz – Institute for Sustainable Technologies, Radom, Poland

ludmila.walaszczyk@itee.lukasiewicz.gov.pl

remigiusz.mazur@itee.lukasiewicz.gov.pl

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Abstract: This study explores university students' awareness and understanding of social entrepreneurship and examines changes associated with participation in an online learning intervention based on the *upskillingRural* modular course. The research aims to identify both existing knowledge gaps and the extent to which changes in students' self-reported competences were observed following participation in structured digital education. A predominantly quantitative pre-post research design, complemented by a qualitative focus group component, was applied. The quantitative component involved 404 students from rural areas who completed the *upskillingRural* modular online course. Awareness and knowledge were positively, but weakly correlated ($r_s = 0.14$, $p = 0.005$), indicating that greater awareness was associated with only slightly higher substantive knowledge. The quantitative pre-post assessment was complemented by 50 focus group discussions involving 300 students across five participating countries (Poland, Italy, Turkey, Spain, and Austria). The focus groups explored students' educational needs, perceptions of rural entrepreneurship, barriers to applying entrepreneurial knowledge, and the perceived usefulness of the course. The questionnaire assessed awareness, conceptual understanding, and attitudes toward social entrepreneurship. For students who completed the *upskillingRural* online course, pre- and post-course comparisons were conducted to assess changes in self-reported knowledge and competences. Descriptive statistics, Spearman's rank-order correlation, paired-samples t-tests, and effect sizes were used to analyse the data. The intervention comprised twelve interconnected modules (M1-M12) combining social entrepreneurship with digital, environmental, relational, and market-oriented competencies. Descriptive and exploratory focus-group observations suggested as application-level gap: although students appeared familiar with individual business-model components, integrating these elements into a coherent business concept remained challenging. Participants also identified limited promotion of rural opportunities and youth migration towards larger cities as barriers, while targeted training and advisory support were perceived as important support mechanisms. Before the *upskillingRural* course, students showed general awareness of the social mission of entrepreneurship, but limited understanding of its operational and financial mechanisms. Following the online course, participants reported statistically significant pre-post increases in self-reported competence, including perceived understanding of operational models (+24.3%), self-reported knowledge of funding mechanisms (+23.1%), and perceived ability to assess social impact (+50.6%). The overall self-assessment score increased from 3.12 (SD = 0.98) before the course to 4.27 (SD = 0.89) after the course. This change was statistically significant, $t(403) = 17.73$, $p < .001$, with a large effect size (Cohen's $d = 0.88$). The study provides that empirical evidence of improvements in self-reported competences following participation in the *upskillingRural* modular online course can effectively strengthen both theoretical and applied competencies in rural entrepreneurship. By linking questionnaire outcomes with the learning objectives of each *upskillingRural* module, the findings suggest the potential of digital pedagogies to foster pro-social, entrepreneurial, and digital skills in higher education. The findings offer valuable guidance for the design of comprehensive, competency-based e-learning course in social entrepreneurship. The measurable improvements observed after participation in the online course indicate that modular, interactive online education such as that developed within the *upskillingRural* framework may have potential to support the transition from theoretical understanding to practical application. Educators are encouraged to integrate experiential and practice-oriented digital components, including simulations, collaborative projects, and virtual incubators, to enhance students' engagement, critical thinking, and applied learning outcomes. Moreover, aligning course content with established modular frameworks can improve the coherence and transferability of learning objectives across institutions.

Keywords: Social entrepreneurship, Online learning, Entrepreneurial mindset, Higher education, Rural areas

1. Introduction

In recent decades, the phenomenon of social entrepreneurship has gained a prominent place in academic literature, business practice, and public policy (Lumpkin, Bacq and Pidduck, 2018). In the face of escalating social challenges such as poverty, educational inequalities, climate change, and the exclusion of disadvantaged groups, traditional models of market activity and state intervention often prove insufficient to deliver effective and

sustainable solutions (Droste *et al.*, 2016). By combining social goals with business mechanisms, social entrepreneurship offers an alternative in which innovative management approaches, sustainable funding models, and a focus on long-term social impact create the foundation for a new quality of developmental initiatives (Sekliuckiene and Kisielius, 2015).

The significance of entrepreneurship, particularly social entrepreneurship, is especially evident in the context of rural areas, where economic, social, and infrastructural challenges often limit access to traditional development opportunities (Seelos and Mair, 2005). Rural communities, functioning not only as local economies but also as centres of social life and cultural identity, represent a space where entrepreneurial activity can foster sustainable development and strengthen social cohesion (Kickul and Lyons, 2012). The literature suggests that promoting social entrepreneurship in rural regions, through local initiatives, training programmes, and community projects, can enhance residents' motivation to address local problems by employing market-based and collaborative solutions (Wilson and Post, 2013).

This challenge is particularly relevant in rural areas, where limited access to entrepreneurial education, professional networks, mentoring, and innovation-support infrastructures may constrain young people's ability to transform socially oriented ideas into viable initiatives. Universities can therefore play an important bridging role by providing students with knowledge and competencies that may otherwise be difficult to acquire within their local environment. Digital learning environments are especially relevant in this context, as they can reduce geographical barriers to specialised entrepreneurship education and facilitate access to knowledge, networks, and practice-oriented learning opportunities.

Nevertheless, despite the importance of this topic, research on students' awareness and understanding of social entrepreneurship remains scarce (Harding, 2007; Morris, Santos and Kuratko, 2021; Muldoon *et al.*, 2022), particularly within specific local and cultural contexts. Previous analyses have often focused on countries with well-developed infrastructures supporting social innovation, while less attention has been paid to regions where the phenomenon remains relatively new and weakly embedded in academic practice (Bhatt, 2022; De Bernardi *et al.*, 2022). Consequently, it is essential to expand knowledge about the extent to which students grasp not only the social mission of social ventures but also their management mechanisms, funding models, and methods for assessing long-term impact (Perrini, Costanzo and Karatas-Ozkan, 2021; Kamaludin, Xavier and Amin, 2024).

Against this background, the research problem addressed in this study concerns the insufficient understanding of whether students from rural areas possess the knowledge and competencies required to move beyond a general awareness of social entrepreneurship towards informed entrepreneurial engagement. This issue is particularly important, because existing research indicates that familiarity with social entrepreneurship does not necessarily entail an understanding of its operational mechanisms, financing strategies, or impact assessment (Forster and Grichnik, 2013; Urban and Teise, 2015). At the same time, limited evidence exists on how structured digital educational interventions can address these knowledge and competence gaps, particularly among students from rural areas. Consequently, there is a need to examine not only the initial gap between students' awareness and substantive understanding of social entrepreneurship and the extent to which changes in this gap can be observed following participation in the *upskillingRural* modular online learning intervention, but also the barriers that may constrain the application of acquired knowledge in rural entrepreneurial contexts.

This article seeks to explore the level of awareness and understanding of social entrepreneurship among students from rural areas, assess changes in selected competencies following the structured *upskillingRural* modular online learning intervention, and provide deeper insight into students' perceived educational needs, barriers to applying entrepreneurial knowledge, and the relevance of acquired competencies to rural entrepreneurship.

The study contributes to the broader discourse on the role of higher education in fostering pro-social and entrepreneurial competencies through digital pedagogies. It also offers empirical evidence on changes observed following participation in the structured online learning environment and considers the potential role of such environments in supporting experiential and competence-based learning within academic curricula.

To synthesise the analytical logic of the study, Figure 1 presents the conceptual framework linking students' baseline awareness and knowledge of social entrepreneurship with the *upskillingRural* modular online learning intervention, subsequent competence development, and entrepreneurial intention. The framework provides a visual representation of the progression examined in the study rather than implying a fully tested causal pathway.

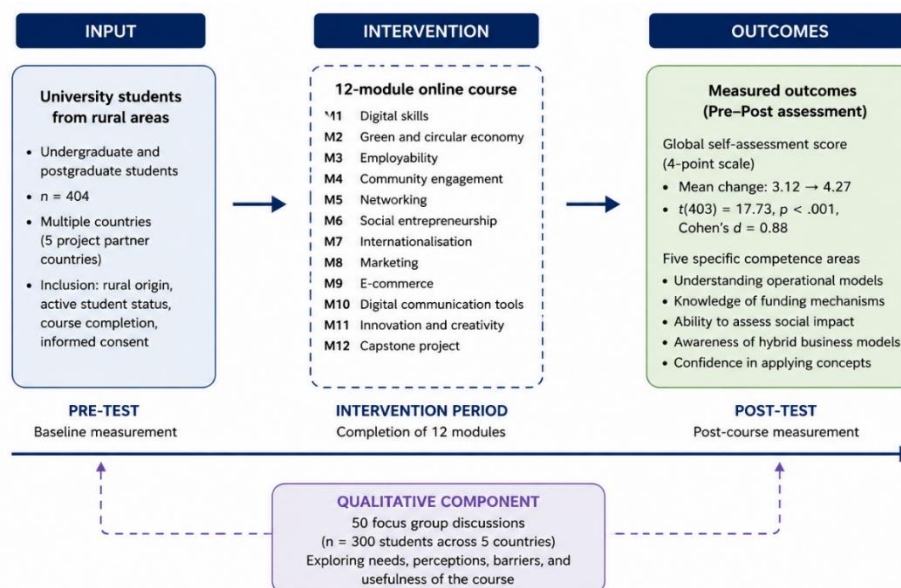


Figure 1: Conceptual framework of the study

Arrows represent the temporal and analytical sequence of the study and should not be interpreted as causal pathways.

2. Social Entrepreneurship

Social entrepreneurship has been widely discussed across disciplines, yet a universally accepted definition remains elusive (Pless, 2012; Nicolopoulou, 2014). Early works portrayed it as the application of business principles to social problems (Dees, 1998), whereas later studies emphasised its hybrid nature, balancing social missions with entrepreneurial risk-taking and market-based approaches (Mair and Marti, 2006; Zahra *et al.*, 2009; Bacq and Janssen, 2011). Scholars broadly agree that social entrepreneurship involves identifying persistent social needs, creating innovative solutions, mobilising resources, and achieving measurable social impact while maintaining economic sustainability (Alter, 2007; Defourny and Nyssens, 2010; Abu-Saifan, 2012; Bilan, Mishchuk and Pylypchuk, 2017). However, tensions persist regarding the relative weight of social versus economic goals and the extent to which profit generation can coexist with mission-driven priorities (Battilana and Lee, 2014).

The relevance of social entrepreneurship becomes particularly pronounced in rural areas, where entrepreneurial activity is embedded in specific economic, demographic, and institutional conditions (Lumpkin, Bacq and Pidduck, 2018). Rural communities may face constraints related to limited employment opportunities, weaker access to business-support infrastructure, restricted professional networks, demographic decline, and the outmigration of younger and better-educated residents (Müller and Korsgaard, 2018). In this context, social entrepreneurship can contribute not only to employment and income generation but also to addressing locally specific social needs, strengthening community participation, mobilising local resources, and supporting the provision of services that may be insufficiently available through conventional market or public-sector mechanisms (Lumpkin, Bacq and Pidduck, 2018). Its contribution to rural development therefore extends beyond venture creation and includes broader processes of social innovation, community resilience, and local capacity building. At the same time, the development of social entrepreneurial initiatives in rural settings may be constrained by limited access to finance, specialised knowledge, mentoring, and entrepreneurial networks. These conditions increase the importance of educational and support mechanisms capable of strengthening the competencies required to identify local opportunities, mobilise resources, build partnerships, and develop sustainable responses to community needs (Müller and Korsgaard, 2018).

Universities play a critical role in cultivating the next generation of social entrepreneurs. They function not only as sites of knowledge transfer but also as platforms for experimentation, incubation, and cross-sector collaboration (Kickul and Lyons, 2012; De Bernardi *et al.*, 2022). Educational programmes dedicated to social entrepreneurship, ranging from elective courses to master's degrees, have expanded globally, often supported by experiential learning approaches such as service-learning projects, hackathons, or incubators (Smith and

Woodworth, 2012). These initiatives are designed to foster creativity, opportunity recognition, and ethical decision-making while promoting students' sense of agency in addressing societal issues (García-González and Ramírez-Montoya, 2021).

Despite such advances, scholars note a gap between theoretical instruction and the practical realities of launching and sustaining social ventures (Rae, 2010). The inclusion of mentorship, real-world case studies, and interdisciplinary teamwork is highlighted to bridge this divide and nurture competencies aligned with the complex demands of social entrepreneurship (Shaw and Carter, 2007).

University students constitute a particularly relevant group in the development of social entrepreneurship, because higher education represents an important stage in the formation of entrepreneurial knowledge, competencies, attitudes, and career intentions (García-González and Ramírez-Montoya, 2021). Exposure to social entrepreneurship during this period may broaden students' perception of entrepreneurship beyond conventional profit-oriented venture creation and increase their awareness of entrepreneurial activity as a means of addressing social and environmental challenges. However, positive attitudes towards social entrepreneurship do not necessarily imply sufficient knowledge of how social enterprises operate, secure resources, balance economic and social objectives, or assess their impact (Forster and Grichnik, 2013). This distinction is important, because students may express interest in socially oriented entrepreneurship while lacking the practical competencies and ecosystem support required to develop such intentions further. Accordingly, examining university students' awareness, knowledge, and intentions can help identify specific educational gaps and inform the design of learning interventions that combine conceptual knowledge with experiential, digital, and practice-oriented components. This issue may be particularly relevant for students from rural areas, for whom universities and digitally mediated learning environments can provide access to specialised knowledge, practitioners, networks, and entrepreneurial support that may be less readily available in their immediate local environment.

Empirical research on students' awareness of social entrepreneurship is still limited, with findings suggesting significant variability across regions and academic disciplines. Studies in developed economies report a growing familiarity with the term 'social entrepreneurship,' but a more superficial understanding of its operational dimensions, such as business models, financing strategies, and impact assessment (Forster and Grichnik, 2013; Ebrahim and Rangan, 2014). In many contexts, students associate social entrepreneurship primarily with philanthropy or volunteering, overlooking its entrepreneurial logic (Urban and Teise, 2015).

While the literature has extensively explored conceptual definitions and organisational typologies of social entrepreneurship, fewer studies have systematically examined how students from rural areas perceive and internalise its principles, particularly in emerging or less-studied academic environments. There is also limited evidence on the effects of pedagogical interventions, such as incubators, service-learning projects, or interdisciplinary labs, on students' competencies and long-term commitment to social entrepreneurial careers. Furthermore, cultural factors and local policy contexts may influence how young people conceptualise the relationship between social purpose and economic viability (Granados *et al.*, 2011).

Addressing these gaps requires empirical investigations that capture not only the breadth of students' awareness but also the depth of their understanding regarding operational mechanisms, sustainability strategies, and impact measurement. This need is particularly salient in rural contexts, where educational provision may form part of the wider support ecosystem required for the development of socially oriented entrepreneurial competencies. Such studies can inform the design of more effective educational practices and contribute to building an enabling environment for social entrepreneurship in higher education.

3. Research Methodology

A predominantly quantitative pre-post research design, complemented by a qualitative focus group component, was employed to examine students' awareness and understanding of social entrepreneurship and to assess changes associated with participation in the online educational intervention.

Data were collected through online forms administered via *upskillingRural* e-learning platform. The study involved a total of 404 students from rural areas. All participants were enrolled in and completed the *upskillingRural* online course. Data collection was conducted in two waves. The initial wave included 61 participants, followed by an additional 343 participants recruited using the same procedures and inclusion criteria. The final combined sample was used for the quantitative analyses.

The final sample size ($N = 404$) ensures high statistical power for paired comparisons. Under standard assumptions ($\alpha = 0.05$, power = 0.80), the study is sufficiently powered to detect small effect sizes (Cohen's $d \approx 0.2$), which typically require approximately 197 participants. This represents a substantial improvement over the initial wave and enables robust detection of even modest changes associated with the online intervention. For the quantitative component, a convenience-purposive sampling strategy was adopted to ensure diversity across academic fields while targeting students from rural backgrounds. Inclusion criteria included active student status and informed consent to participate. Respondents were invited through university mailing lists and student social media groups over a two-month period.

The quantitative component was complemented by focus group discussions (FGDs) conducted across the five participating countries. In each country, ten (10) focus groups were organised, with six (6) students participating in each group, resulting in a total of 50 FGDs and 300 participants. Focus group participants were students who volunteered to become more actively involved in the project and therefore constituted a purposively engaged group rather than a representative subsample of the questionnaire respondents. The discussions were conducted during and following the educational intervention and were designed to provide deeper insight into students' knowledge and educational needs, their perceptions of rural entrepreneurship, the perceived usefulness of the course, and barriers to applying acquired knowledge in practice.

The FGDs followed a structured discussion framework covering several areas: perceived level of entrepreneurial knowledge of participants; understanding of the concept and key components of a business model; the relevance of entrepreneurship to rural development; perceived future business opportunities in rural areas; educational and support needs of young people; barriers to applying entrepreneurial knowledge; and the usefulness of individual course components. Participants were also engaged in a practical exercise in which they adopted the perspective of an entrepreneur and analysed the interrelated components of a business model in the context of rural entrepreneurship. This exercise enabled the discussions to move beyond general perceptions towards the practical application and integration of entrepreneurial knowledge.

The focus group material was documented through discussion notes, evaluation records, and partner reports. Given the evaluative and exploratory purpose of this component, the material was analysed descriptively and organised around the principal areas addressed during the discussions. The qualitative findings were used to contextualise the questionnaire results and to provide additional insight into educational needs, rural entrepreneurship barriers, perceived opportunities, and the practical application of acquired knowledge.

The questionnaire was developed based on previous studies and expert consultation. It consisted of three main sections:

- *Objective understanding* – this part assessed respondents' factual knowledge of social entrepreneurship. It included multiple-choice items concerning the definition, sectors of activity, profit orientation, and key characteristics of social enterprises.
- *Awareness of social entrepreneurship* – this section measured respondents' familiarity with and exposure to the concept. It comprised Likert-scale statements.
- *Attitudes and intentions* – this section explored respondents' beliefs, perceptions, and willingness to engage in social entrepreneurship, using Likert-scale items.

All Likert-scale items were rated on a four-point scale ranging from 1 (strongly disagree) to 4 (strongly agree). The questionnaire was designed to capture both cognitive and attitudinal dimensions of social entrepreneurship.

For all participants included in the quantitative component, an overall self-assessment of knowledge and competence related to the course content was collected before and after the intervention using a five-point scale. In addition, changes in five specific competence areas were assessed separately. Responses were exported to a CSV dataset, screened for completeness ($\geq 70\%$ of items completed), and checked for duplicates. Descriptive statistics were used to summarise demographic variables, awareness levels, and knowledge scores.

Spearman's rank-order correlation coefficients were calculated to assess associations between awareness and knowledge dimensions. Because all participants completed the full twelve-module *upskillingRural* programme and the individual modules were not operationalised as independent predictor variables, module-specific predictive modelling was not performed. The quantitative analyses therefore focused on associations between measured awareness and knowledge dimensions and on pre-post changes in self-reported competence.

To evaluate changes in the overall self-assessment score associated with participation in the online course, a paired-samples t-test was conducted. Cohen's d was calculated as an effect-size measure, and a 95% confidence

interval was reported for the mean pre-post difference. All analyses were performed with a significance level of $\alpha = 0.05$.

Ethical considerations. Participation in both the questionnaire study and the focus group component was voluntary. Questionnaire respondents provided electronic informed consent, while participation in the FGDs was documented in accordance with the project procedures. The study complied with GDPR requirements and applicable institutional ethical standards.

Limitations. Despite the increased sample size, the use of non-random, convenience sampling and reliance on self-reported measures for the pre-post competence assessment may limit the generalisability of the findings. The quantitative component employed an uncontrolled pre-post design. Consequently, although statistically significant changes were observed following participation in the *upskillingRural* course, these changes cannot be casually attributed to the intervention, because alternative explanations, including maturation, repeated measurement, external influences, and other time-related factors, cannot be excluded. Focus group participants represented students who chose to become more actively involved in the *upskillingRural* project and may therefore have demonstrated greater interest or motivation than the broader student population. Moreover, the FGD material was analysed descriptively rather than through a formal qualitative coding procedure. The qualitative findings should therefore be interpreted as contextual and explanatory evidence complementing the quantitative results rather than as independently generalisable findings. Additionally, the study focused exclusively on students from rural areas, which may not fully reflect the broader student population. However, the relatively large sample and consistent data collection procedure enhance the reliability and exploratory value of the results. The findings should therefore be interpreted as evidence of improvement following participation rather than as evidence of a casual intervention effect.

4. Research Results and Findings

The study sample consisted of 404 participants who completed the *upskillingRural* online course (Table 1). The target group included undergraduate and postgraduate students from rural areas. The course was offered in multiple language versions – languages of the *upskillingRural* project partners (English, Polish, Italian, German, Turkish, and Spanish), and participants were free to select their preferred language. Among the respondents, 47 participants completed the course in English, while the majority participated in versions delivered in their respective national languages.

Table 1: Demographic and educational characteristics of the study sample

Variable	Category	n	[%]
Sex	Woman	238	59
	Man	166	41
Age	≤18 years old	48	12
	19-25	198	49
	25-30	158	39
Year of study	Undergraduate	372	92
	Postgraduate	32	8
Mode of study	Full-time studies	79	20
	Part-time studies	325	80
Professional status	Working	322	78
	Not working	82	22
Previous experience in social projects	Yes	51	13
	No	353	87
Participation in courses related to social entrepreneurship	Yes	9	2
	No	395	98
Previous exposure to social entrepreneurship	Yes	364	90
	No	40	10

Students were initially asked to select the definition that, in their view, most accurately characterises a social enterprise. The results indicate that most respondents correctly identified it as an organisation that reinvests profits to achieve social objectives rather than maximising shareholder value. However, a smaller proportion of participants conflated social enterprises with conventional for-profit firms or public institutions delivering welfare services, while a few associated them exclusively with charitable or non-profit entities. This pattern of responses indicates that most participants demonstrated factual understanding of the core definition of a social enterprise, while also revealing conceptual ambiguity among a subset of respondents (Chart 1).

A subsequent item addressed the question of the sectoral placement of social enterprises. Most respondents demonstrated an understanding of their hybrid organisational nature, acknowledging that such entities operate at the intersection of social and economic domains. Nonetheless, several participants still located social enterprises solely within either the public or private sector, and a small number identified them with the agricultural domain. This distribution of answers suggests that, while recognition of hybridity is becoming more widespread among students, certain misconceptions about the institutional positioning of social enterprises persist (Chart 2).

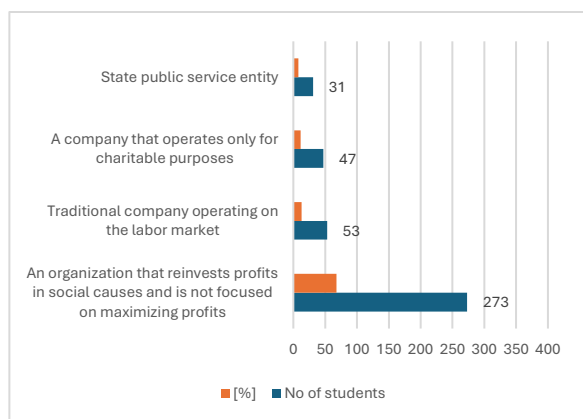


Chart 1: Definition of social enterprise

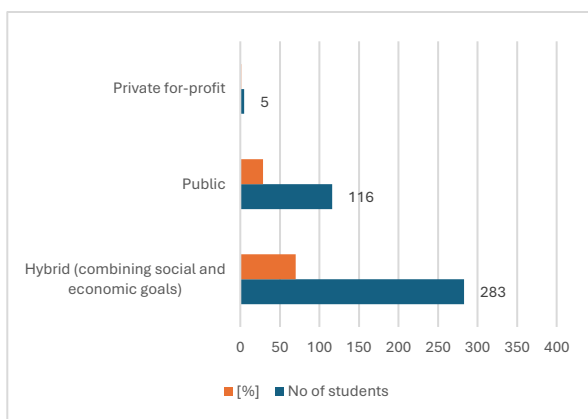


Chart 2: Sector of activity

With respect to profit orientation, students tended to support the idea that social enterprises should generate income only to a moderate extent, primarily to be reinvested in social goals. This finding indicates an intuitive recognition of the balance between sustainability and mission. A smaller group argued for profit generation comparable to commercial companies, whereas others admitted uncertainty (Chart 3).

Students were further asked to indicate which characteristics they considered typical of a social enterprise. The most frequently selected features included transparency, a clearly articulated social mission, and the inclusion of disadvantaged or marginalised groups. These responses suggest that students tend to associate social enterprises with values-driven and inclusive organisational practices. However, a subset of respondents also identified profit maximisation as a defining feature, indicating that some continue to interpret entrepreneurial activity primarily through the lens of conventional business objectives. This distribution of responses reinforces the earlier observation of partial conceptual understanding and points to the persistence of ambiguities regarding the dual social-economic nature of social enterprises (Chart 4).

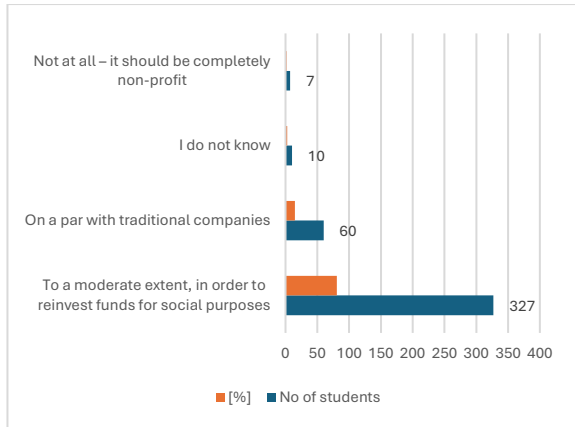


Chart 3: Profit orientation

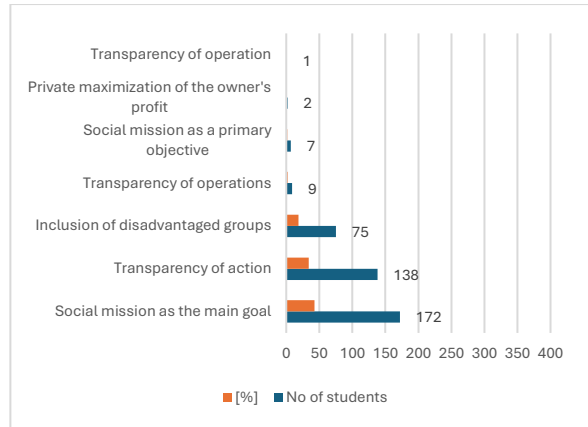


Chart 4: Features of social enterprises

When asked whether they had previously encountered the concept of social entrepreneurship, students presented a high level of familiarity. Responses tended to cluster around the lower and middle points of the scale, suggesting that while the term is not entirely unknown, it has not been widely integrated into students' everyday vocabulary (Chart 5).

Despite this limited familiarity, participants strongly recognised the importance of social entrepreneurship for broader societal development. A clear majority agreed or strongly agreed with this statement. This consensus suggests that, even in the absence of detailed knowledge, students intuitively appreciate the potential role of social entrepreneurship in addressing social needs (Chart 6).

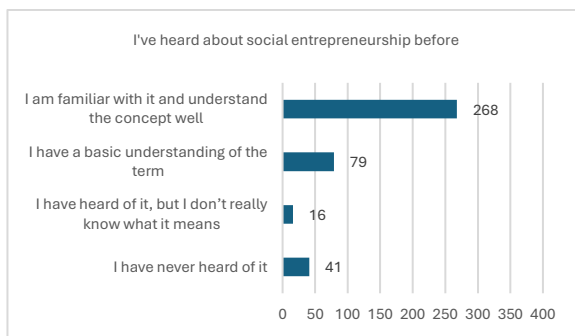


Chart 5: Awareness of social entrepreneurship

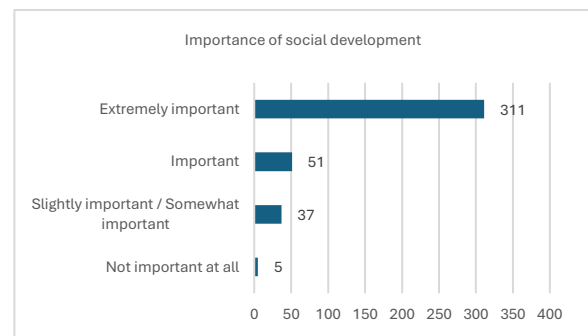


Chart 6: Importance for social development

Opinions were more divided when comparing the effectiveness of social enterprises with that of non-governmental organisations. Some respondents attributed greater capacity for solving social issues to social enterprises, whereas others disagreed or remained neutral. This ambivalence may reflect a lack of concrete experience with either organisational form, or uncertainty about the boundaries between them (Chart 7).

In contrast, when asked about the efficiency of social enterprises in relation to commercial companies, many students expressed cautious optimism. A substantial share considered social enterprises to be potentially as effective as conventional firms, though scepticism was also present. This tension between enthusiasm and doubt highlights a central challenge: students are willing to believe in the economic viability of socially driven businesses, yet they remain unsure about how such enterprises perform in practice (Chart 8).

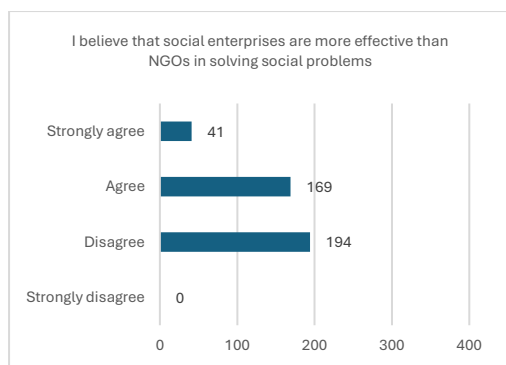


Chart 7: Effectiveness compared to NGOs

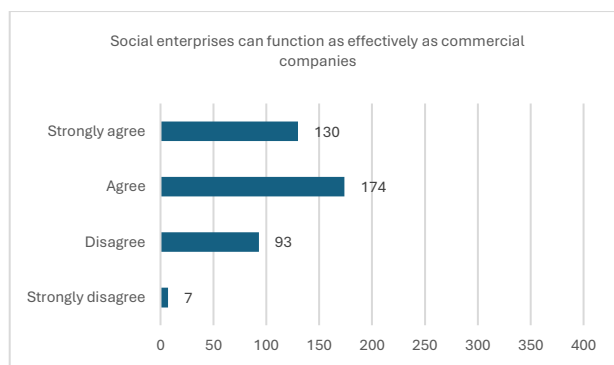


Chart 8: Efficiency compared to commercial companies

Students were also asked about their willingness to engage directly with social entrepreneurship, either by working in or establishing such an organisation. The results indicated a cautious interest: while only a minority expressed strong enthusiasm, a notable portion selected moderate values on the scale. This distribution suggests that, although social entrepreneurship is not yet a mainstream career aspiration, it does hold potential as an alternative professional pathway (Chart 9).

When reflecting on their own studies, most respondents reported that their studies had provided them with little practical knowledge of social entrepreneurship. This result is consistent with earlier findings of conceptual ambiguity. It highlights the structural gap in university curricula, where the subject remains marginal or entirely absent (Chart 10).

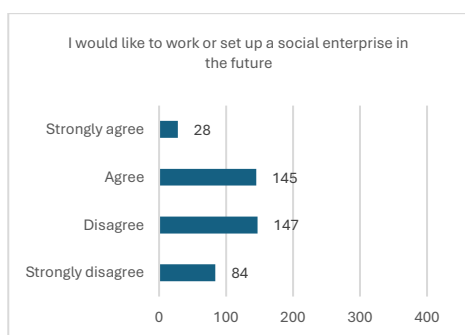


Chart 9: Willingness to work in or establish a social enterprise

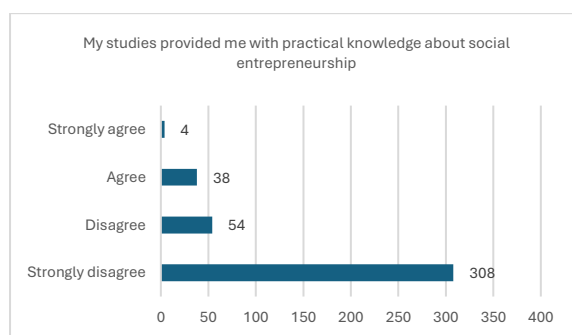


Chart 10: Practical knowledge from studies

Nevertheless, students showed clear expectations for change. A strong majority agreed that social entrepreneurship should be incorporated into compulsory educational programmes. The high level of support for curriculum integration stands in contrast to participants' limited self-reported practical preparation within their previous studies, suggesting that students recognize the relevance of the topic even if their personal exposure has been limited (Chart 11).

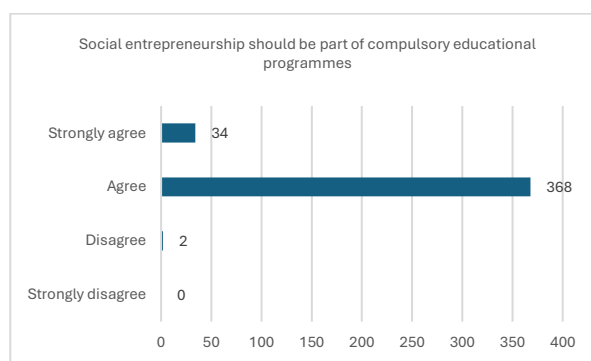


Chart 11: Social entrepreneurship in compulsory curricula

Taken together, these findings point to a noteworthy paradox that while students display a clear openness toward engagement in socially oriented initiatives, the existing institutional and educational structures appear insufficient to provide them with the competencies and frameworks necessary for effective participation. Addressing this gap emerges as a key prerequisite for transforming students' motivational readiness into sustained, practice-oriented involvement in social entrepreneurship.

In addition to the closed-ended items, respondents were invited to provide open comments describing how they perceive social entrepreneurship as differing from conventional business activity. The qualitative responses varied considerably in both depth and conceptual precision. A substantial proportion of participants highlighted the primacy of a social mission and the reinvestment of profits for collective benefit (Montgomery, Dacin and Dacin, 2012), while others emphasised the inclusive and community-oriented character of social enterprises, particularly their responsiveness to the needs of disadvantaged groups. Conversely, several respondents explicitly acknowledged difficulty in articulating the distinction between social and traditional entrepreneurship. This variation in responses suggests the coexistence of a core understanding among some students and substantial conceptual gaps among others.

A second open question concerned preferred educational activities that might increase knowledge or interest in social entrepreneurship. Here, students highlighted the importance of experiential formats. The most frequent suggestions included workshops, meetings with practitioners, and specialised training courses. These forms of learning were perceived as more engaging and effective than purely theoretical instruction. Some respondents, however, expressed scepticism, indicating that no additional activities would be necessary.

Although qualitative in nature, these responses complement the quantitative data by providing a richer picture of students' perspectives. They suggest that awareness of the social mission was present among many respondents, although it was not always clearly articulated, and that students value practical exposure to strengthen their knowledge. Importantly, the open-ended feedback also underscores a desire for active participation and direct contact with real-world examples rather than abstract discussion.

Spearman's rank-order correlation analysis revealed a weak, but statistically significant positive association between students' awareness and knowledge of social entrepreneurship ($r_s = 0.14$, $p = 0.005$). This indicates that higher awareness was associated with only slightly higher levels of substantive knowledge. Considered together with the high levels of positive orientation towards social entrepreneurship and the identified knowledge deficits, this weak association further highlights the distinction between familiarity with the concept and substantive preparedness.

The findings underline a gap between aspiration and preparation. Universities, if they wish to foster socially conscious entrepreneurship, need to integrate the topic more systematically into curricula and provide opportunities for hands-on engagement. Broader ecosystem support such as incubators, funding schemes, and visibility of role models may also be necessary to transform student interest into tangible entrepreneurial activity.

This enthusiasm-knowledge gap suggests that educational provision alone may be insufficient to convert positive attitudes into sustained entrepreneurial engagement. In this context, virtual incubators may function as transitional environments between learning and implementation by providing mentoring, peer interaction, project development support, and access to entrepreneurial networks. For rural students, locally embedded brokers, such as universities, community organisations, practitioners, or regional development actors, may complement digital provision by connecting online learning with local resources, funding opportunities, partners, and concrete social needs. Such mechanisms could therefore reduce the distance between acquired competence, entrepreneurial intention, and actual venture-related behaviour.

From a rural social innovation perspective, these findings suggest that the principal educational challenge may not be a lack of positive orientation towards socially driven initiatives, but rather a competence gap between recognising the value of social entrepreneurship and understanding how such initiatives can be operationalised. This distinction is particularly relevant in rural contexts, where social innovation often depends on the capacity of local actors to identify community needs, mobilise limited resources, build collaborative networks, and develop economically sustainable responses to local challenges (Lumpkin, Bacq and Pidduck, 2018). The findings therefore shift attention from simply promoting awareness of social entrepreneurship towards developing the practical, relational, and strategic competencies required to participate in rural social innovation processes.

Descriptive and explanatory focus groups findings

The focus group discussions provided additional descriptive and explanatory insight into the barriers, educational needs, and perceived opportunities associated with entrepreneurship in rural areas. Participants identified the limited promotion and visibility of rural entrepreneurial opportunities as a barrier, alongside the tendency of young people to seek educational and professional opportunities in larger urban centres. At the same time, participants emphasised the need for targeted training, advisory support, and educational initiatives specifically oriented towards rural entrepreneurship.

In discussing future business opportunities, participants pointed to online business models, while tourism and culture-related activities were also perceived as promising areas for rural entrepreneurship. These observations indicate that students associate rural entrepreneurship not only with locally embedded activities but also with opportunities enabled by digital technologies and access to markets beyond the immediate local environment.

Descriptive observations from the practical business-model exercise suggested a further competence-related challenge. Although participants became familiar with the key components of a business model, they found it more difficult to integrate individual components into a coherent entrepreneurial concept. The exercise required participants to consider how value propositions, target groups, resources, activities, partnerships, and other elements should reinforce one another rather than be treated as isolated components. These descriptive observations suggest a possible application-level gap between acquiring knowledge of entrepreneurial tools and using them in an integrated manner.

Participants particularly valued course content related to business models and entrepreneurship, as well as AI, marketing, and international cooperation. Overall evaluations of the course were positive, and participants considered its content relevant to the development of businesses in rural areas. However, they also indicated that wider promotion and visibility of the course would be necessary to reach more potential beneficiaries.

Following the completion of the digital *upskillingRural* course, students reported increases in their self-assessed understanding and confidence across key areas of social entrepreneurship.

- M1 – Digital Skills Apps and Tools for Rural Tourism
- M2 – Digital Skills for Employment
- M3 – Green Skills
- M4 – Circular Economy
- M5 – Employability in Rural Tourism Entrepreneurship
- M6 – Social Entrepreneurship
- M7 – Community Engagement & Involvement
- M8 – Building Long Lasting Networks and Relationships
- M9 – Internationalization / Foreign Clients
- M10 – Marketing
- M11 – e-Marketing -Video based Content
- M12 – e-Marketing using AI & Metaverse Spaces.

Although the Social Entrepreneurship module (M6) explicitly addressed the theoretical and practical foundations of social enterprise development, it formed part of a broader, integrated curriculum designed to build complementary competencies across related domains. All participants completed the full *upskillingRural* course, which comprised twelve interlinked modules combining digital, environmental, and entrepreneurial dimensions.

The design of the programme reflects the assumption that social entrepreneurship cannot be developed in isolation from its contextual enablers such as digital transformation, sustainability, community engagement, and networking. Consequently, while M6 provided conceptual framework and core definitions, other modules equipped students with the applied tools and transversal skills necessary to operationalize social entrepreneurial initiatives.

The observed pre-post changes in self-reported competence reflect responses collected following participation in the modular programme rather than the contribution of a single thematic unit. The overall self-assessment of knowledge and competence related to the course increased from $M = 3.12$ ($SD = 0.98$) before the intervention to $M = 4.27$ ($SD = 0.89$) after its completion. A paired-samples t-test indicated that this increase was statistically significant, $t(403) = 17.73$, $p < .001$. The mean increase was 1.15 points (95% CI [1.02, 1.27]), with a large effect size (Cohen's $d = 0.88$).

Table 2 presents the quantitative results of students' self-assessed competencies before and after completing the *upskillingRural* online course, aligned with the learning objectives of its modular framework. Across all five competence areas, participants reported substantial pre-post increases in self-assessed knowledge, competence, and confidence, indicating positive competence-related outcomes associated with the integrated course design.

Table 2: Pre- and Post-Course Changes in Students' Self-Assessed Competence Levels and Their Correspondence with *upskillingRural* Modules

Competence Area	Before Course (Mean $\pm$ SD)	After Course (Mean $\pm$ SD)	% Increase	Corresponding <i>upskillingRural</i> Modules	Competence Domain Represented
Understanding of operational models	3.04 $\pm$ 0.85	3.78 $\pm$ 0.58	+24.3%	M6, M7	<i>Conceptual competence</i> : understanding how social enterprises function, balance social and economic goals, and create hybrid value through stakeholder engagement.
Knowledge of funding mechanisms	2.55 $\pm$ 1.03	3.14 $\pm$ 0.92	+23.1%	M5, M8	<i>Financial and strategic competence</i> : identifying diverse funding sources, partnerships, and sustainability strategies for social ventures.
Ability to assess social impact	2.49 $\pm$ 1.04	3.75 $\pm$ 0.56	+50.6%	M3, M4, M7	<i>Analytical competence</i> : measuring, interpreting, and reporting social and environmental impact in community-based initiatives.
Awareness of hybrid business models	3.03 $\pm$ 0.91	3.85 $\pm$ 0.45	+27.1%	M6, M5, M9	<i>Theoretical and contextual competence</i> : recognising hybrid organisational structures that integrate social missions with economic sustainability.
Confidence in applying concepts	3.53 $\pm$ 0.72	3.73 $\pm$ 0.56	+5.7%	M1, M2, M10, M11, M12	<i>Applied and digital competence</i> : using digital tools, online communication, and marketing technologies to implement social entrepreneurship ideas in practice.

The largest self-reported increase concerned participants' ability to assess social impact (+50.6%), an area conceptually aligned with the learning objectives of Green Skills (M3), Circular Economy (M4), and Community Engagement & Involvement (M7). Similarly, self-reported increases in perceived knowledge of funding mechanisms (+23.1%) and understanding of operational models (+24.3%) were aligned with learning objectives addressed across Social Entrepreneurship (M6), Employability in Rural Tourism Entrepreneurship (M5), and Building Long Lasting Networks and Relationships (M8) modules.

Growth in awareness of hybrid business models (+27.1%) and confidence in applying concepts (+5.7%) was conceptually aligned with the learning objectives of the Digital Skills (M1-M2) and e-Marketing (M10-M12) modules, whose learning objectives are intended to support students' ability to translate theoretical principles into practice through digital communication, innovation, and marketing strategies.

The alignment between students' post-course responses and the educational content of all *upskillingRural* modules supports the pedagogical coherence of the programme. Improvements observed in the questionnaire were conceptually consistent with the intended learning outcomes related to theoretical understanding, practical application, community engagement, digital literacy, and sustainability awareness.

These findings indicate that the observed self-reported pre-post changes were conceptually consistent with the transversal competences targeted by modular design. By combining conceptual learning with applied, technology-supported practice, the *upskillingRural* programme may have potential to support students' perceived capacity to translate abstract principles into context-sensitive, community-oriented action. However, the present findings demonstrate changes in self-reported competencies rather than actual entrepreneurial behaviour. In the context of rural social innovation, the differentiated pattern of competence gains is also noteworthy. The particularly strong improvement in social impact assessment, accompanied by gains in

understanding operational, funding, and hybrid business models, suggests that the observed pattern of responses extended beyond changes in general awareness and included several self-reported competence domains. Rather, the programme appears to strengthen several competencies relevant to recognising, designing, and evaluating socially innovative responses to local challenges. These results should nevertheless be interpreted as competence-related outcomes rather than evidence of subsequent social innovation activity.

Taken together, the findings suggest that the modular approach represents a potentially useful framework for competence-based education in social entrepreneurship within higher education. The observed pre-post changes also illustrate the potential of digitally mediated, interdisciplinary learning environments to support the development of relevant self-reported competences. However, the uncontrolled pre-post design does not permit casual conclusions regarding the effectiveness of the programme.

5. Conclusion

The findings of this study highlight a persistent paradox that students display strong enthusiasm for social entrepreneurship, yet their practical knowledge and educational preparation remain limited. The contribution of this study extends beyond documenting pre- and post-course changes in students' self-reported knowledge and competence. The findings identify a more specific educational challenge relevant to rural social innovation that is the coexistence of a positive orientation towards social entrepreneurship with limited preparedness to operationalise socially oriented initiatives. This suggests that educational support for rural social innovation should move beyond awareness-building and address a broader configuration of competencies related to operational models, funding, impact assessment, networking, and digital application. By linking these competence areas within an integrated modular learning architecture, the study provides evidence for a multidimensional approach to social entrepreneurship education in rural contexts. The objectively assessed questionnaire items indicated that many participants correctly recognised core features of social enterprises, although some conceptual ambiguities remained. Separately, the pre-post self-assessment indicated limited perceived preparedness in areas such as operational models, funding mechanisms, and practical application, followed by higher self-reported scores after course completion. Open-ended responses further emphasised students' preference for experiential learning, workshops, and practitioner interaction, underscoring the limitations of predominantly theoretical instruction.

However, the observed improvements in self-reported competencies should not be interpreted as evidence of subsequent entrepreneurial behaviour. The intent-action gap suggests that favourable attitudes, perceived competence, and intentions do not necessarily translate into the establishment of a social enterprise or sustained engagement in entrepreneurial activity. As the present study did not track participants' behaviour after course completion, it cannot determine whether the observed changes resulted in real-world entrepreneurial action. The findings should therefore be interpreted as evidence of increased perceived preparedness and motivational readiness rather than demonstrated behavioural change.

In response to these needs, the *upskillingRural* online course provided a structured online learning environment aimed at bridging such gaps. Through interactive modules, webinars, case studies, virtual group projects, and direct practitioner engagement, the course offered both flexibility and authentic learning experiences. Over two years, more than 400 students from diverse academic disciplines completed the course, earning certificates and developing portfolios of small-scale social projects. Participant feedback suggested that the digital and collaborative components, particularly group projects and real-world simulations, were perceived as useful for supporting engagement, conceptual understanding, and active learning.

The descriptive and exploratory focus group findings deepen this interpretation by showing that the challenge extends beyond limited knowledge. Participants identified difficulties in integrating individual business-model components into coherent entrepreneurial concepts, while also pointing to limited visibility of rural opportunities and youth migration towards larger cities as contextual barriers. Their emphasis on advisory support, targeted education, and digitally enabled business opportunities provides a more practice-oriented perspective on the forms of support that may be relevant to rural entrepreneurship development.

Despite these pedagogical interventions, the questionnaire data suggest that some knowledge gaps remain, highlighting the ongoing need to refine digital learning methodologies and further integrate experiential components into social entrepreneurship education. The findings suggest that online platforms may have potential to support accessibility, engagement, and applied skill development, achieving deeper conceptual mastery requires intentional, iterative, and interaction-rich course design.

Importantly, the programme holds relevance for students originating from rural areas, who often face structural barriers to accessing innovation-oriented education and professional networks. By integrating digital skills, sustainability awareness, and community engagement within a single learning framework, the course may strengthen students' capacity to apply social entrepreneurship principles within their regional contexts. Strengthening the competences of rural students may support individual employability but also contributes to rural resilience, inclusive growth, and the revitalisation of peripheral communities.

Overall, this research underscores the importance of combining empirical evidence with innovative digital pedagogy. Universities seeking to cultivate socially conscious and digitally competent entrepreneurs should embed structured online learning, experiential modules, and practitioner collaboration within their curricula. Broader ecosystem support, including mentorship programmes, virtual incubators, local brokers, and increased visibility of social enterprise role models, may further support the transition from student motivation to entrepreneurial action. Virtual incubators can provide accessible mentoring, networking, and project-development support, while local brokers can connect students with community needs, practitioners, funding opportunities, and locally embedded entrepreneurial networks. These mechanisms may be particularly relevant for students from rural areas, where access to conventional entrepreneurship support infrastructures may be more limited. Collectively, these insights provide a roadmap for leveraging e-learning to strengthen competence development, motivation, and real-world engagement in social entrepreneurship.

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