Teaching Sustainable Development Goals in Catalonia – experiences and perceptions of Catalan primary school teachers

Laia Morey i Dealbert

Supervisor: Ola Uhrqvist
Examiner: Emilia Fägerstam
ABSTRACT

The aim of this study is to explore how Catalan primary teachers perceive the integration of the Sustainable Development Goals (SDGs) into the Catalan curriculum, as well as their experiences into teaching about sustainability issues.

The study uses a qualitative research design, characterized by semi-structured interviews with twelve Catalan teachers. The teachers were working in primary schools in Catalonia both in public and private schools and in urban and rural areas. Through this approach, the research aims to explore teachers’ perceptions, experiences, and challenges related to the integration of the SDGs within the curriculum. The qualitative data revealed both challenges and opportunities when integrating the SDGs in the classroom. The challenges especially concerned the initial and permanent teacher training and the overload that most teachers experience, while the opportunities focused on the great outdoor and environmental tradition that Catalonia has and the small changes in the curriculum, opening the path for a quality education in sustainability.

This study complements already conducted research as it focuses on active teachers with experience working in Catalonia. The participants have been working for more than a year and trained in Catalonia, with its very specific context. This thesis provides a significant overview of the current situation of SDGs in the Catalan system, offering valuable insights for educational practitioners, policymakers, and researchers alike.

Keywords: Sustainability Education, Primary Education, SDGs, Outdoor Education, Curriculum, Catalonia, Teachers’ Experiences
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A totes aquelles persones que eduquen per a canviar el món.

To everyone who educates to change the world.
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1 INTRODUCTION

In an era marked by global challenges such as climate change, social inequality, and environmental degradation, the concept of sustainable development has gained importance. As nations try to create a more equitable, just, and environmentally conscious world, the United Nations' Sustainable Development Goals (United Nations, 2015) have emerged as a universal framework for addressing these urgent issues. Recognizing the role of education in fostering informed and engaged citizens, the integration of SDGs within educational systems has become a new challenge. At the same time, during the last decades multiple teaching approaches have appeared based on how to teach about environmental and sustainability issues. Different studies (Öhman & Östman, 2019; Sandell et al., 2011; Sund, 2008) have argued the differences between Environmental Education (EE), Environmental and Sustainability Education (ESE) and Education for Sustainable Development, leaving the discussion open for further research.

In Catalonia, the appearance of a new curriculum (DECRET 175/2022, de 27 de setembre, d’ordenació dels ensenyaments de l’educació bàsica, 2022) including the SDGs for the first time, can suppose a turn toward a more globalized and updated education. Different changes on the curriculum (Departament d’Educació, 2023), such as a holistic approach, the gender perspective and the democratic citizenship education, can affect the role that education has when moulding the future generations. In addition, Outdoor Education (OE), which has a direct link with sustainability education, has been gaining more importance in the country, especially after the pandemic during which teachers and families looked for healthier environments for their children education (Monguillot et al., 2022).

Previous research has focused on the topic while studying the perceptions and education of teachers in training using quantitative methods (Bedir, 2021; Kemal & Altan, 2021; Ruiz-Garzón et al., 2021; Vernia-Carrasco et al., 2020). Research focused on teachers in service is limited, especially in the Catalan context. This study aims to fill in the gap in this specific context.

After the first year of applying the new curriculum in the Catalan schools, this study explores the perceptions and experiences that teachers have about the integration of the SDGs in the curriculum. In order to do so, a brief literature review is developed, providing
a theoretical background for the study. Then the methodology used for this research is explained in detail, followed by the extracted results and their discussion. Finally, a conclusion is presented.

2 AIM AND RESEARCH QUESTIONS

The aim of this qualitative study is to better understand the different connections that establish the triangle formed by the teachers, the curriculum and the SDGs. Therefore, the experiences and understandings of Catalan teachers are put in the spotlight to gain a better comprehension of the current situation of ESD in the Catalan schools. Hence, the research questions that guide this thesis will be:

1. What are the perceptions and experiences of primary school teachers in Catalonia regarding the integration of the Sustainable Development Goals in the new curriculum?
2. What challenges and opportunities do they encounter when integrating the SDGs in the Catalan school?
3 LITERATURE REVIEW

This chapter presents the theoretical framework on which the research is supported. In order to facilitate the reading and comprehension of text, it has been organised into four different sections, connected among them. First, the Agenda 2030 (United Nations, 2015) and the SDGs will be introduced as a milestone of the action for a Sustainable Development. Next, focusing on the pedagogical angle, ESD as a concept will be defined, followed by the introduction of different methodologies that can support it. Finally, the Catalan context will be introduced, putting into focus the educational system present in Catalonia and the new educational curriculum introduced in 2022 (DECRET 175/2022, de 27 de setembre, d’ordenació dels ensenyaments de l’educació bàsica, 2022).

3.1 DEFINING SUSTAINABILITY

In this section, it is aimed to propose a definition of sustainability that can be used to frame the study. It is a complex concept to define as it can be very ambiguous and understood differently by different communities (Bianchi (2020) as cited in Bianchi et al., 2022). The concept of sustainability englobes multiple areas such as biological, economical, or sociological, complicating the goal of agreeing in one unique definition.

The concept of sustainability arose in Abel et al. (1972) and since then it has evolved with society and science. In 1987, the United Nations Brundtland Commission defined sustainability as meeting the needs of the present without compromising the ability of future generations to meet their own needs (p. 43). In 1995, in the other hand, Basiago defined the same concept as a “methodology designed to maximize the vitality of social and environmental systems” (p. 119).

More recently, sustainability was defined as prioritising the needs of all life forms and of the planet by ensuring that human activity does not exceed planetary boundaries by Bianchi et al. (2022, p. 12). In the same document, they describe the planet boundaries as those processes, caused by human activities, that can cause or accelerate detrimental changes to the planet.

The different definitions presented have multiple understandings in common with some variations that can be more or less important to the reader. For this particular study, as it
was focused on educating the future generations, the definition proposed in 1987 by the
Brundtland Commission was considered. Even the other definitions are not rejected,
adopting a more sociological definition fits better within the purpose of the research.

3.2 The Agenda 2030 and the SDGs

During the past decades, scientists, politicians, activists, and many others expressed the
need to take action on the planetary crisis that we are experiencing. In 2015, in the General
Assembly of the United Nations, the 2030 Agenda for Sustainable Development was
adopted, defining the ‘plan of action for people, planet and prosperity’ for the following
fifteen years. Currently, it has become a reference document for governments, institutions, and schools.

Sustainable Development (SD) has accumulated multiple definitions and meanings,
depending on the different context in which they were published (Egelston, 2013).
Originally, the concept of SD arose to integrate environmental protection and future
economic growth, as environmental protection was becoming a focus of tensions between
developed and underdeveloped countries (Egelston, 2013). In 1987, the WCED defined
SD as ‘a process of change in which the exploitation of resources, the direction of
investments, the orientation of technological development; and institutional change are
all in harmony and enhance both current and future potential to meet human needs and
aspirations’ (section I, item 15).

Even the different opinions raised about Our Common Future (WCED, 1987), Egelston
(2013) claims that combining the terms sustainability and development refers to an
‘economic growth that does not cause resource depletion over time’ (p. 27). Following
the same idea, Strange & Bayley (2008) state the importance of the interconnection
between economic, social and environmental aspects of development, explaining the need
to focus on the three aspects at the same time to ensure a SD. Recalling the aim of the
WCED (1987) when defining SD, Strange & Bayley (2008) also describe the importance
of making SD an international goal for which all the countries in the world are able to
work for.

Since that first raise of the concepts of SD and EE, Agenda 21 (United Nations, 1992)
was signed in the UN Conference on Environment and Development held in Rio de
Janeiro as a global plan for the achievement of SD. At that same conference, The Rio
Declaration on Environment and Development was also adopted, outlining principles for sustainable development. The adoption of Agenda 21 marked a significant milestone in international efforts to address sustainability challenges and paved the way for the development of the 2030 Agenda.

The 2030 Agenda for Sustainable Development, also known as Agenda 2030, builds upon the principles and commitments established in Agenda 21. It consists of 17 Sustainable Development Goals (SDGs) and 169 targets that aim to address the social, economic, and environmental dimensions of sustainable development in a holistic and integrated manner. One of the distinguishing features of the SDGs is their universality. Unlike the predecessor Millennium Development Goals (MDGs), which mainly focused on developing countries, the SDGs apply to all countries, regardless of their level of development (Sachs, 2012). This universal commitment reflects the understanding that sustainable development is a shared responsibility that requires global cooperation and collaboration.

The SDGs cover a wide range of interconnected issues, including poverty eradication, zero hunger, good health and well-being, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry innovation and infrastructure, reduced inequalities, sustainable cities and communities, responsible consumption and production, climate action, life below water, life on land, peace, justice, and strong institutions, and partnerships for the goals (United Nations, 2015). Each SDG represents a specific target to be achieved by 2030, and they are designed to be mutually reinforcing, recognizing the interdependencies between different aspects of sustainable development. The 2030 Agenda recognizes the claim done by Strange & Bayley (2008) in which they affirm that addressing global challenges requires collective action and the involvement of all stakeholders, including governments, civil society, businesses, and individuals.

3.3 EDUCATION FOR SUSTAINABLE DEVELOPMENT

3.3.1 Definition

In the following section the diverse traditions of Environmental and Sustainability Education (ESE) will be explored and connected to the present study, with the objective
of providing a definition by which the research is framed, be able to understand how the terms of Environmental Education (EE), Education for a Sustainable Development (ESD), and the already mentioned, ESE, appeared and developed it is necessary to talk about the different selective traditions that existed in relation to environmental and sustainability issues (Öhman & Östman, 2019).

According to Williams (1973), as cited in Öhman & Östman (2019), a ‘selective tradition’ is a set of different processes that have been used during history to select the school material and methods, within the framework of a specific culture. Sandell et al. (2011) explain the three different teaching traditions: fact-based, normative and pluralistic. The three of them are labelled according to their main orientations. The fact-based tradition concentrates on results and scientific knowledge, the normative focuses on effects as values and behavioural patterns and the pluralist attempts to be a catalyst of different processes (Öhman & Östman, 2019). The same authors remark that the democratic goal of each tradition pivots from providing scientific knowledge for opinion-making, to coordinating individual values with political consensus, to being a space for democratic communication.

It is undeniable then that democracy, and hence democratic education, is a central and essential part of ESD. Sund (2008) claims that not only the content of EE/ESD is relevant, but also the context in which it is taught. In that sense, the values that are present in educational context can define the type of environmental education that children receive. According Gustafsson & Warner (2008) there is no denying on the important role that democratic values must play in ESD. The embracing of these values is also indicative of the shift from EE, which was more focused on ecological facts to ESD, which “…requires a broad, multi-faceted approach addressing the ecological, social, cultural and economic factors relevant to sustainable development issues,” (p. 75).

The European Democratic Education Community defines Democratic Education as the education which most appropriately meets the needs of the learner, the community and the society (European Democratic Education Community, n.d.). Connecting this definition with ESD, the environmental and sustainability issues that society has been experiencing during the last decades, could be considered a society need. In that case,
Democratic Education and ESD can be understood as two different educational perspectives with shared and common aspects that can be combined in some situations.

However, the democratic perspective of ESD experiences some challenges. Focusing on individual responsibility over community action, ESD adopts a neoliberal perspective with some similarities with religious power. As Foucault (1983, 213 ff) defines (as cited in Ideland & Malmberg, 2015), pastoral power is a technology of power used by the church or secularized political institutions. There are four characteristics of how this power operates: the salvation for the ‘next world’, the sacrifices of individuals, the dual focus on the community and the individual and the exploration of people’s souls through secrets revelation (ibid.). The authors claim that this type of discourse places a strong focus on the individual's responsibility for the planet's wellbeing (Ideland & Malmberg, 2015).

Another author argues that “the environmental justification of EE has, at least until now, outweighed the pedagogical justification” (Wals, 2011, p. 178) while the sustainability focus of ESD includes democracy, equity and participatory issues automatically (ibid.). In that sense, the three authors agree that the instrumental perspective on EE or ESD brings us to a lack of values and ethics education, which at the same time brings us to a lack of democratic human development.

Keeping in mind the definition of sustainability described in the first section, ESD would be the pedagogical activity that has as main goal the sustainable development of the human activity including the methodology and the context within it is taught, which must train the children within democratic values and practices. In the following section, the methodologies and pedagogical aspects of ESD are developed.

3.3.2 Pedagogy

To gain a deeper understanding of what are the implications of educating for SD, it is important to know how ESD fits into the main pedagogies and vice versa. This relationship between ESD and other pedagogies can show the potential, challenges, and transformative opportunities that arise when sustainability principles are integrated into various educational frameworks.
Eilam & Trop (2010) propose four pedagogical essentials of ESD. These consist of academic, multidisciplinary, multidimensional, and emotional learnings. The academic learning consists of scientific data and methods related to the topic. In the case of multidisciplinary learning, it refers to the connection of different subjects and disciplines of knowledge with the main topic, adding up to the academic one. Multidimensional learning consists of integrating the other two essentials with the dimensions of space and time. Finally, emotional learning refers to including emotional education within the other three essentials with the goal of activating processes of values and ethics clarification (ibid.). These authors understand these four essentials ordered in different steps from the simpler one to the more complex one. In their understanding, environmental issues can be taught only following the first step and learning about the facts of a phenomenon related to the environment. But as further the steps are followed, the more connections will be made between concepts and the students will be able to acquire different values. In that sense, ESD would be placed in the complex side, including all the four steps.

It is important to focus on the holistic perspective of ESD, including many different disciplines and perspectives. In UNESCO (2018), they explain how the learning and training environments are changing in support of this holistic approach, including more participatory, reflexive and learner-led environments. In fact, Icihnose (2019) even include the holistic approach as an identity trait of ESD, as SD also integrates this approach. On their part, Pauw et al. (2015) also integrate the holistic approach as inseparable from ESD: “The underlying idea of ESD is to empower students with sustainability competences through a holistic interdisciplinary perspective of content and pluralistic learner-centred democratic teaching strategies” (p. 15694).

Concerning the emotional education that Eilam & Trop (2010) considered, and following the affirmations of Ideland & Malmberg (2015) and Wals (2011), explained in the previous section, there is an agreement that rational argumentation needs to be complemented with personal experiences and feelings. Ojala (2013) explains how emotions are necessary for us to engage in a deliberative process and deal with the conflicts that may arise. Feelings and emotions can motivate us to change our actions (Wals, 2011), as us humans look for a consistency between our values and our actions (Festinger, 1957, as cited in Ojala, 2013).
When democracy and participation are considered, the concept of action remains inherent. It is understood that for citizens to participate there has to be some kind of action. Action Competence (AC) becomes then another goal for ESD. Sass et al. (2020) define AC as “the ability of people (an individual or group of individuals) to act towards solving controversial problems in various domains.” Values and emotions can guide AC and connect it to the sustainability issues. The role of education then, becomes to empower students into taking action based on their own values and opinions, without dictating what is “good” or “bad” (ibid.)

In conclusion, a holistic perspective advocates for participatory, reflective, and learner-centred learning environments. Emotional education enhances rational argumentation, while action competence underscores the link between democracy, participation, and purposeful action. This integration empowers learners to contribute to a more sustainable future.

### 3.3.3 Outdoor Education

In this sub-section, the role that Outdoor Education (OE) has in ESD is explored. Bærenholdt & Hald (2022) define OE as a way of teaching, using different methods and environments, that provides education outside the normal classroom. In that sense, OE can foster a connection between the environment and the students.

Concerning the relationship that OE has with ESD, Higgins (2002) as cited in Mannion & Lynch (2015) claims that there are three emphases in OE: environmental, education, personal and social development and outdoor activities. Mortlock (1989), also cited in Mannion & Lynch (2015, p. 86) says that OE contributes to the development of “an awareness of, respect for, and love of self, others and the environment” (p.18). That is to say, OE has always been connected to the environment.

OE can stimulate students on the emotional level to comprehend their effect and connection to the environment (Cavas, 2011, as cited in Jeronen (2020). This emotional connection might affect their future attitudes and opinions towards the environment. But not only from the emotional learning perspective, but also from the holistic learning one, as OE promotes the use of the whole body and senses.
Indaba network (2019) as cited in Jeronen (2020) says that “ESD including OE is supposed to increase awareness of environmental questions, to raise awareness on environmental conservation, to develop ecological knowledge, to improve the environmental quality of the neighbourhood, and to awaken respect for the environment and wildlife as well as to encourage the adoption of environmentally responsible behaviour” (p. 125). In conclusion, OE contributes significantly to ESD by fostering environmental awareness, ecological knowledge, and responsible behaviour. OE's experiential nature and emphasis on the environment align with the goals of ESD.

3.4 THE CATALAN CONTEXT

Catalonia is going through some changes concerning the educational curriculum and the methodologies used in the schools. The community involved in education is starting to see the need to include sustainability issues in the classroom, as well as OE. This last one specifically, entered the picture after the COVID pandemic hit, as schools needed to find healthier places to keep going with education. Sustainability education though, has been present for a couple of decades now, evolving slowly but always in the background. In 2022, a new curriculum (DECRET 175/2022, de 27 de setembre, d’ordenació dels ensenyaments de l’educació bàsica, 2022) was implemented in the country to update the latest version from 2015. This new curriculum includes the SDGs as a major plank of the pedagogical activities (Departament d’Educació, 2022, p. 250), especially when it comes to science and technology.

To provide a framework for the study, this section aims to describe the educational system and traditions in Catalonia, including the curriculum and non-formal education.

Education is mandatory for all residents of Catalonia between the ages of 6 to 16. Most of the children start school when they are 3 as the second cycle of early years education is directly connected to primary school. Primary education has six grades between the ages of 6 and 12. Another characteristic of the school system is the presence of public, private and subsidised schools. These last ones can be defined as private schools that receive money from the government to ensure education for all the children. However, families pay for education in both private and subsidised schools. In this study, no private
schools are considered as less than one percent of the educational centres are completely private (Cuenca Carrión, 2022).

Even though there are different types of schools, they all follow the Catalan curriculum with small differences such as the foreign language that is taught or the organisation of the contents into subjects. The new curriculum from 2022 includes changes for early years education, primary education and secondary education. Concerning the primary education one, as it is the focus of the study, it includes multiple updates and changes from the old one. These changes have been implemented during the last school year and are introduced below.

In the first place, the learning situations that appear in the curriculum demonstrate a change of dynamic in how education takes place. As Departament d’Educació (2023) defines, a learning situation is an experience that starts from a context and propose a challenge to the learner. Despite how the old curriculum took into account the context, it was not included in the definition of didactic unit, so the context of the students did not have the weight that they have been given now. At the same time, a learning situation includes an interdisciplinary approach as it is addressed for learners to tackle a challenge or a problem (Departament d’Educació, 2023). Also, it is aimed to foster competence-based learning, rather than content-based (ibid.).

Another identity trait of the curriculum 2022, are the six vectors. These vectors help to put focus into those aspects that the current society considers essential for learning and equity, connecting the curriculum with challenges that society is facing (Departament d’Educació, 2023). The goal of integrating these vectors is to bear them in mind during all the teaching practice, including the design, implementation and evaluation of activities. The vectors are competence learning, gender perspective, universality of the curriculum, language education quality, democratic citizenship and global awareness, and emotional well-being (ibid.). These vectors have direct connections to ESD and SDGs, such as competences, gender equality, democracy or emotional education.

Lastly, concerning the curriculum, it is necessary to expose the main organisation of it. This is not new, but it is crucial to understand how teaching and education works in Catalan schools. The curriculum is organised through knowledge areas. These include
three native languages (Catalan or Aranese, and Spanish), foreign language (first and second), environment knowledge (including natural, social and cultural), artistic education (including music, plastic arts and corporal expression), values education, physical education and mathematics. All these areas are elaborated in detail by explaining and enumerating competences that should be achieved in each cycle, evaluation criteria for each cycle also, and contents. One interesting thing is that for the values education area, the competences and criteria are only specified for upper cycle, ignoring the other two cycles in primary education. It is not specified the reason behind this fact.

Before finishing the section, it is important to introduce the non-formal education types existing in Catalonia and their role in society. Leisure time education has existed in Catalonia since the 19th century and although there have been low and complicated times, specially Franco’s dictatorship during the 20th century, it keeps growing (Vidal & Masó, 2022). In 2022, for example, more than 600,000 people attended a leisure activity during summer, according to Idescat (2023b). This is more than double than ten years ago (Vidal & Masó, 2022). These activities usually include an elongated stay in a natural space. Leisure time education in Catalonia has established the bases of OE, creating and training youngsters and children in environmental education, inclusion and equality.

3.5 PREVIOUS RESEARCH

As it is expected, researchers all over the world have started to study how the relationship between the environment, the administration and education can be defined in order to achieve the 17 Sustainable Development Goals (SDGs) (United Nations, 2015). In the following section, some of these studies, with a special focus on its methods and possible limitations, will be discussed in order to establish a solid background for further research.

In the first place, Kemal & Altan (2021) conducted a quantitative research in Turkey to describe the competency of pre-service teachers in associating the SDGs with the learning outcomes in the curriculum. In order to describe their knowledge and abilities, the authors employed the survey method on 60 pre-service teachers who were in their fourth grade of their bachelor on education. The participants were studying in a University in the Western Black Sea Region of Turkey during the academic year 2019-2020. To determine the participants, they used criterion sampling as they chose a faculty with specific courses with environmentalist content and students in their fourth grade, the closer they are to
becoming teachers. Concerning the survey, they used three different forms to tackle the three research questions of their research: how much they care about SDGs, how competent they see themselves in associating the curriculum with SDGs and how competent they actually are. After conducting validity and reliability studies of the data collection tools, some experts expressed concerns about the scientific suitability. To address it, two researchers and an independent expert determined the existing connections between the learning outcomes of the curriculum and the SDGs, and they used a reliability formula to check the agreement between the two analyses. Once everything was set, the authors used descriptive statistics to process the collected data. In the discussion and conclusions section, the authors explain the statistics focusing on the gender bias and the three research questions. They compare the perceived competency and the actual competency finding out that even though most of them considered themselves competent or partially competent, only half of them were actually partially competent. The study concludes with some recommendations on further research and possible adjustments on teacher training.

Another research was done by Bedir (2021) about the English language (ELT) teachers’ beliefs and perceptions on sustainability also in Turkey. In this case, he used missed methods to answer the research questions: what are the ELT teachers’ beliefs and perceptions on sustainable development, education for sustainable development, what SDGs are they aware of most, and what do they think about the integration of ESD into teacher education program. In total, 291 teachers randomly selected among the ELT teachers working in state schools in different areas of Turkey participated in the research. The sample was composed by 77,7% of females and 22,3% males, mostly between 28 to 38 years old. He conducted both a closed-ended questions survey and semi-structured interviews. The sample was different in each as only fourteen volunteer teachers were interviewed. In the article, it is not specified if these fourteen participants also answered the survey or not. To expose the results, the author uses the data collected from the interviews to complement the results extracted from the surveys, even though sometimes the questions were equal in both. Compared to the first study presented, the researcher also tackles the question of how teachers can work on SDGs with your students, trying to find the preferred pedagogical approach to do so. Concerning the limitations of the study, the author only makes reference to the online survey used as participants could answer hastily but he considers the interviews enough to validate the collected data.
In Spain, similar studies have been conducted. In the first place Ruiz-Garzón et al. (2021) researched the perceptions of teachers in training on water issues and their relationship to the SDGs. They interviewed 59 teachers in training using a semi-structured interview, which means that it consisted of qualitative research. The sampling process was intentional or causal, which means that the researcher selected a sample based on their knowledge about the study and population. Hence, the sample consisted of students in the last academic year of two different degrees in teacher training of the same university. The interview questions were classified into different categories and validated by different experts to ensure relevance, coherence, adequacy, consistency and saturation. The authors also considered ethical principles. To analyse the data, they did a thematic analysis using codes and categorisation. They ensured reliability by triangulating the data, meaning that they contrasted the information obtained at different times. They also connected the information extracted from the interviews with SDGs.

Another study was conducted in Universitat Jaume I, in the Catalan Countries. In this case, it consisted of a quantitative study using a questionnaire translated from Mogren & Gericke (2019). Vernia-Carrasco et al. (2020) researched the awareness of the SDGs in future primary school teachers with 33 participants in their 3rd academic year. In this case, the method is not explained as thoroughly and it remains unknown the data analysis process that they have followed.

As we can see, most of the studies done consisted of quantitative studies using a questionnaire as the main method to collect data. Even though these studies provide valuable insights about the perceptions and competencies of teachers regarding ESD and the SDGs, there are some limitations to this approach. For instance, surveys and questionnaires are used by participants self-reporting the answers, which may not always be accurate, as participants may slightly change their answers to give the socially desirable ones. Moreover, quantitative methods often neglect the nuances of individuals' experiences and perceptions, which may limit the depth of understanding of the topic.

Additionally, some of the studies presented lack information on the sampling method used. For instance, in the study conducted by Vernia-Carrasco et al. (2020), it is not clear how the sample was selected, which raises questions about the representativeness of the sample and the generalizability of the findings. Especially, the sample used for the interviews was formed by volunteer teachers without considering any other criteria than
their aim to be an interviewee. Another limitation is the lack of diversity in the samples used in some studies. For example, in the Turkish studies (Bedir, 2021; Kemal & Altan, 2021), the samples were composed mainly of female teachers, which may not accurately reflect the beliefs and perceptions of male teachers or teachers from different cultural or socio-economic backgrounds.

While quantitative research methods are valuable for generating data that can be easily quantified, compared, and analyzed statistically, they often neglect the richness and complexity of the human experience. In contrast, qualitative research methods, such as semi-structured interviews, allow for a more nuanced and detailed exploration of human experiences, beliefs, and values. This is particularly important in the context of research on ESD, where the personal and subjective nature of people's beliefs and behaviors is crucial to understanding how education can promote sustainable development. Furthermore, qualitative research methods can help to identify patterns and themes that might not be captured by quantitative data alone. For example, in the study by Ruiz-Garzón et al. (2021) discussed earlier, semi-structured interviews allowed the researchers to explore in depth the perceptions and beliefs of teachers in training about water issues and their relationship to the SDGs. This approach provided rich data on the complex relationship between education, water, and sustainability that would have been difficult to capture through quantitative methods alone.

While the studies presented offer valuable insights into teachers' perceptions and competencies regarding education for sustainable development and the SDGs, future research should consider using mixed methods and more diverse samples to provide a deeper understanding of the topic. In summary, while quantitative research methods are valuable for certain types of research questions, qualitative research methods such as semi-structured interviews can provide rich, nuanced data that allows for a deeper understanding of human experiences and perceptions. For this reason, the introduced research will be conducted using qualitative methods. Even though mixed methods can offer a completer and more holistic frame on the topic studied, due to time limitations and the great number of quantitative studies done, in this case, the focus will be put in qualitative research.
4 METHODS

4.1 CHOICE OF METHOD

As this research intended to explore the interconnections between teachers, the curriculum and the SDGs in the Catalan context, a qualitative approach was followed. Specifically, it was conducted using semi-structured interviews to gather data, and the Thematic Analysis (TA) to identify patterns or themes within the data. As TA does not depend on a theoretical framework, it offers a lot of flexibility to apply any paradigm to the analysis. In this case, the data was analysed under the interpretative paradigm, aiming to understand individuals’ experiences and perceptions as deeply as possible.

At the same time, as the research question refers to the current relationship between Catalan teachers and the Catalan educative system, it was needed to consider the context of the participants. Qualitative methods are taking that into consideration, as Braun & Clarke (2013) mention, ‘we should not, even must not, consider knowledge outside of the context in which it was generated’ (p. 6).

Qualitative design then becomes a way of interpreting reality, allowing researchers to become active participants rather than simply observers of reality. In other words, the subjectivity of the researchers is brought into the research and strengthening it (Braun & Clarke, 2013; Cohen et al., 2018).

4.2 CONTEXT OF THE STUDY

As this study is focused in Catalonia, it is important to introduce the general living situation and the educational system currently in use in the country. According to Idescat (2023) the population in Catalonia was of 7,899,056 inhabitants the 1st of January of 2023. From the total, the 73% live in the province of Barcelona, leaving the other three provinces underpopulated. The population aged between 3 and 18 is 1,121,350 children and youngsters, distributed in 4,495 public and private schools, middle schools, and high schools. There is a 31.5% rate of private subsidized education in Catalonia being one of the 7 OECD educational systems with higher percentages (Zancajo et al., 2022). In big cities, the percentage of private subsidized schools raises, being more than half in the city of Barcelona, according to Zancajo et al. (2022). It is the public education that guarantees
the access to quality education in most rural areas. Some of the schools in rural areas are
considered ‘rural schools’ defined by the Departament d’Educació of the Generalitat de
Catalunya as a small and public school placed in a village (2023). Some authors also
define the rural schools as public schools located in small municipalities with up to 3,000
inhabitants, offering equal opportunities to everyone and rooted in the environment (Boix,
2004). Both definition agree on the interdependent and relevant connection between the
territory, the place, and the school.

4.3 PARTICIPANTS AND SAMPLE

The sample of the study was the primary teachers in Catalonia that have worked or were
working in public or private schools recognised by the government. The sampling
methods used to recruit the participants were convenience and snowball technique. In
other words, the participants were invited to participate based on their accessibility to the
researcher and the sample was extended by networking (Patton, 2002 as cited in Braun &
Clarke, 2013). As Sandelowski (1995, as cited in Braun & Clarke, 2013) mentions, it is
hard to be rigorous and justify the sampling method when using this techniques so it is
very important to define as clearly as possible the participation criteria.

In the case of this specific research, the teachers had studied either the Preschool or
Primary Education bachelor in a Catalan University, that is to make sure that their teacher
training was focused on the Catalan curriculum and the Catalan educational system. As
the research is focused on the teacher practice and experience rather than the initial
training, the participants had to be working or have worked in a Catalan school for at least
one year before taking the interview. Concerning the geographical area, it was delimited
to the Catalan autonomous community inside the current political borders, ignoring other
historical Catalan areas such as the Balearic Islands or the French Pyrenees. The reason
behind this decision was that, even though the language used in school is the same one,
each community has its own curriculum so there could be major differences on the teacher
training and the experiences of the teachers. It was important to include participants from
different areas as people from different provinces and contexts might have different
understanding of the SDGs but use the same educational curriculum.

The same happened with gender, race, and socio-economic class, to ensure a broader
understanding of the research topic. Concerning gender, it is important to highlight that
over 75% of teachers in Catalonia are female, according to Departament d’Educació (2019). During the sampling process different conflicts were raised as, ideally, the sample would have been composed by a similar percentage of female and male teachers to get a better representation of the actual Catalan teacher corps. Finally, due to a lack of male teachers interested in participating in the study, the sample was solely composed by female teachers. As women are ¾ of the teaching corps, the sample was quite representative.

In total, twelve teachers between 23 and 57 years old were interviewed. From those, four were working in private schools in rural areas, one with a small percentage of outdoor time and two, nature based. Another two teachers worked in private schools in two main cities. Three more teachers were working in two different public schools in Barcelona, in urban areas. The other three teachers were working in public schools in rural areas, one of them being a rural school. The ten schools follow the Catalan curriculum for primary education between the ages of 6 and 12 years old. In the following table (Figure 1) you can see a summary of the participants for a better understanding.

### 4.4 Data Collection

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Type of school</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meritxell</td>
<td>Private</td>
</tr>
<tr>
<td>Délia</td>
<td>Private</td>
</tr>
<tr>
<td>Camila</td>
<td>Public</td>
</tr>
<tr>
<td>Elisa</td>
<td>Private</td>
</tr>
<tr>
<td>Berta</td>
<td>Public</td>
</tr>
<tr>
<td>Tanit</td>
<td>Public</td>
</tr>
<tr>
<td>Paula</td>
<td>Public</td>
</tr>
<tr>
<td>Maria</td>
<td>Private</td>
</tr>
<tr>
<td>Anna</td>
<td>Public</td>
</tr>
<tr>
<td>Mireia</td>
<td>Public</td>
</tr>
<tr>
<td>Queralt</td>
<td>Private</td>
</tr>
<tr>
<td>Nina</td>
<td>Private</td>
</tr>
</tbody>
</table>

*Figure 1 Summary of the participants and the type of school they worked in.*

To conduct the qualitative research, a qualitative method protocol was established. Before starting the interviews with the participants, an interview guide was developed including
a total of nine questions organised in four different categories. To give the participants the opportunity to come up with topics that the researcher might have not considered before, and the researcher the possibility to ask unplanned questions if needed (Braun & Clarke, 2013), the guide was semi-structured with open questions.

To prepare the interview guide, different steps were followed based on the method SPSS (Helfferich, 2011). First, a brainstorm of different questions was done to collect as many questions as possible. Secondly, it was necessary to check those questions in terms of relevance and openness to ensure the possibility of getting new topics from the participants related to the research question. Next, the remaining and checked questions were organised and ordered and finally, narrative prompts were included to have a complete guide. In addition, check items were added in each category to be used both as a checklist to get new inputs in the conversation and as a possible guide to coding.

Finally, it is necessary to mention that the whole process was done in Catalan as the interviews were in the mother-tongue of both the participants and the researcher and so, the questions were needed to be in that language. In the following table (See Figure 2), you can see the English translation of the interview guide that was used with the twelve participants.

<table>
<thead>
<tr>
<th>Category</th>
<th>Question</th>
<th>Check items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous knowledge</td>
<td>How would you define the SDGs and the Agenda 2030?</td>
<td>Teacher training, courses, in-school training</td>
</tr>
<tr>
<td>Previous knowledge</td>
<td>Can you describe the training received on ESD and/or SDGs specifically?</td>
<td></td>
</tr>
<tr>
<td>Curriculum and SDGs</td>
<td>How does the new Catalan Curriculum (2022) align with the SDGs, if it does?</td>
<td>Connection to contents and values, organisation of the curriculum, usefulness, connections between the areas and the SDGs</td>
</tr>
<tr>
<td>Curriculum and SDGs</td>
<td>What specific areas are connected to the SDGs and why?</td>
<td></td>
</tr>
<tr>
<td>SDGs teaching</td>
<td>How do you incorporate the SDGs into your teaching, if you do so?</td>
<td>Methodologies, examples, tips, teamwork, school.</td>
</tr>
<tr>
<td>SDGs teaching</td>
<td>How do you collaborate with other teachers or community members to teach using SDGs, if you do so?</td>
<td></td>
</tr>
</tbody>
</table>
While preparing the interview, different teachers from Catalonia were contacted asking for their participation. As April, May and June are specially busy months in the Catalan schools because of different celebrations and the end of the school year, it was complicated to find the time to meet and do the interview. Nonetheless, between the 5th of May and the 22nd of the same month, all the interviews were done. All of them were conducted via videocall, using the platform Zoom both for the call and the recording. In average, the interviews were 25 minutes long, depending on the topics that raised during it. Apart from the recording, the researcher was able to take some notes using the same interview guide during the conversations with the participants.

## 4.5 Data Analysis

As mentioned earlier, data was analysed using TA, as described by Braun & Clarke (2013). The authors establish seven stages to successfully conduct this method, which have been followed in this research. In the first place, all the interviews were transcribed using both digital and manual tools. Special emphasis was placed on making the transcription as true to reality as possible. At the same time, transcribing the data manually allowed the researcher to familiarise and immerse herself in the data. Before finishing the twelve interviews, the transcriptions and the recordings were read/listened multiple types so repeating patterns and topics were noticed. Some notes were taken during this process to keep track of the thoughts and interpretations of each transcription.

The second step was to start coding. In this case, it was important to wait until all the interviews were done and transcribed to avoid biases during the last meetings. The main approach used for this step was complete coding, also described by Braun & Clarke (2013) as the ‘aim to identify anything and everything of interest or relevance to
answering your research question, within your entire dataset’ (p. 205). The choice of this approach was due to the aim of simplifying and speeding up the analysis process. At the same time, selecting and analysing the codes after identifying them in all the interviews allowed to consider each transcription individually without pre-assuming what would be selected. For this coding process the software used was a word processor to select and highlight the codes and a spreadsheet to classify and connect them.

Next step, identifying patterns across the different codes, was overlapped with the previous one. When selecting the codes, it made sense to start ordering them as they mentioned similar topics that could become themes later. Even so, at the end it was needed to go back and analyse codes that could fit into different themes and check for relevance to the research questions. In some cases, some sub-themes were created in order to facilitate the analysis and the concretion of the research. At this point, with provisional themes and sub-themes created and connected to each other, a thematic map was created as a visual summary of the analysis (see Figure 3). This enabled the review of the different themes and the final definition and naming of them. Finally, the only step needed to be done was writing down the analysis, making sure that the researcher’s interpretation and the data is clearly identified and that the different connections are unambiguous and relevant to the research question.

4.6 Ethics

Ethical considerations are an imperative part of any scientific research. Braun & Clarke (2013) state that ‘ethics should be seen as an integral part of all stages and aspects of research’ (p. 61). This study has been designed and conducted ensuring that it followed the considerations of the document Good Research Practice (Swedish Research Council, 2017).

In general, principles of no harm, honesty, respect, confidentiality and no-discrimination (from an intersectional point of view) were followed during the whole development of the thesis. However, some specific actions have been taken. In this case, special focus was put in the relationship established with the participants as they were asked to share their experiences and opinions. Nonetheless, the topic of the research did not involve any kind of sensitive nor personal information.
Before conducting the interviews, participants received, in one of their native languages, information about the treatment that their data would receive. Consent forms were sent to them via email some days before the interview, so they had enough time to read it carefully. At the beginning of the virtual meeting, the interviewer explained again, verbally, how their data would be treated and offered the opportunity to express their doubts and, if it was the case, disagreements. In case that any participant did not agree with the treatment of their data, the interview could be cancelled beforehand.

For the study, the participants and their schools remained anonymous. They were given false names to simplify the explanation of the results and the discussion. The transcriptions and recordings of the interviews were deleted once the analysis was completed.

4.7 METHOD DISCUSSION

As explained in the previous sections, this study was designed following the quality criteria for qualitative research. Braun & Clarke (2013) mention that there are no general criteria to ensure that a research is trustworthy or not thus it can be hard to judge and check for accuracy. Anyway, they propose two quality criteria for qualitative research: member checking and triangulation. In the first place, member checking consists on presenting your research to some participants in order for them to comment on its trustworthiness or authenticity. However, participants may be afraid of sharing their opinions and criticisms due to the authority of the researcher. At the same time, it requires a lot of time to ensure its validity. For this reason, this quality criteria was not convenient for this research.

Concerning triangulation, Braun and Clarke define it as “whereby two or more methods of data collection or sources of data are used to examine the same phenomenon” (2013, p. 285). They also point out that it is a quality criteria is only useful if it is assumed that there is one “single knowable truth” (Braun & Clarke, 2013, p. 286). So, equally as with member checking, this quality criteria was found useless in this specific study.

To ensure the quality of the study, some researchers suggest replacing the traditional concepts of reliability and validity with trustworthiness (Cohen et al., 2018). In this case, trustworthiness is ensured by the transparent and detailed explanation of the whole
research method, including the research question, the sampling process, the method of data collection and the analysis one.
5 FINDINGS AND RESULTS

5.1 GENERAL OUTCOMES

This section aims to summarize the main concepts and perceptions expressed by the Catalan teachers after conducting the Thematic Analysis of the interviews. In the Figure 3 a general overview of the different ideas and opinions raised during the interviews can be observed.

To ease the reading and comprehension of the results, the section is organized by the following sub-sections: experiences and understandings, opportunities and challenges, each of them including different thematic categories.

Figure 3. Conceptual map of the topics and sub-topics of the interviews after the TA.
5.2 EXPERIENCES AND UNDERSTANDINGS

5.2.1 Definitions of the SDGs

First of all, it is important to introduce the first topic that focuses on the knowledge and conceptions that the interviewed teachers had about the SDGs. The participants were asked to explain their understanding of them. This information provides a general background to comprehend the training and opinions that the interviewees might have.

When defining the concept of SDGs, most of the participants answered by saying that they consisted of a group of goals from different areas. Nina mentioned that the three areas were social, environmental, and economical. Half of the interviewees were aware that the goals were connected to the Agenda 2030 and that it was an agreement between different entities.

\[\text{There are different goals from different areas that will lead us to a better world, all together.} \quad (\text{Anna})\]

\[\text{[...] some goals with which we have to reach 2030 to improve our life in our planet.} \quad (\text{Camila})\]

It was interesting how most of the participants understood the SDGs as a collection of landmarks that we needed to achieve for a better world.

5.2.2 Professional experiences

This section is aimed to present the experiences on teaching SDGs in Catalan schools, so the experiences they have had when working into schools are put into focus. To enable a deep understanding of the results on this topic, the section is organized into five categories: projects or Project Based Learning (PBL), values education and leisure time education.

5.2.2.1 Projects

One of the most frequent examples among the interviewees were the projects or PBL. Most of them explained how they included the SDGs in the projects that their students conducted along the years. In their opinion, PBL turned to be a good match between learning situations and globalised learning, as it is based on real-life problems that interest the students, tackle different knowledge areas at the same time and provide a challenge
to the learners. Some of the examples proposed by the participants are: having a school garden, recycling, reducing the amount of residues, learn more about the clothes and the fashion industry or the water.

Anna shared one of the projects that she did during the school year with her 3rd graders: where do our clothes come from? In this project students had the opportunity to learn the basics of sewing and knitting, reading tags from all their clothes and understand a little bit better the concept of carbon footprint. Another idea that Dèlia proposes is working around the topic of food. She explains that they worked in the school garden growing different vegetable while learning the science behind the plants. After harvesting, the school kitchen used the products to prepare the lunch for everyone. That way, the students were also able to talk about proximity consume and the seasonal food.

It is also worth mentioning the fact that quite a lot of teachers talked about the International Days as a way to introduce different topics in the classroom. One of the examples that was mentioned more frequently was the International Working Women’s Day.

*We talked about important women in history and feminine role models the week of the 8th of March.* (Tanit)

Some teachers explained how, even they use international days to ignite the interest and motivation of student, it can result on an isolated activity. Camila says how if they only work on topics such as gender or environmental issues on international days they are left with “*mushroom activities, that appear in the middle of the schoolyear without connecting to the other didactic units.*” A remarkable date can be used to foster children’s interest and learn a little bit more about a topic that might not be completely related to the curriculum content. It also appeared in the conversation the International World’s Peace Day or the Earth Day.

### 5.2.2.2 Values education

Concerning the values education, it is noticeable that it was not mentioned as much as when they were talking about the curriculum. Anyway, some of them explained some activities that have carried out during the tutoring hour or the religion hour, in the schools that have the option.
One of the classroom experiences that teachers have is that incorporating role-playing games and reflective activities into their teaching practices offers safe opportunities for imparting values aligned with sustainable development. By using role-play games in the classroom, the educators can create immersive scenarios that encourage students to explore real-world challenges from multiple perspectives, as Elisa explains. At the same time, it is an opportunity for them to discover different communication styles and democratic ways of dealing with conflicts.

_Students can have a fake meeting having different roles and learn how to listen to different opinions and putting an effort into understanding each other._ (Camila)

During the tutoring hour, some teachers have designed reflective activities about different topics. These activities facilitate introspection and discussions, enabling students to connect personal experiences with broader global issues. At the same time, these activities can foster critical thinking and communication skills.

Finally, it is worth mentioning a specific project that Meritxell explained. In her school, they connected sustainability education with the Lent. Understanding the Lent as a period in which you make some sacrifices in order to become a better person and cleanse yourself from your sins, it has been worked as a period of learning new habits and practice some solidarity with the planet. She also mentioned the change of values as “becoming a good person”.

### 5.3 Opportunities

#### 5.3.1 Training

Concerning the training received by the participants, some positive aspects have been identified. Even though most of the teachers finished their studies over two years ago, it is worth mentioning that one of the participants is currently studying a bachelor in Early Years Education, apart from the primary one that she finished eight years ago. As this programme is taught in an online Spanish university and not in a Catalan one, it is not representative of the training that the Catalan teachers tend to receive, but it is still interesting to include it in the results. Nina explained that it is a recurring theme in her classes “it is included in all the subjects: law, didactics, English, everything”.
Another teacher training that was continuously mentioned is the professional training, understood as those courses and workshops that either the government or each school offers to the educators during their professional career. These courses can be done during the school year in non-class hours or during the holidays and can be considered part of the teacher schedule or be done in their free time. The courses usually cost between 50 and 250 euros for 30 to 100 hours. For these reasons, most of the teachers expressed that they did not have the time to enrol in any course or that they preferred to learn more about other topics, as they were priority for them. In result, none of the interviewees did a course about sustainability in the last few years.

5.3.2 Curriculum

Concerning the general overview of the new curriculum within the opportunities and benefits expressed by some teachers. It is generally acknowledged the effort of the Departament d’Educació into updating the curriculum and including ESD. One of the items that is mentioned multiple times is the freedom that the curriculum gives to the teacher to adapt the content to each child, group, school, neighbourhood, or town. Dèlia explains how the openness of the document allows you to adapt all the activities to the context but at the same time, the amount of work that teachers need to undertake increases.

The other benefit that is mentioned during the interviews is the importance given to sustainability. It is considered to be a big improvement in comparison to the last curriculums that have existed in the last years. There are content and competencies related to the SDGs and sustainability in general. It is worth mentioning the importance that gender perspective has in this curriculum and the awareness that all the participants expressed about it.

5.3.2.1 Values

This section aims to explain how the participants perceive the values teaching specified and non-specified in the curriculum. In this aspect, most of the teachers express a more positive opinion about the presence of values education in the curriculum, without being completely satisfied with the project.

In the first place, it is crucial to talk about gender perspective. The new curriculum considers gender perspective a cross-disciplinary aspect, named vector, that has to be
taken into account in all of the didactic proposals in all the knowledge areas. The participants consider this a very positive update in the curriculum. It is especially relevant that all the interviewees mentioned this multiple times during the different conversations with them. On top of that, all of the teachers connected it with the SDG number five, the one about gender equality. Some examples of these results are the following:

*I think that with the new curriculum it [gender perspective] is more present comparing to previous curriculums. So maybe gender equality has gotten a more important role in schools, not only within SDGs.* (Anna)

*With the gender goal makes sense to include it transversally, like also with the curriculum. There is a vector about gender perspective.* (Mireia)

Another aspect that has arisen sometimes during the interviews is the citizenship education present in the curriculum. This kind of education is present both as a knowledge area and as a competence. In the first case it is called Civic and Ethical Values Education and, as to the second case, it is the citizenship competence that it is mentioned. Most of the teachers acknowledge the importance of including values education in school, specially when talking about SDGs. Different participants explain how they have worked on solidarity as a potential way of “helping” the planet.

At the same time, some teachers have explained concerns about the fact that the knowledge area is only described for upper cycle. Queralt showed special frustration with the fact that she did not have any guide to work on values with her 3rd graders group:

*There is no evolution, at all. It doesn’t make any sense.* (Queralt)

Overall, the general opinion among the participants concerning the values education specified in the curriculum was positive, being able to express some issues without rejecting the whole project.

5.3.2.2 Methodologies

In this sub-section of the curriculum-related opportunities, the different methodologies and ways of learning that are encouraged in the curriculum are discussed based on the opinions and perceptions of the participants of this study.
First of all, it makes sense to start with the ‘learning situations’ with which the didactic activities are encouraged to start. As mentioned previously, a learning situation is an experience that emanate from a context and propose a challenge to the learner, according to Departament d’Educació (2023). Paula, for example, praises that the curriculum advocates for a close and contextualised learning in which SDGs can be worked with a learning situation, and Berta, explains how you can discover a lot of learning situations connected to the SDGs in your environment.

*SDGs can be part of the learning situations as it is something that is part of our daily live.* (Paula)

*Well, and being aware that, at the end, there are a lot of situations that are right here, in front of us.* (Berta)

Some participants were more sceptical about the learning situations. In their opinion, the old curriculum also included the interests of the children as a starting point for the didactic units so “they have just changed the name to what already was being done” as Meritxell says. Even so, the critique is focused on the terminology and not on the concept itself.

On the other hand, another common commentary was on the globalised education. The understanding of most of the participants was that the SDGs need to be integrated in the curriculum in a transversal way as they tackle more than one knowledge area at the time. In any case, most of them are able to see more connections between the SDGs and some specific areas, such as the natural environment one or the values one.

*There are some specific goals that are linked to some area, environment is a good example. Also, the values area, but only for upper cycle.* (Maria)

*In subjects such as natural environment is much easier to work with sustainability issues and climate change.* (Elisa)

One of the teachers mentioned that, as her school is not working with globalised methodologies because of its context, she had to find the way to work on SDGs in each subject separately. She explains how she has found other ways of generating interest on connecting different subjects while following the pedagogical line of the school.
You can integrate the SDGs through areas or in a globalised way, both of them can work. (Meritxell)

Lastly, the participants were asked what role they think Outdoor Education (OE) can have with SDGs teaching. All of the teachers agreed that experiential learning can boost their learning and that it is a great way of ensuring a deeper understanding of the topic for their students:

At the end, when you learn best is when you live the learnings. (Nina)

It’s much better experiencing it than learn it through a book or worksheet. (Berta)

One of the examples of how experiential learning outdoors can support ESD are the fact that they can connect to the environment of their school, as Camila explains:

When we went to the forest today and we saw washing machines, they freaked out! (Camila)

Another one would be that the students are able to see the effects of sustainability issues in their immediate environment, allowing them to feel capable of making a change in the world.

One thing that happens here can affect everything. And you can make a change, so it’s important that you see it in your neighbourhood. (Anna)

Some participants also connect OE with the learning situations aforementioned. They claim that OE is crucial to foster an interest among your students and connect the school to their daily life.

5.3.3 Leisure Time Education

Finally, one of the experiences that was also mentioned was the leisure education. Four of the teachers had been part of leisure education groups such as the scouts or ‘esplais.’¹ Leisure education in nature is a common activity for most children and youngsters. In the professional field of education, it is especially common to find former leisure instructors as it tends to be a part time job related to the field. Berta, one of the former leisure instructors

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¹ Esplais are leisure time groups that organise activities for children between 5 to 18 years old during weekends and school breaks.
instructors, explains the importance of adopting some methodologies and activities in the schools. For example, going on camps, allows the children to connect to nature and learn to respect the place that is being home for one week, she says. One of the perspectives that Berta would like to transport from leisure education to formal education is the idea of service, taking action to improve the current situation of the world.

*A concept that I would like to keep in mind in the school is the “impact-less”. We’re not stopping at zero impact but trying to leave the world better than how we found it.*

(Berta)

This is just one of the examples of the opportunity to improve the implementation of ESD in the Catalan school through the leisure education tradition and experience of the teachers and society.

### 5.3.4 Partnerships

Teachers are aware of the presence of some work groups focusing on ESD. One of the examples that some teachers proposed was the ‘green commissions’, which are groups of teachers from one school that take the responsibility of analysing and proposing sustainability projects or changes for the whole school, as Anna explains. None of the interviewed teachers had ever taken part in one of these commissions. As the participants explain, these commissions are focused on working on school projects, leaving the responsibility of preparing the activities and methodologies for each class group to the main teachers.

Some schools are trying to support the teachers by sending them links to external resources, prepared by other entities from different areas usually. Paula thinks that the reason behind this small help is that even the directive teams of the schools are overwhelmed and do not have enough time to tackle all the updates of the curriculum while taking care of the rutinary tasks of an educational centre. One of the teachers says that she would really appreciate having a resource bank filled by different teachers from around the country. In her opinion, it would be a good way of supporting activities and projects connected to the territory.
5.4 Challenges

5.4.1 Training

As a general statement, the initial teacher training or the bachelor’s degree in primary education did not offer the participants any type of training concerning ESD nor SDGs. Obviously, some of the teachers specified that sustainability and environmental issues were not in vogue when they studied at the university. Some others were studying in 2015, when the SDGs were presented, but they cannot recall any conversation or mention to sustainability nor Agenda 2030. Finally, the teachers that started studying after 2015 explain that it was not in their bachelor when they first heard of the SDGs, but it was during their Erasmus, because of personal interest and research or in graduate school.

*I was in my last year of my bachelor when the United Nations presented the SDGs, but we did not talk about sustainability at all.* (Tanit)

*It was already a topical issue when I studied but it was not introduced at all then.* (Paula)

*I went on an Erasmus to Denmark and there it (the SDG) was a topic present everywhere, even in the streets.* (Anna)

5.4.2 Curriculum

The general opinions among Catalan teachers regarding the curriculum connected to the SDGs highlight several challenges. One major concern is the perceived lack of support from the government in effectively integrating SDGs into the educational framework. Teachers feel that the government has not provided sufficient guidance or resources to facilitate the implementation of sustainability-related topics in the classroom. Maria and Berta explain this feeling with the following words:

*You must work on the SDGs in class. You have to. But it feels forced as all of us are quite lost in this topic.* (Maria)

*There is very little help from the Departament.* (Berta)

Moreover, some teachers also mention that there is a significant shortage of training opportunities specifically focused on teaching SDGs. This lack of training makes it harder
for educators to effectively incorporate the goals into their teaching activities. Tanit for example explains her major conflict when working with SDGs:

*It is not just to explain what the SDGs are. You have to deeply work on the topic and all the sustainable issues. That’s not easy and we don’t know how to do it. We are lost.*

(Tanit)

Additionally, teachers point out the lack of didactic resources, particularly for younger age groups, making it difficult to design age-appropriate lessons centred around the SDGs. Even though most of them refer to the resources proposed by (UNESCO, n.d.), they lament that most of the activities and projects are designed for upper cycle and secondary education. One of the participants, as a second-grade teacher, expressed her frustration after trying to find ideas to work SDGs with seven years-old:

*There’s almost any resource for initial cycle, most of them are for 5th and 6th grade. How do we do that? Should we ignore the topic and when they start 5th grade: bam! We teach everything at once?* (Délia)

Another challenge expressed by some participants was the globality of the goals. They understand the goals as an international agreement that needs to be adapted to each region. Currently, this process of territorialising the SDGs has not been done by any institution, which makes the SDGs too abstract and remote for children, specially the younger ones. Queralt, for example proposes the following:

*I don’t know if it should be the Government, the education council from each area or the municipalities, but someone needs to sit down and analyse which are the needs of the region. What’s happening there? Some needs will be shared among areas, but some others won’t.* (Queralt)

### 5.4.2.1 Contents and organisation

Catalan teachers hold diverse opinions and perceptions concerning the contents of the curriculum and the integration of SDGs in their classrooms. Some participants expressed their struggles with time constraints, as they feel like they do not have enough time to work on all the content in the curriculum while ensuring the well-being of the children and the quality of the provided education. This issue leads them to prioritize what are considered essential subjects: languages and maths. The pressure to cover the mandatory
curriculum makes them feel forced to leave behind other important topics, like sustainability. Nina explains how she often “feels lost” when she does not know what project she shall do next as she feels that she has to sacrifice other content to work on sustainability.

Additionally, some teachers feel that the majority of sustainability-related content seems concentrated mainly in the upper cycle (5th and 6th grade). Connecting it to the previous section, in which it is exposed the lack of resources for younger students, the participants feel that they are leaving younger children with limited exposure to such crucial concepts.

5.4.3 Partnerships

Lastly, it is important to present the results concerning the different types of partnerships and networks that the teachers working in Catalonia are using and promoting to integrate the SDGs in their pedagogical activity. In the first place, all the teachers recognised that dealing with the didactic design, planning and evaluation of the activities, depends mainly on the main teacher individually. Some of them express frustration and overload when trying to include ESD in their practice.

      Right now, it is, basically, deal with it by yourself and it’s your problem. (Dèlia)

      It’s your previous work to know how to integrate it so they (the students) take part in it. (Queralt)

Three other teachers considered the school system to be too competitive between teachers and schools. They expressed that they feel very pressured from society and that they are being compared multiple times to the other teachers and schools. They would like for it to be calm and relaxed, feeling supported by the families and the community. This would foster healthy and supportive relationships among teachers and schools.

      My ideal would be a very relaxed education, without competition between students nor schools. (Camila)

      I would like my school to be opened to the families, as they’re the ones that have a more relevant role in their children’s education. (Nina)

      I wish society trusted education. (Maria)
Finally, concerning the community, the teachers based in rural areas explain how there is a lack of network in the villages. They believe that the city hall needs to take a step forward into encouraging networking among the educational community.

*There are two schools, a scouting group and a youth centre in this town. The city hall should coordinate the relationships among them.* (Queralt)

The teachers who work in urban areas have not mentioned the educational community beyond the school, nor the families.


6 DISCUSSION

Before the discussion of the results, it is important to connect with the research questions again. On one hand, this study aimed to understand better the perceptions and experiences of primary school teachers in Catalonia regarding the integration of the SDGs in the new curriculum. On the other hand, it was expected to identify the challenges and opportunities that teachers encounter when integrating the SDGs. In order to discuss and analyse the results presented in the previous section, the discussion is organised into four sub-sections. First, a general overview of the results is presented. Secondly, the experiences and understandings on SDGs are discussed and finally, the challenges and positive aspects are analysed.

6.1 GENERAL OVERVIEW

The interviewed teachers had a generally comprehensive view of SDGs as a collection of interconnected goals in the social, environmental, and economic dimensions. Most participants recognized the SDGs as a framework for achieving a better world through diverse goals.

The initial teacher training programs did not emphasize Education for Sustainable Development (ESD) or SDGs, and few resources were available during their education. Many teachers had to rely on personal research and online resources to learn about SDGs and develop relevant classroom activities. Professional development courses were suggested as potential avenues to bridge the gap in ESD training for teachers.

The teachers expressed mixed opinions about the integration of SDGs in the new Catalan curriculum. They appreciated the inclusion of sustainability and values education, but also highlighted challenges. Concerns were raised about the lack of guidance, resources, and training for effectively implementing SDGs in the classroom. The participants discussed the need for age-appropriate resources and the difficulties of balancing sustainability education with other mandatory subjects.

Teachers reported incorporating SDGs through various projects, such as PBL, and linking them to special days like International Women's Day. They also recognized the value of outdoor education and experiential learning in fostering a deeper understanding of SDGs.
among students. However, participants emphasized the need for more support, resources, and collaborative networks to enhance SDG education.

Some participants mentioned the existence of "green commissions" within schools and external resources provided by educational institutions. However, they also highlighted the lack of collaborative networks and supportive relationships within the teaching community and the community at large. Teachers expressed the desire for a less competitive educational environment and greater involvement from local authorities in fostering collaboration.

Overall, the study revealed both positive aspects and challenges in integrating SDGs into the Catalan curriculum, emphasizing the need for training, resources, and collaborative efforts to effectively educate students about sustainable development.

6.2 EXPERIENCES AND UNDERSTANDINGS

6.2.1 Definitions and understandings

Concerning the understanding of the SDGs and the definition they provided, all of the teachers were aware of the existence of the goals and the link with education. Most of them also had knowledge about what they were and who participated on it. This understanding can reflect the participants' recognition of the importance of achieving these goals for creating a better world. This foundational comprehension is crucial for guiding their teaching approaches and perspectives.

Another thing that was mentioned multiple times was the idea of working together. Even though in most interviews it was not specified who was included in this ‘together’, the idea of forming alliances among people, communities and countries was present in their definition. This can bring the discussion to the presence of the concept of democracy in their concept of SDGs. The concept of working together implies the compromise and responsibility towards society that democracy carries within its definition. It is needed for citizens to participate and to be responsible of the community and the common space for a democratic system to function. In that sense, teachers were aware of this common future and the need for alliances to work.
Besides, it is interesting to note that even they knew about the different areas of the goals, only one mentioned the economic area as most of them focused on giving examples about the environmental and social one. Especially, the climate crisis and gender inequality were the topics that were mentioned more times. This imbalance between the different topics included in the Agenda 2030 might be due to multiple different reasons. For example, the severe drought that has settled in Catalonia for the last two years or the extremely hot seasons that have kicked the country the last years might have produced a sense of emergency, as the climate crisis took a growing role in news and politics. Concerning the gender topic, the new laws about gender equality, both women and LGBTQ+ community right, the different gender associations and movements existing in the Catalan society and the prominent role that the gender perspective has in the new curriculum, might have focused the attention into the gender equality SDG.

Concerning the economical area in Agenda 2030 and the absence of conversation about it during the interviews, it might imply a need to improve the economical point of view of Sustainability Development in order for teachers to be more conscious about the connection between the three areas.

Lastly, it is relevant how teachers connected the SDGs with the achievement of a better world and becoming better people. It is already mentioned that the SDGs are intended to achieve a more sustainable way of living, but the connection between sustainable and the concept of a better world can lead into confusion and even some spiritual connotation. As mentioned in the literature review, connections between pastoral power and ESD exist (Ideland & Malmberg, 2015). One of the Foucalt’s characteristics of pastoral power is the salvation to be reached in the next world (as cited in Ideland & Malmberg, 2015). This discourse sounds especially similar to some of the ideas expressed by the participants about the better world and the change of habits. This can be dangerous as individuals can feel guilty about not doing enough and not being able to be a “better person” (Ideland & Malmberg, 2015).

6.2.2 Professional experiences

During the interviews, the different participants explain different teaching experiences connected to the SDGs that they have had. As mentioned before, most of the teachers did
not have any training at all concerning ESD. For that reason, the described experiences are designed based on personal experience and research.

Most of the experiences explained by the teachers are considered holistic methodologies such as projects. This can be a positive indication that they are applying ESD principles in their classrooms (Icihnose, 2019; Pauw et al., 2015; UNESCO, 2018). As mentioned in the literature review, it is important to use a holistic learning in order for students to make connections between various subjects and encourage interdisciplinary thinking (ibid.). Projects meet these criteria as students face real-world problems that cut across multiple disciplines. In addition, projects promote experiential learning as they engage students in active exploration, research, problem-solving, and collaboration, learning how to apply theoretical knowledge in practical contexts. In that sense, experiential learning in projects can contribute to the acquisition of AC (Sass et al., 2020).

On the other hand, as projects are connected to real-world situations, like the school garden or the drought in Catalonia, as some participants proposed, they can also encourage students to understand how local actions are connected to global issues. In that sense, a multidimensional learning in space is happening, helping students to build connections beyond the multidisciplinary ones (Eilam & Trop, 2010). Finally, projects involve team-working and, therefore, they involve dealing with conflict. Ideally, the project would imply some conflict of interest related to the topic to ensure the global approach that SDGs demand. But even if the project does not include this aspect, team-working, including discussion, conflict and emotional management is a very necessary learning for a democratic citizenship (Eilam & Trop, 2010; Ideland & Malmberg, 2015; Ojala, 2013).

Moreover, some participants mention their leisure-time educator background, in which OE had a very important role. They acknowledge the emotional connection that being in natural environments creates towards the natural world and its importance when learning about environmental issues (Jeronen, 2020; Mannion & Lynch, 2015). Organising camps, activities in the village or neighbourhood or daytrips to specific places, as most participants recognised to do, can deepen the understanding that students have about the world, specifically the local context, and strengthen the feeling of closeness to the environment. It can be interesting to focus further research on how leisure-time education in Catalonia can affect teachers’ abilities to implement ESD.
6.3 Opportunities

When analysing the result, it is find very obvious that the teachers cannot find many opportunities in the integration of the SDGs in the curriculum. In this section, the opportunities mentioned by the participants are discussed and, at the same time, some positive aspects are analysed to see to which extent can be opportunities in the future or different situations.

In the first place, some teachers mentioned the openness of the curriculum as both a benefit and a challenge. In their understanding, the freedom when applying the document can be an opportunity to adapt the contents to the context of the school and their students. At the same time, this involves more planification and designing, which can be time consuming, specially in high complexity schools. Focusing on the opportunities that this openness has, it is relevant to the study the option to adapt the teaching methodologies to the content. In that sense, the curriculum encourages the use of holistic approaches while leaving the door opened to other teaching styles. As mentioned before, an holistic approach including different knowledge areas and dimensions is necessary when discussing the complexity of sustainability issues, as they involve many different entities and interests (Ichihose, 2019; Pauw et al., 2015; UNESCO, 2018).

Another frequently mentioned aspect of the curriculum is the gender perspective, included in the curriculum as one of the six vectors. The participants were especially aware of and comfortable with the topic, understanding the need of considering gender as a transversal line that crosses all the curriculum and school’s activities. Concerning the SDGs learning, the assimilation the teachers went through with this topic can ensure the presence and integration of the SDG number five into the school and their lives.

Concerning those positive aspects of the current situation in Catalonia that the teachers did not mention explicitly, it can be interesting to highlight the tradition that the country has with ESE and OE. Even schools might not have a long tradition with these approaches, a lot of teachers do have this background due to the big presence that leisure-time education has (Vidal & Masó, 2022). The experience that teachers have within ESE and OE can outweigh the lack of training that they receive related to the topics. Obviously, it is not a solution and there is an urgent need to take care of the scarcity of training, but it is for sure an opportunity to diversify and improve the methodologies used for ESE and OE.
Another aspect that was not explicit during the interviews was the tradition of community living. Different comments about the existing networking in villages and neighbourhoods can imply a good starting point to increase the partnerships within the educational community. There were multiple complaints about the lack of presence of these networks but the acknowledged existence of them indicates that there is already an interest to build a stronger community around the school. Going back to the definition of SDGs and the concept of ‘working together’, creating partnerships in the local community can improve the work towards sustainable development while offering multiple learning opportunities for the students (Sass et al., 2020; United Nations, 2015).

It has been shown that despite the focus on the challenges that teachers have expressed, there are numerous opportunities for the implementation of SDGs in the Catalan schools with the curriculum.

6.4 CHALLENGES

This section of the master thesis delves into the challenges expressed by the interviewed teachers in relation to the integration of SDGs within the curriculum and school environment. Through their perspectives, several challenges emerged, comprising issues such as the lack of initial and permanent training, insufficient resources, the evolving curriculum, and the necessity for collaborative partnerships within the educational community.

Many teachers raised concerns regarding the absence of both initial and continuous training specifically designed for the SDGs teaching. They highlighted that while the concept of SDGs was recognized, they often lacked the practical knowledge and skills needed to effectively incorporate them into their teaching practices. These educators emphasized the need for professional courses that provide practical training on how to align existing subjects with SDGs. These courses cannot be held the whole responsibility of teacher training but a change in the initial teacher training programmes of the Catalan universities need to be made.

Another commonly challenge expressed by teachers is the time constraints that they experience within a packed curriculum. They know that the SDGs need to be approached in a holistic way, including different disciplines, dimensions and agents (Ichnose, 2019; Pauw et al., 2015; UNESCO, 2018). Planning didactic activities based on this holistic
approach usually takes more time than just using monodisciplinary methods. Collaborating with other teachers and agents can be very time consuming, apart from the amount of time that is needed to put competences and contents from different knowledge areas together making sense of the global result. While Catalan teachers spent 880 hours each year inside the classroom, number above the OECD average, they are left with just a few hours for meeting, planification and evaluation (OECD, 2018). It is necessary then that policy makers take this fact and perceptions into the matter in order for teachers to have enough time to integrate the SDGs in the curriculum in a holistic way.

Teachers expressed that they faced limitations in terms of pedagogical resources. The lack of experience and the lack of referents adds up to the lack of training while generating this feeling of saturation that most teachers expressed. Apart from the aforementioned training improvements, it is important to make available referents and examples of projects and activities that you can make about the SDGs. In addition, one of the teachers explained the lack of local connected resources that you can find, limited to a global level. With the time and training that allows better planification and reflection, teachers could make this resource bank that they are lacking. A big network of Catalan teachers sharing resources and experiences could increase the feeling of proficiency among the teachers while improve the partnership between different towns and areas from the country.

Finally, considering the amount of projects that the participants explained and mentioned and their feeling of not dedicating enough time and efforts to SDGs, it is possible that there is a dissonance between their own sense of competence and their actual competence. It is important that teachers feel empowered to educate in order for them to empower children to take action (Sass et al., 2020). At the same time, some teachers mentioned the lack of trust that society has on them. This could translate to a fear of being judged or criticized by the families and the rest of the community, affecting their self-esteem and empowerment.

These challenges included the absence of adequate training, scarcity of resources, and the imperative for collaborative alliances within the educational community. While teachers stressed the need for targeted training to effectively incorporate SDGs into teaching practices, they also highlighted time constraints within a packed curriculum that interfere with holistic planning and collaboration. The insufficiency of pedagogical resources and local connections complicates even more their task. To bridge these gaps, a
comprehensive approach involving policy changes, resource-sharing networks, and empowerment strategies is necessary. Overcoming these challenges is crucial to empowering educators and equipping them to foster meaningful SDGs integration that resonates with both teachers and students alike.
7 CONCLUSIONS

The experiences and perceptions of the interviewed participants have contributed to fill the gap that this researched considered. The different opinions and contexts have shown multiple challenges and opportunities within the integration of SDGs in the Catalan curriculum.

In the first place, this study aimed to provide a deeper understanding of the perceptions and experiences of teachers. The widening of the sample to include teachers from different types of schools and areas allowed to present a diverse and varied list of experiences but, with a lot of agreements. The concept of SD and the SDGs is clear and known by the teachers while expressing some issues when using them in the classroom. The new curriculum also makes small steps towards educating for SD but the lack of empowerment stops them from being comfortable with teaching integrating the SDGs.

In the second place, the second research question was about the specific challenges and opportunities that teachers encounter with the integration of SDGs in the classroom. In this case, multiple challenges and some opportunities have been presented. While the lack of training, lack of resources, lack of planning time and lack of empowerment complicates the holistic assimilation of the SDGs in the teaching act, the awareness of the SDGs, the OE and ESE tradition of the country, the updates in the curriculum, and the existent network, can serve as starting point to deeply introduce ESD and the SDGs in the Catalan schools.

Overall, the holistic approach of the Catalan curriculum can foster ESD in the schools but there is still a long way to go. A deeper understanding of the role that leisure education has in the Catalan education system and the current methodologies used in the schools, can get us closer to an education towards sustainable development.
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