Developing Critical Global-Citizenship through a Social Innovation project in an Elementary School

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Abstract

Social Innovation Learning offers a transformative approach to education which requires the development of skills through participative actions aimed at furthering social justice and critical global citizenship. This study highlights the importance of a participative decision-making methodology within the Social Innovation Learning Framework established as part of the European NEMESIS Project. All the pupils and teaching staff at a primary school took part in this project together with families and other stakeholders. We collected data from 101 pupils, 3 parents, 33 teachers and 2 researchers from the advisory board. Information was collected using field diaries, written accounts, interviews and focus groups. Results show that learning was achieved in all the skills that make up the three dimensions of the model and the various interrelations between them. The methodological criteria facilitated collective decision-making, with pupils making a commitment to improving the world from a local and global perspective.

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La Educación para la Ciudadanía Global Crítica a través de un Proyecto de Innovación Social en una Escuela de Primaria

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Resumen

El aprendizaje de innovación social ofrece un enfoque transformador de la educación que requiere el desarrollo de habilidades a través de acciones participativas destinadas a promover la justicia social y la ciudadanía global crítica. Este estudio destaca la importancia de una metodología de toma de decisiones participativa dentro del Marco de Aprendizaje de Innovación Social establecido como parte del Proyecto Europeo NEMESIS. Se recogió información de 101 niños y niñas, 2 madres, 1 padre, 33 docentes y 2 investigadoras del consejo asesor. La información se recopiló mediante diarios de campo, relatos escritos, entrevistas y grupos focales. Los resultados muestran que se logró el aprendizaje en todas las competencias que componen las tres dimensiones del modelo y las diversas interrelaciones entre ellas. Los criterios metodológicos facilitaron la toma de decisiones colectivas, y los alumnos se comprometieron a mejorar el mundo desde una perspectiva local y global.

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T he educational model followed by each school is reflected in the way in which they define their particular project and therefore by how they articulate democratic participation and citizenship development (Andreotti, 2014). School projects that aim to bring about social transformation are in themselves a force for local and global change. They provide an inclusive perspective in which the students develop a sense of responsibility towards others and towards the world as a whole (Ho & Barton, 2020; MacKenzie et al., 2016; Willemse, et al., 2015). During this process, the educational community begins to feel like a community and acts as an agent of social change (Blasco-Serrano et al, 2019). These educational experiences are sometimes fraught with contradiction, in that compromises must be reached between the demands of a neoliberal, results-based approach to education and the foundations of a critical democracy. Thus, on the one hand, schools are obliged to achieve results, and on the other, they must encourage pupils to reflect on important issues and think critically about them, from different perspectives, including those of minority groups (Lim, 2015). We therefore require models and projects that can facilitate and strengthen structural transformation and go beyond nurturing individual development (Mannion et al., 2014). Collective construction and reflection will be key factors when dealing with the complexities of each particular context and the problems of social justice (García Gómez, 2021; Westheimer, 2015). These problems, which manifest themselves in every corner of society today, can be resolved through critical thinking and collective effort (Lim, 2015). This is the objective of Social Innovation Education.

Our research falls within the framework of Social Innovation Education (SIE) and therefore goes beyond Social Innovation (SI). Social Innovation (SI) is defined as a combination of 3 dimensions: "collective satisfaction of unsatisfied or insufficiently met human needs, building more cohesive social relations and, through socio-political bottom-linked empowerment, work toward more democratic societies and communities" (Moulaert et al., 2017, p.10). Social Innovation Education (SIE) involves much more than just developing the different applications of SI (Social Innovation). It involves improving the processes by which new solutions to social problems can be found. It also helps us meet social needs (Mulgan, 2006; Deiglmeier et al.,

2008). SIE also opens up new methodological perspectives in that the community itself becomes a researcher that participates in the social innovation process from start to finish, in this way providing *in situ* solutions to the problems they encounter. In other words, the community becomes an investigative agent of "educational constructionism", as it imagines new realities and then takes action to construct them (Wittmayer et al., 2019).

Within this framework, the educational community must play a leading role in Social Innovation Education (SIE) (Otten et al., 2021), in that it is responsible for and must oversee the processes involved. It becomes an agent for change by setting out the problematic issues that must be addressed on the basis of their relative importance and significance. This is a participative model for action research in which the different actors play an active role throughout the whole process. This ranges from the setting of goals to the validation and implementation of changes. This participation in society is in itself an act of learning (Biesta, 2019) in search of a common good (Wang & Hoffman, 2016; Westheimer, 2015), which can change students' attitudes (Wanders et al., 2020). Their actions within the community can create democratic power flows and more sustainable systems in the face of other, less democratic movements and forms of oppression (Alviar-Martin & Baildon, 2016; Andreotti, 2014; Themelis & Hsu, 2020; Wanders et al., 2020). Students can become investigative agents, as they become aware of their capacity to imagine new ways of living and act to put them into practice in a critical way, as a means of achieving a fairer society (Wang & Hoffman, 2016; Wood et al., 2018). According to Biesta (2019, p.660), this will require "citizens who can make up their own mind, rather than simply follow orders". To achieve this, communities must give students the chance to participate, investigate, act and reflect on the problems around them (Otten et al., 2021), assessing the impact of possible changes on themselves and others (Lim, 2015). They must also play a leading role in processes of Social Innovation Education (SIE) from a democratic, global-citizenship perspective.

SIE, through a participative model, seeks to educate citizens in the processes of social change, in the creation of new models for organizational management and social entrepreneurship, and in the search for new solutions to social problems. It also looks for new ways of meeting local and global

social needs (Banks, 2008; Deiglmeier et al., 2008). These citizens must also become aware of and learn to combat systems of class, race and gender oppression (Freire, 2005; Lim, 2015).

This participative approach requires both a target at which the action must be directed and a framework within which citizens can work towards social justice (Wood et al., 2018). This involves altering and improving the structures that sustain injustice. The Delors Report (1998) provided the key principles for a 21st-century education in which "learning to be" became the main objective, so transcending the previous approach based on "utility". It is important that the balance between knowledge and transformative action, the bases of a process of social change with both short- and long-term perspectives (Wood et al., 2018), must be founded not only on solidarity but also on moral responsibility (Gallardo Vázquez, 2009). Learning from a position of responsibility enables us to connect with values and engenders a conscious mindset in the learning process (Sáez-Rosenkranz et al., 2017), which is materialized in actions for greater social justice. This is a fundamental principle of the Nemesis Project.

NEMESIS, New Educational Model Enabling Social Innovation Skills

The NEMESIS project arose from the need to create a model to develop the skills required for Social Innovation Education (SILF - Social Innovation Learning Framework). It also set out to design a teaching-learning model centred on social innovation and values such as empathy, human rights, social justice (Tichnor-Wagner et al., 2016) and by extension, the Sustainable Development Goals (SDG) (UN, 2015). NEMESIS, a Horizon 2020 European project, stands for New Educational Model Enabling Social Innovation Skills development (Protopsaltis et al., 2019). This project defines Social Innovation Learning as a collaborative learning process for the empowerment and sociopolitical activation of students to lead social change and identify opportunities for social value creation. It also seeks to build social and collaborative relationships and take innovative action for a fairer, more democratic society (Kalemaki et al., 2019) and cast light on varying forms of oppression (Themelis & Hsu, 2020).

When implementing this project, teachers combine innovative pedagogies and learning models, open technology and participative relations and processes. Students, teachers, parents, education experts and social innovators work together to design educational projects and collaborate to solve real community and sustainability challenges. The method is based on participative and democratic processes, in which participants are divided into interdisciplinary teams and become both designers and builders (Booth & Ainscow, 2002). Students begin by discussing their ideas amongst themselves. A few representatives then gather these ideas together and discuss them with parents, teachers, decision-makers within the community (such as local councillors and civil servants) and local innovators.

The ideas arising from these discussions are then converted into projects, which can be carried out by the community. In this way, students can voice their concerns, make decisions, and contribute openly to work in support of their environment and society. This project works when teachers and other adults trust the children and offer them an opportunity to try to resolve these challenges with their support (Reichert & Torney-Purta, 2018).

Within the model for education for social transformation, the skills to be acquired are grouped together within the different dimensions of global citizenship. The first dimension involves the ability to identify opportunities to create social value, from an action-based perspective and emphasizing the value of students' voices when trying to combat inequality and oppression (Oxley & Morris, 2013). The second dimension focuses on creating collaboration. Finally, the third dimension highlights the ability to take innovative action for the benefit of society, while taking the values of equality, liberty and sustainability into account (Mannion et al., 2014).

Table 1.
Dimensions and skills of the SILF - NEMESIS project

Dimensions	SKILLS
Identify opportunities for social value creation	Vision for a better world
	Responsible and critical thinking
	Self-efficacy
	Empathy
	Embracing diversity
Form collaborations-build relationships	Social Communication Skills
	Collective planning and democratic decision making
	Collective and creative thinking and problem solving
	Take the leap for value creation
	Collective efficacy
Take innovative action	Organisation and mobilisation of resources
	Reflective learning
	Social resilience

Educational communities are faced with the challenge of creating a methodological system to encourage the development of skills (Lamb et al., 2017), which must then be incorporated into the curriculum and assessment system. To achieve this, it is necessary to develop a conscience based on democratic values and to create spaces for reflection about self and others, and about local and global issues (Wang & Hoffman, 2016).

From an educational perspective, the aim is therefore for pupils to acquire greater levels of initiative, self-management and participation. To this end, the project aspires to help children come to realize that decision-making is a collaborative process in which it is necessary for the different groups involved to negotiate and reach agreements (Arnstein Sherry, 1969). To achieve this, teachers must adapt their role as facilitators, their processes and methods to the attitudes and level of competence of their pupils (Alviar-Martin & Baildon, 2016; Guo 2014). This involves strengthening children's ability to act on their own initiative and their capacity for self-management

in shared decision-making, so enabling them to lead their own processes in dealings with other actors (Shier, 2001). It is only possible to feel committed as citizens through empowerment, which itself can be enhanced through participation (Hart, 2013). The challenge is to involve students in social and environmental problems to find joint solutions. It is therefore important for children to be able to take a long-term view from different perspectives, so as to enable them to form opinions and decide what to do (Lim, 2015). At the same time, it is important for children to make informed, critical choices, while being aware of both local and global contexts (Keating, 2016).

In order for the participation experience to be possible, the educational projects must be planned with methodologies that emphasize experience, cooperation and collaborative deliberation (Alviar-Martin & Baildon, 2016; Blasco-Serrano et al., 2019; Ho & Barton, 2020). Children must be given the space they need for participation, while adult members of the community must allow new ways of satisfying their collective needs to emerge (Dieste et al., 2019). Social innovation revolves around the empowering and transformative capacity to improve individual and collective capabilities and, at the same time, to build new relations and produce collective outcomes and social value (Kalemaki et al., 2019).

Contextualization of the Project in a School

One of the schools taking part in the NEMESIS Project is a 50-year-old elementary school in a small town about 12 kilometres away from Zaragoza, Spain. In the last two decades, there has been significant industrial development around this town and a lot of families have migrated from the big city nearby or from other places in Spain to work in the factories. Over this period, the population has increased from 1,000 to 6,000 people and the current average age is 40. The town has gone from having a small village school with limited facilities to having two fully equipped, new schools. Despite this growth, the town still lacks sufficient leisure and cultural resources for children and young people. Most people go to Zaragoza for culture, leisure and free time activities. A significant number of families still lack a sense of belonging to the town.

The NEMESIS project is part of the Educational Project of this school, in

which one of the main objectives is to educate critical citizens who are committed to their local and global environment and can act as agents for social change. The aim is for children to become critical, participative citizens who are actively engaged in their school and wider community (Mitra & Serriere 2012). The project also aims to develop children's confidence in their own abilities and in those of others to build a better world in line with the SDG (UN, 2015).

This is a whole-school project within which information flows from the bottom-up and vice versa. Participatory methodologies are used to gather proposals and ideas from each group of students. The basic structures for coordination and decision-making are Collaborative Laboratories or Co-Labs. These are part of a pedagogical model which enabled collaboration between young people and adults to address problems in their school and local communities. They also allowed pupils to have a say in issues that interest them and to assume leadership roles in work to change things for the better. The Co-Labs take the form of weekly participative meetings in which initiatives are proposed and decisions are taken in a collaborative way by the different stakeholders in the educational community. This involves horizontal, democratic participation processes (Figure 1). Children take the decisions regarding the priority changes that must be made and the actions that must be taken.
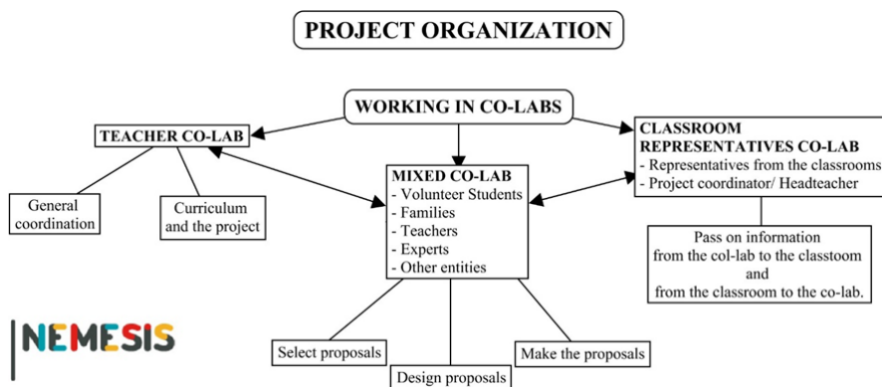

Figure 1. Project Organization: governance structure

Thus, the main purpose of this paper was to assess the acquisition of Social Innovation Learning skills amongst pupils of an elementary school that was taking part in the NEMESIS PROJECT (academic years 2018-2019 and 2019-2020). We also sought to appraise the influence of the collaborative, participative methodology on the development of a Social Innovation Learning Framework (SILF), through the different dimensions, and from a perspective of social transformation and global citizenship. This involves working with the community and coming up with proposals of value to society.

Materials and Methods

In this research, our main interest lies in the development of Social Innovation Education skills in primary school children, in a context in which the school facilitates collaboration and participation with families and other stakeholders. Various different research questions underpin this interest:

- How do primary children improve their ability to identify opportunities to build a better, fairer world, with responsibility, commitment and critical thinking?

- How do primary children build collaborations to analyse, evaluate and solve problems with others and for others?

- How do primary children develop the joint thinking and action required to create new values for a democratic society?

The study was carried out using an ethnographic approach. This enabled the teachers-researchers to gain a greater understanding of their own educational culture and methodology. This was done via the participative observation, interpretation and assessment of the dynamics and processes of teaching and learning, so as to improve and transform their teaching practice (Vigo et al., 2016; Willemse et al., 2015).

In line with the ethical principles of social research (Flick, 2014), the participants were informed about the research and consented to participate. In the same way, the study respects the confidentiality of the data.

Participants and Data Collection

All the pupils (468) and teaching staff (33) at the school took part in this project, together with families (10 parents) and other stakeholders (12). Data were finally collected from 101 pupils, 3 parents, 33 teachers. We also obtained information in our capacity as researchers on the advisory board (Table 2).

The ethnographic method allows us to observe the context and the interactions between participants in depth, as well as the socio-educational processes and organizational structures (Atkinson & Hammersley, 2007). The team of teachers collected the data with the collaboration of the university researchers on the advisory board, using a range of different tools and sources of information. The aim was to enhance the credibility of the data and gain a more in-depth insight into this question (Charmaz & Bryant, 2011) (Table 2).

Table 2.
Information tools and sources

Tools	Participants
Narratives (N)	81 Pupils (52 boys, 29 girls)
Pupils' Focus Group (PFG)	20 Pupils (4 boys, 16 girls)
Mixed Focus Group (MFG)	2 mothers, 1 father, 3 teachers (women)
Teachers Focus group (TFG)	Teachers (31 women, 2 men)
Interview (I)	6 teachers (women)
2nd Interview (II)	3 teachers (women)
Field diary (TFD)	Teacher support team
Field diary (ATFD)	Advisory board
Document analysis	Advisory board

Throughout academic year 2018-2019, the teacher support team (headteacher, school secretary and supervisor) collected the data in a field diary. This information was completed by document analysis and the

observations made by the advisory board, which were recorded in another field diary. These diaries allowed those involved to reflect jointly on the project and on the progress being made by the children in the development of the relevant skills, while at the same time reviewing and upgrading the process itself.

After an initial phase of observing the process and reflecting on it, at the end of April 2019, the fifth and sixth grade pupils provided written accounts (narratives) of their experiences in the NEMESIS project.

In a second phase in which we continued observing and analysing the process, we began to collect information from the pupils. In June, we organized a focus group with 20 pupils who were members of the Co-Lab. At the beginning of academic year 2019-2020, we carried out a mixed focus group in order to study the process and the perceived changes in greater depth, and to compare and contrast the data with other sources. We also interviewed six teachers individually. Three of them were directly involved in the project, while the other three offered their opinions regarding the changes they had observed and the requests made by the pupils.

Finally, at the end of the school year a focus group was held and 3 teachers who had been closely involved in the project were interviewed. In these interviews, they reflected on the yearlong experience and assessed what the NEMESIS project had achieved.

Data Analysis

The data were analysed to define the categories through a thematic analysis, taking into account the learning of the skills and previous research (Braun & Clarke, 2012). The data were classified into categories, each of which was associated with project skills and previous research. In addition to interpreting the data, each individual researcher spent time searching for and identifying underlying ideas. In this kind of research, data are considered relevant on the basis of the meaning they convey and must be interpreted in line with the theory. As a result, the categories were identified by analysing the data in an iterative, systematic way in an attempt to uncover and understand the meanings of the skills and their relations with the participative methodology and the working criteria. Consistency and

coherence were taken into account in each skill and in the overall framework. Later, in a triangulation process, the data were contrasted with the Teacher support team in a joint exercise. This enabled us to review our previous analysis.

In this way, the credibility of the process was enhanced by using different informants and different tools for collecting the data. The results of the analysis were reviewed with the team of teachers at the school. The categories were formed using Nvivo12Pro.

Results

The data reflect the development in pupils of the skills described in the three dimensions and the thirteen categories.

In the dimension *Identify opportunities for social value creation*, the NEMESIS project is encouraging *Responsible and Critical Thinking*. This can be observed for example in the words of one of the pupils: "We are more aware of the problems and other issues" (Girl15.PFG). On similar lines, at the end of the process in the second interview, one of the teachers stated:

> They are able to evaluate different perspectives on a problem or social issue that needs to be solved, to say whether something may or may not make a contribution to society. They also weigh up the ideas for and against a problem, arguing why and taking into account the interests of the educational community. (Teacher1.II)

According to the *Vision for a better world*, the pupils are better able to imagine that another local and global world is possible: "NEMESIS is a project to improve the world" (Boy73.N); "It is an interesting project, because you can provide new ideas about the organization of the playground to improve it" (Girl55.N). The project is promoting empathy in the children and the community from a perspective of social justice. This empowers the pupils, improving their perception of their own *Self-efficacy*: "You feel that others trust you" (Boy17.N). A teacher in the focus group told us: "Children were entrusted with responsibilities and responded in a proactive, serious manner".

The dimension *Collaboration and building of social relationships* has been developed through continuous work with several children from other

classrooms, from other schools and social agents. This work has stimulated diversity as a form of enrichment. A boy explained: "we can work with other people who are not our best friends, with people from other classes and other adults". Similarly, the work method of dialogue, debate and constructive negotiation helped develop the children's social communication skills: "from what we have seen it has been especially positive for children with social problems. For some kids it has been very positive to feel included, enjoying the tasks" (Headteacher.MFG). In this interaction with others, the children have been immersed in a process of *Collective and creative thinking and problem solving*: "In teams, they made a team proposal, which was the one taken to the Co-Lab that afternoon. These proposals were then discussed in the Co-Lab, and it was decided what to do in the playground" (Headteacher.MFG); "We help each other" (Boy10.N). In interaction and joint problem-solving processes, the children carried out collective planning and democratic decision-making. "At the beginning, the teachers helped them focus the decisions, but the children have come to realize that they are the ones who are doing things and taking decisions. Taking on this leading role has made them aware of their decision-making capacity" (Supervisor.MFG).

In the *Take innovative action dimension*, the actions for social change were performed in a collaborative way, via the Organization and mobilization of resources. In this way, the headteacher explained in the field diary: "families, pupils, teachers and the community have found a new way of working together". The commitment to social justice has led to actions in which the pupils have had to engage in *Reflective learning*, in relation to which, a father in the mixed focus group remarked: "We had meetings with the children to solve problems (...) they become more aware of the importance of caring for the environment, and of sustainable development". Children *take the leap for value creation*, as several teachers say in the focus group: "the children do not keep quiet about "bad" behaviour and instead present arguments against it, because they feel that they are doing something good for others". In order to carry out these actions, the children have had to overcome a number of difficulties and barriers through mutual support and collaboration. This has enhanced the social resilience of those participating in the project: "Maybe, at first, it can seem boring, but later, we realize that

it is much better for the school" (Boy2.PFG).

Relationships between Skills

When we analysed the data (Figure 2), we observed a complex relational structure between the categories that form the backbone of education in skills for SIE, from a perspective of fairness and social justice.
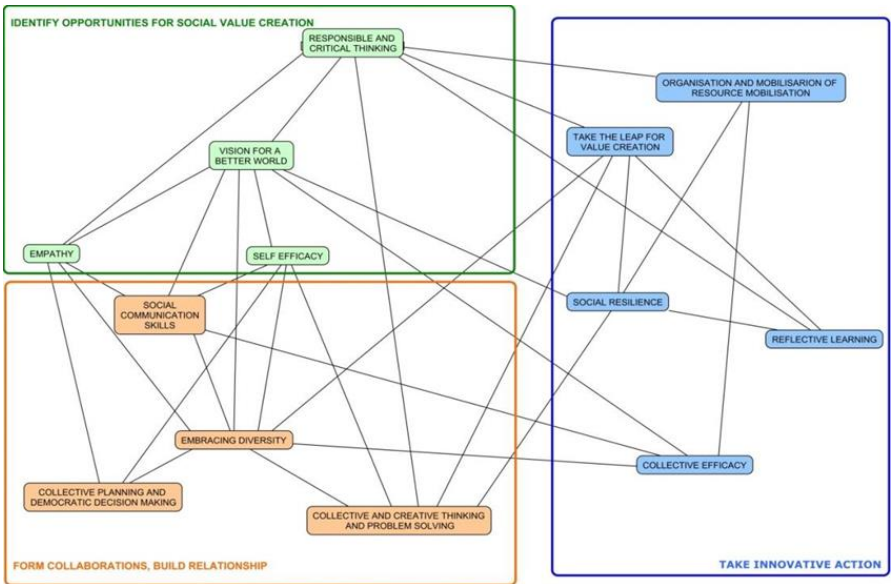

Figure 2. Map of dimensions and categories.

If we focus on the *Identify Opportunities for Social Value Creation* dimension, the competences that stand out most in terms of their links with other categories are *Vision for a Better World and Responsible and Critical Thinking*. The children reflect on how they can improve their environment and the world in general, with responsibility and from a critical perspective: "They explained things to me and I would say 'What's the point of that?' but later I understood what the point of it all was. And now our breaktime is

getting better, and our town too" (Girl11.PFG). The children link their *Vision for a better world* with education for the prevention, reduction, recycling and reuse of waste: "the project has provided recycling, plenty of company and help" (Boy21.N) together with a quality education. In the words of one girl: "to improve the school and everyday education" (Girl15.N). Likewise, the capacity to imagine a better and fairer world is linked to the capacity for empathy: "I like to contribute to the school so that when the little children grow, they will enjoy school". The *Empathy* skill is also closely linked with *Responsible and critical thinking*, as the headteacher explained in her field diary:

Teachers who had come here from other schools were struck by the difference in the level of empathy of our pupils compared to those from the schools they had come from. They had noticed that in our school the children have no problem complaining about a situation that seems unfair to them, and were able to argue as to why what was happening to them was not fair. (P1.TFD)

The data show that *Vision for a better world* is associated with a feeling of *Self-efficacy*. In this sense, in the group interview of teachers and families, the headteacher explained that: "Children with special educational needs in higher years stand out, because they feel that they are offering ideas to improve the school" (P.TFG). This feeling of self-efficacy is also developed when *Carrying out Actions with the Support of the Community*: "They have established relationships of a different kind here, at a different level, the kids feel so comfortable and at ease, they feel like one of us" (Mother1.FG).

The information shows how the *Vision for a better world* is closely linked with *Social communication and Collective efficacy*: "(…) we could get more ideas from the new children who arrive, up to sixth year, so as to improve what we have already done." (Girl14.PFG).

Amongst the pupils, the idea of *improving the world* is associated with *social resilience*: "They continue because they are convinced that their proposal for the future is a clean village, a village that recycles. One of the words that they repeat most often is ecology, caring for the land, and they are going to continue until they achieve that goal" (Headteacher,MFG). The data also highlight the link between *Vision for a better world* and *Embracing diversity* as a source of enrichment. On this issue, Mother2 said that: "The

boys and girls are working with a range of different people, adults, teachers, parents, with both young and older children and they form a strong team and do the job at hand" (Mother2.MFG)

In the dimension entitled *Forming collaborations and building social relationships*, the skills of *Embracing diversity* and *Collective and creative problem-solving* are particularly noteworthy for their connections with the other categories. The data gathered from the teachers and parents focus group show how both categories are closely interconnected: "The pupils and the teachers work together and they ask each other "What do you think about doing this?" (Teacher1.TFG).

> In the same way, the children's comments show (in line with the *Working with the Support of the Community* and *Improving Social Harmony* criteria) strong links between *Collective and creative problem-solving* and quality education: "I think that people at school do more things in teams, they help and support each other" (Boy11.N).

In the Mixed Focus Group, the Headteacher explained: "what makes this different is the parent-pupil-teacher relationship and the relationship with the whole community. That's what enriches this project. It's a deeper relationship". In this way, we observed that *Embracing diversity* is closely linked to the development of *Social communication* skills and to *Empathy*:

> it is very interesting to learn how to collaborate with people of different ages, (...), when you are older you will have to work with people you don't know very well, and you will have to learn how to collaborate with them (Boy6.PFG).

In this way, the *Working to Improve Relationships* criterion related *Social communication skills* with *Empathy*, especially in terms of citizen participation. Similarly, various participants showed how *Empathy*, *Embracing diversity* and *Collective planning and decision-making* are very closely linked: "each one had something different and if one person said something that another person didn't agree with, well we had to work to make sure that in the end everyone was happy" (Girl15.PFG).

Embracing diversity deserves particular attention because the pupils refer to it on numerous occasions and because of its clear links with several other skills. It is also connected with *Self-efficacy*: "I was working with Jimena in

dealings with a company. The company didn't treat us like children at all. Instead they treated us like two people who want to bring a project to the school and they helped us" (Girl13.PFG). *Self-efficacy* is associated with *Social communication skills* and with *Collective planning and democratic decision-making*: "That's the point. NEMESIS helps empower the pupils, the children make the decisions together and act to implement these decisions".

According to the data, *Self-efficacy* is also linked with *Collective and creative thinking and problem-solving*: "Something that I like is that pupils say things like "we make…" "we have achieved…" they talk in the plural, to include the whole group, and not just the individual person" (Headteacher.TFG).

In the *Take innovative action* dimension, the categories *Take the leap for value creation* and *Collective efficacy* stand out for their frequent relationships with other categories.

As we have shown, *Collective efficacy* is related to *Embracing diversity, Social communication skills* and *Vision for a better world*. In addition, *Collective efficacy* is also linked to the *Mobilization of people and material resources*: "when the project began, I didn't want to participate, but the pupils drew me in, and I had to get involved" (Teacher2.TFG).

Take the leap for value creation is associated with *Embracing diversity*, as Mother2 said in the focus group: "Children are working with different people, with adults, teachers, parents, families, older and younger people. They make a team and resolve the task together". *Take the leap for value creation* is also linked with *Social resilience* and *Collective and creative thinking and problem solving*: "They continue because they are convinced that their proposal for the future is a clean town, a town that takes care of its environment" (Headteacher.MFG). *Mobilizing resources* appears to help participants deal with the difficulties they are facing, so acquiring social resilience: "At one point we thought "we won't be able to start …" and then, the timber company offered us the materials we needed". (Headteacher.MFG).

The category *Take the leap for value creation* is also connected with *Reflective learning*, as Mother1 highlighted in the Mixed Focus Group: "We also had to change our mindsets, because she was expecting us to tell her

what to do, we started later while she was changing. At the same time as she was changing, we changed too".

Reflective learning appears to influence *Social resilience*. In reference to this, Boy2 said in the children's focus group: "At the beginning, it seems boring, but later they become aware of the importance of the project for the school". *Reflective Learning* also influences *Responsible and Critical Thinking*: "the project makes you aware that in the past things were done differently" (Girl6.PFG); "Now, we recycle more, we are more aware of it" (Girl15.PFG). Finally, *Responsible and critical thinking* influences the *Organization and Mobilization of Resources* as in: "The project should be continued by all schools to improve the world" (Girl4.N).

Discussion

In this research, we assess the importance of open classroom environments (Knowles et al., 2018; Lim, 2015) that apply a systemic, interactive approach with the participation of different kinds of people and with the community. In the map of relations (Figure 2) we can see that the project, via collaboration and participation, has encouraged the development of all the skills that make up the three dimensions of the SILF, and that all these skills are interconnected within a system.

According to previous research (Dieste et al., 2019; Freire, 2005; Kalemaki et al., 2019; Otten et al., 2021), the results indicate that for children to take innovative action to improve society towards a fairer, more sustainable world, both dimensions (*Identifying opportunities for social and collective value creation* and *Collaboration and building of social relationships*) are necessary. In this way, children can make the most of the opportunity to act and contribute to society in their everyday lives (Biesta, 2019).

Within this skills network, we find for example that *Critical and responsible thinking* underpins the *Organization and mobilization of resources* (Moulaert et al., 2017) and that *Embracing diversity* is necessary for *Collective efficacy*. This suggests that children take the decision to organize and mobilize resources from a perspective of *Critical and responsible thinking* (Wang & Hoffman, 2016). In other words, prior to taking the decision to mobilize resources, they think, evaluate and consider

the different options; they study the pros and cons, assessing how they can contribute to bring about a better world (Biesta, 2019). Likewise, *Collective efficacy* is linked to working together for the community (Otten et al., 2021). In this case, an important issue is the enriching experience of *Embracing diversity*, of learning about the differences between people, their different cultural, personal, professional and other kinds of outlook, including minority perspectives or opposing approaches (Banks 2008; Gallardo Vázquez, 2009; Lim 2015). In the relationships formed in this way, *Social communication skills* are a vital asset, promoting interaction between the children (Cobo, 2013). The debate with different people provides strategies for developing *Empathy* and respect for others (Gibbons et al., 2017; Tichnor-Wagner et al., 2016). However, we also observed that many participants believe that *Self-efficacy* and *Empathy* are more closely linked to their own personal attitude and in particular to their capacity to imagine a *Vision for a better world*. They are also related to the development of *Social communication skills* to solve problems via *Collective and creative thinking* with different kinds of people (Blasco-Serrano et al., 2019). The role that children play in relation to others, in relation to their classmates, defines their *Self-efficacy* (Stets & Burke, 2000; Guan & So, 2016).

Furthermore, the results of previous research show how to develop the *Take the leap for value creation* skill, which is directly linked to *Responsible and critical thinking* and *Collective and creative thinking and problem solving* (Banks, 2008; Kalemaki et al., 2019; Lim, 2015).

Conclusions

In this study, we highlight the empowerment that students can develop through a collective, participative learning process with different people. The results show how children can identify opportunities to build a better world through the exchange of ideas and opinions regarding social issues (Reichert & Torney Purta, 2018; Wanders et al., 2020). For this, children need to develop a set of skills such as *Empathy, Self-efficacy, Responsible and critical thinking* and *Social communication skills*. In this way, they can change their perception of their own and other people's possibilities. When children become aware of social problems and learn to identify opportunities

for the creation of social value, this encourages them to act to try to reduce the differences in society. It also motivates them to take better care of the community and the environment, at both local and global level (Tichnor-Wagner et al., 2016).

Schools therefore play an important role in promoting critical thinking as a means of revealing and breaking down oppressive structures and dominant classes (Freire, 2005; Lim, 2015). As the literature shows (Banks, 2004; Lim, 2015; Reichert & Torney-Purta, 2018), schools should facilitate safe spaces for debate and joint effort where children can express their opinions and work with adults to solve the problems facing society today (Hart, 1992; Lim, 2015; Mitra & Serriere, 2012; Wang, 2018). In other words, the inclusion of participation within the curriculum is a key factor in building collaborations to analyse, evaluate and solve problems with others and for others. By encouraging democratic decision-making, diversity and collective and creative thinking, participation at school aspires to create a social culture that takes into account all kinds of voices, without prejudice or discrimination in terms of class, race, religion, culture or gender (Alviar Martin & Baildon, 2016; Lim, 2015; Oxley & Morris, 2013; Themelis & Hsu 2020; Wanders et al. 2020).

It is essential for teachers to reflect on their teaching praxis and the dynamics of the school to foster the joint thinking and action required to create new values for a democratic society. The collective, participative learning process with different people, in which responsible and critical thinking for social value is encouraged, can advance the empowerment and sociopolitical activation of pupils towards becoming critical citizens of the world (Dieste et al., 2019).

The development of the skills that make up the three dimensions of the SILF forms the backdrop for the search for new ideas and the collective decision-making that allows children to become agents for change in global and local issues (Wittmayer et al., 2019). This is why this study reflects the importance of a global, systematic view of the development of an interconnected system of skills, which are activated through a democratic participative methodology. The aim is to create values for a democratic society, through joint action and commitment to the problems of others, by viewing them as "our problems" (Wang & Hoffman, 2016; Westheimer,

2015).

During the study, changes were also observed in the teachers in the sense of their willingness to engage in critical reflection on their own teaching practice (Willemse et al, 2015). In future research, it would be interesting to analyse and understand how teachers and other participants perceive the process of change they have undergone. We could also assess how this process has affected their opinions regarding certain teaching methods and their influence on creating global citizens.

In short, this study analyses how schools can contribute to creating citizens with social innovation skills by carrying out projects involving the participation of the whole community, from a perspective of caring for promoting social justice.

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