

Impact of Collaborative Problem Solving on Youth Social Entrepreneurial Intention

Ronan McArt¹, Veronica McCauley² and Paul Flynn²

¹St. Angela's College Sligo, Ireland

²National University of Ireland Galway, Ireland

rmcart@stangelas.nuigalway.ie

Abstract: Social Entrepreneurship has been recognised as a means of improving the welfare and quality of life for marginalised and neglected communities around the world. Social entrepreneurs apply entrepreneurial approaches to identify problems; create solutions and marshal the necessary resources to form social ventures. To meet an increased demand for socially driven entrepreneurs we need to increase the supply of citizens armed with the competencies and desires to address future social issues. Society's capacity to solve both social and economic problems can be augmented through the implementation of carefully designed, multidisciplinary educational programmes in second level education. This paper presents the findings of the theoretically informed Design Thinking process, that sought to explore how adolescent learners develop shared meaning through collaborative, social interactions centered around solving localised societal challenges. This pedagogical approach, informed by a social constructionist paradigm, required students to collaborate in teams for the creation of an artefact that addressed the sustainable transport needs of their community. The study employed a mixed methods data collection strategy that included both the student and the teacher voice. Data sources included interviews, questionnaires, lesson evaluations and classroom resources. Results from the Social Entrepreneurship Pilot Programme conducted with a teacher and 20 students in small rural post-primary school revealed that social learning is an effective approach to increasing Social Entrepreneurial Intention, 47% of students would consider starting a social venture with their group. Collaborative approaches to problem solving proved an effective means of enhancing student efficacy, empathy, and engagement. 82% of students reported confidence in solving social problems in groups but students reported a decline Social Entrepreneurial Self-Efficacy – indicating collaborative learning works better to increase Perceived Collective-Efficacy. It is anticipated that the research will be of interest to those involved in the delivery of Social Entrepreneurship education and applied research within this field.

Keywords : education, entrepreneurship education, entrepreneurial intention, social entrepreneurship, social constructionism

1. Introduction

Entrepreneurship education is one of the fastest growing curriculum areas globally (Ratten and Usmanij, 2021). Interest in social entrepreneurship has increased in line with heightened emphasis on sustainability, turning Entrepreneurship Education (EE) towards sustainable and social entrepreneurship (Zafar et al., 2022; Mir Shahid and Alarifi, 2021). Social entrepreneurs are motivated by social mission and the creation of social value rather than economic value (Dees, 2001) addressing problems concerning the most vulnerable in society. Social entrepreneurs are change agents, utilising innovation to create social equilibrium (Phillips et al., 2015), and generating income to develop and maintain viable enterprises (Alvarez de Mon et al., 2021). Social entrepreneurship has enormous social and economic potential, Forfas (2013) reported that social entrepreneurship could create 100, 000 jobs in Ireland if EU targets of 9% GDP "Europe 2020" were reached.

Social entrepreneurship is a socially embedded activity and social entrepreneurship education should be directed towards increased community engagement where the entrepreneur(s) will likely have greater understanding of the problem they aim to solve (UN, 2020; Mir Shahid and Alarifi, 2021). As youth (15-24YO) are more positive in outlook, more open to risk than adults with increased capacity to think abstractly and empathise, early introduction to social entrepreneurship has the potential to engage young citizens in targeted social and sustainable goals (Bublitz et al., 2021; UN, 2020;). Collaborative activities offer a unique set of benefits to youth social entrepreneurs; peer-to-peer learning, moral support, exchange of ideas and affirmation (UN, 2020). Effective collaboration enhances Entrepreneurial Self-Efficacy (ESE) (domain specific form of self-belief), an antecedent of Social Entrepreneurial Intention (SEI). Intentionality is an oft measured concept, as it is a robust predictor of future behaviours (Ajzen, 1991), in the context of this study, to behave entrepreneurially in the future. Social problems are multifaceted and may be daunting for the individual learner, therefore an educational intervention seeking to address social issues and enhance SEI requires an appropriate educational approach. Collaborative learning as a process is most effective in complex contexts (Zambrano et al., 2019; Reynolds, 2016). Youth social entrepreneurship academic research is novel (Kruse, 2019), extant literature on social entrepreneurship education is unstructured, and lacks clear frameworks (Mir Shahid and Alarifi, 2021).

Providing secondary school teachers and students with realistic, flexible curricula and pedagogical tools offers the potential to inspire social change and reach economic targets (British Council, 2017; Waghid, 2019). This paper investigates the impact of a designed, structured framework of Social Entrepreneurial learning on student’s perceptions of SEI.

2. Social Entrepreneurship Programme (SEP) pilot design

The SEP pilot was conducted in a vocational school in rural Ireland. The designed programme was delivered over 6 lessons in 3 weeks in September 2021 to twenty Transition Year students (aged 15-16, 9M:11F). Transition Year is an optional year between examinable cycles that present students with an opportunity to develop vocational skills. The students had no prior exposure to social entrepreneurship. The self-selected groups were either all males or all females. At the start of the programme students were given the challenge to make their school/community more sustainable by reducing car journeys to their school as their region had the highest national figures. The 6-lessons were developed within a Design Thinking Framework to help the students’ groups solve the problem selected. Design Thinking was deemed an appropriate framework as it is suitable for use by young, inexperienced designers such as secondary school students and naturally facilitates collaborative problem-solving (Aflatoony et al., 2018). This pilot study is the first cycle of a systematic, iterative, and collaborative testing of a social entrepreneurship intervention, assuming the first step in a Design-Based Research (DBR) project.

Table 1: SEP pilot lesson structure

Lesson Number	Lesson Title
	Introduction and Collaboration
	Empathy
	Problem Definition
	Ideation
	Prototyping, Design and Evaluation
	The Pitch (Presentation)

3. Procedure

A mixed methods research procedure was applied in this study. The pre- and post- intervention online surveys constituted the quantitative research element and were predominantly made up of Likert Scale items from previously validated studies. Social Entrepreneurial Intention, Social Entrepreneurial Self-Efficacy (SESE) and Social Innovativeness were assessed using scales from Liñán and Chen, (2006), Zhao et al. (2005) and do Paco et al. (2011) respectively, and an adapted teamwork scale for collaboration from Lower et al. (2017). Qualitative research was designed to capture data that quantitative research could not, to illuminate how, where and when students collaborated to solve user problems. Qualitative data was generated through two teacher interviews, an open-ended student questionnaire, lesson evaluations from students and teacher, and analysis of returned classroom activity sheets.

4. Results

Table 2 highlights the summated mean scores of scale items in the pre- and post- intervention online questionnaire. Mean Collaboration increased after the programme (0.193, Table 2). The mean scales evidenced small increases in SE innovativeness (0.1342) and SE Intention (0.0439), and a decrease in SE Self-Efficacy (-0.1158).

Table 2: Summated mean data

Construct	Mean		
	Pre-Int	Post-Int	Mean Diff
SE Innovativeness	4.4026	4.5368	0.1342
SE Self-Efficacy	5.0877	4.9719	-0.1158
SE Intention	4.2982	4.3421	0.0439
Collaboration	3.8583	4.0513	0.193

The open-ended qualitative exit survey revealed 65% of students reported having increased interest in Social Entrepreneurship post intervention. 80% of students reported increased positive views of the environment and their local community. 82% of students indicated confidence in their group’s ability to solve future social problems, 37% of students reported that they would consider starting a solo venture and 47%, that they would start a social venture with their group after the intervention. The cooperating teacher revealed “I definitely think there would...more likely...be an increased interest in it (Social Entrepreneurial careers)” post intervention.

Students worked collaboratively, applying Design Thinking principals to solve their community problem. 70% of students reported changed views on their community and 76% of students reported becoming more aware of their teammates opinions and feelings because of taking part in the programme. There was no evidence of social loafing. The images below (each student had a unique identifying colour to track individual engagement) and evidence from the cooperating teacher indicated that students experienced increased engagement and collaboration with the more complex and creative challenges. Figures 1, 2 and 3 demonstrate the individuals’ efforts to engage and collaborate to solve problems and provides illustrations of the groups collaborative output.

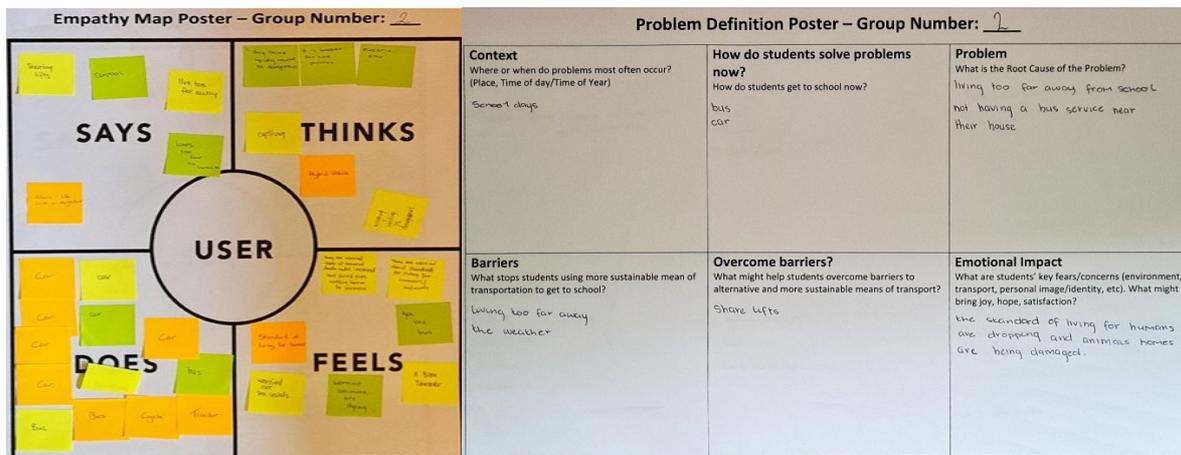


Figure 1: Empathy map and problem definition poster

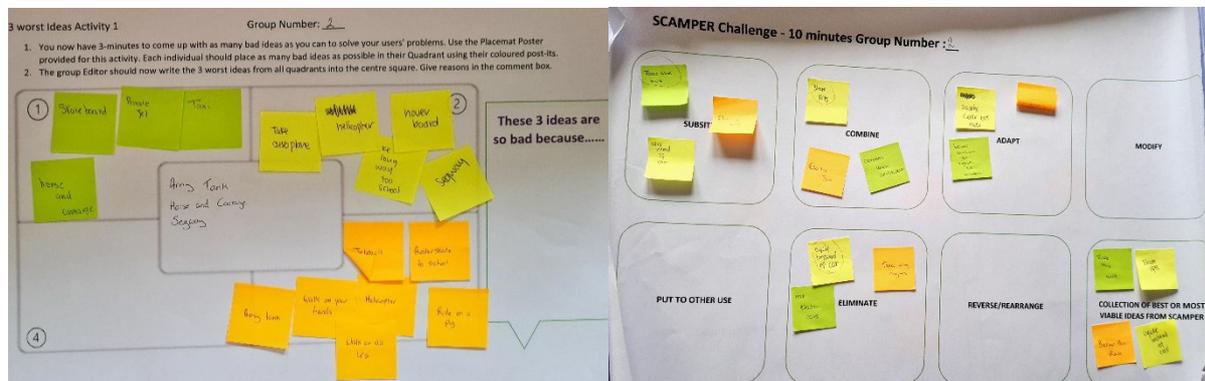


Figure 2: Three worst ideas and SCAMPER challenge

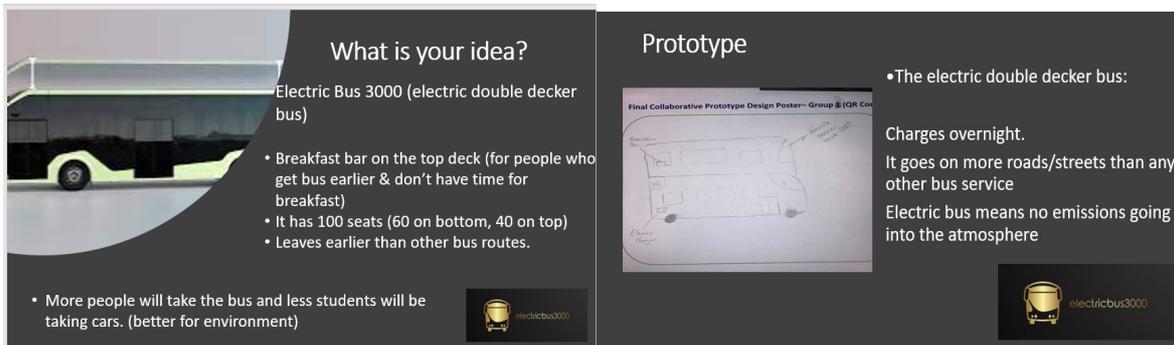


Figure 3: Design prototype

5. Discussion

This designed Collaborative Problem Solving (CPS) programme demonstrates potential to increase students' perceptions of their groups ability to innovate and solve social entrepreneurial problems. Students rated their collaboration higher post-intervention in the mean scale (0.193 mean increase, Table 2). The small increase may not be surprising in this instance as the cooperating teacher noted a personal preference for group work with students, therefore students may have been quite used to collaborative exercises and perceived smaller personal change. SESE is a measure of an individual's confidence in their ability to perform social entrepreneurial tasks. SESE declined in the pilot. Therefore, CPS works well to increase the group's perception of their capabilities but not the individual's perception of their capabilities. SEI increased for the individual and the group, however, the ability to solve complex entrepreneurial problems collaboratively leads to higher group SEI than individual SEI. When challenges are not interesting or complex – group and individual engagement waned slightly. Complex, novel challenges are required for persistent engagement and collaboration.

6. Next steps

The pilot was conducted in one school. The next phase of research will require testing in more schools and a larger sample to enable further quantitative analysis. Groups will be selected by the teacher to examine how collaboration works when students may not be close friends. An examination of mixed gender groups would also provide interesting insights.

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