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Embedding Sustainable Development Goals in Education. Teachers' Perspective about Education for Sustainability in the Basque Autonomous Community

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Abstract: In the current context of unsustainability that we inhabit, education is considered to be a necessary pillar for social transformation towards sustainable development. The main goal of this research is to analyze the implementation of educational practical experiences of the education for sustainability programs from the perspective of teachers working in secondary schools in the Basque Autonomous Community. The analyzed schools are situated in different socio-economic and environmental contexts. The analysis also aims to diagnose the extent of knowledge on the 2030 Global Agenda of Sustainable Development Goals (SDGs) with a view to its future implementation. The study is based on qualitative tools such as in-depth interviews (38 interviews conducted at five secondary schools). For analytical purposes, the perspective of the teaching staff is adopted as they play an indispensable and determining role in education for sustainability. The main results showed that the involvement of the teaching staff, personal motivation and good leadership are essential for the success of the program, together with the support of school authorities. A stable teaching staff and a sense of identity with the project are decisive factors. In this sense, differences were detected between public schools and private schools that, to a certain extent, condition the difficulties faced by the teaching staff. Experiential activities, activities outside the classroom and a positive perspective on the subject are considered factors contributing to the success of the programs. SDGs were still largely unknown to the teaching staff but could provide a good framework for multidisciplinary education.

Keywords: education for sustainability; ESD; teachers; learning for sustainability; sociology of education for a sustainable future; Agenda 2030; Sustainable Development Goals; School Agenda 21

1. Introduction

Since the middle of the 20th century, human impact on the planet has been expediting a process known as ‘the great acceleration’ [1], in which the impact of the human species has multiplied. This process entails an alteration in the cycles of materials, the accelerated rate of the extinction of species and the appearance of new contaminating materials, which in turn have a great effect on the welfare of people [2]. In this respect, the International Geosphere-Biosphere Programme (IGBP) has proposed a definition for a new geological age characterized by the human impact on the planet equaling or surpassing the forces of nature: The Anthropocene [3].

The capitalist model of economic growth and its mode of living are proving to be unsustainable because the planet has limits. The current model of consumption requires an expenditure of natural resources and energy that the planet will be unable to sustain for much longer. The planet is now in a

state of economic deficit, since the ecological footprint is greater than its bio-capacity. The world deficit per capita is 2.6 hectares per person [4].

Facing this situation of consumption that exceeds planetary limits, new technological alternatives are starting to emerge, such as renewable energies [5]. Nonetheless, in spite of these advances, it continues to be absolutely necessary to change the model of production and consumption [6]. This involves a change of habits, and therefore a change of mentality, which entails cultural and social changes. To achieve these changes, it is indispensable to develop environmental awareness in civil society, the business sector, the public decision-making powers and citizens in general.

To confront the global challenges we face, education has a decisive role to play in directing societies towards changes that will result in a sustainable future. This context framing considers education to be a key tool in response to the global socio-environmental problems of the planet, and the potential of Sociology of Education (SE) for advancing research in this field is underscored [7]. Specifically, the role of the teaching staff is of decisive importance, since they are responsible for educating future generations [8]. Some authors highlighted the key role of the teacher as the leader in education for sustainable development [9]. Moreover, in higher education, the involvement of teachers is considered a key factor in reaching sustainable innovation [10].

The United Nations' 2030 Agenda defines 17 Sustainable Development Goals (SDGs), providing a tool for reaching an integral understanding of what sustainability entails. This research is based on the idea that sustainability and sustainable development involve economic, social and environmental dimensions, with the understanding that the social and ecological dimensions are linked, and that the social and economic dimensions depend on the environmental system [8,9]. That is, the welfare of the planet and the biosphere is a priority for social and economic welfare (Figure 1).



Figure 1. A view of the Sustainable Development Goals (SDGs) showing that healthy ecosystems are a prerequisite for human welfare and economic development [10].

Having identified the need for understanding and studying education for sustainability, we shared that concern with key actors in the area of education for sustainability in the Basque Country, and defined the object to be studied. It is also worth underscoring that the definition and idea of this study arose from a four-month stay involving a collaboration with Ingurugela, the public institution for Education for Sustainability in the Basque Autonomous Community (BAC) (extended explanation Section 2.1).

The general goal of this research is to analyze the key factors with respect to methodologies and the attitudes of secondary school teachers towards education for sustainability. Taking concrete cases of secondary schools in the BAC, the implementation of education for sustainability projects is analyzed from the perspective of the teachers. The case studies are located in different socio-economic and environmental contexts. The analysis also attempts to evaluate and offer a diagnosis of the degree of knowledge about Global 2030 Agenda and its future implementation. Therefore, the specific aim of the

research is to identify keys to successfully implementing and imparting knowledge about education for sustainability and SDGs, which is then reflected in a change of attitude.

The SE, a specialization of sociology as science [11], can contribute to the sociological understanding of educational phenomena [12,13]. The teaching staff, as a professional group, is one of the objects studied by SE [11]. The contribution of this research is inserted in the field of SE, by means of direct, first-hand knowledge of a topic that is of transcendental importance to the survival of the planet. This empirically-based research aims to explain an aspect of the educational process that affects the teaching staff and its ongoing training [14].

The present paper begins by providing a short, conceptual description of education for sustainability (in the case of this research, the terms environmental education and education for sustainability are used interchangeably [15]), followed by an explanation of the context of the analysis and the methodological strategy employed, and then the main results are set out and the text ends with the discussion and conclusions.

2. Materials and Methods

2.1. Research Background and Context

On an international level, the pioneering congress at which environmental education started to be discussed was held in Tbilisi in 1977. The topic was subsequently addressed at the Rio Summit in 1992, where Agenda 21 was defined on the request of civil society, administrations, governments and international representatives. The goal of this Agenda 21 is to involve society in carrying out actions aimed at achieving sustainability at the local level, with the aim of contributing to global sustainability of the planet. From this emerged the now well-known statement, ‘Think globally, act locally’. School Agenda 21 was defined as complementary work for carrying out actions towards sustainability in local schools.

Within the framework of this international context, education for sustainability was promoted in the BAC, and in 1990 the Centers of Education and Research in Environmental Didactics (CEIDA—Centros de Educación e Investigación Didáctico Ambiental) were created, nowadays known as Ingurugela. The goal of Ingurugela is to support the teaching staff and encourage education for sustainability in non-university education centers. The BAC has a territory with 2.17 million people [16], which is a density of 300 inhabitants per km². In spite of it being a highly urbanized territory, its culture is characterized as being closely linked to the natural setting, an aspect that offers great potential for a transition towards sustainability.

School Agenda 21 began to be implemented in 2003 and became the backbone of education for sustainability in the schools of the BAC, with the support of advisers from Ingurugela. There are also other initiatives in this sense that emerged from civil society, non-governmental organizations, ecologist groups and others. This research takes the public institution Ingurugela as a referent of education for sustainability in the BAC, although it identifies several other organizations where work is done on this topic. Currently, an attempt is being made to move from School Agenda 21 to Agenda 2030, taking the latter’s integral and holistic vision as an axis. This process is aligned with the recent Strategic Plan for Education for the Sustainability of the Basque Country [17]. On the one hand, this strategy is in line with the Environmental Strategy of the Basque Government 2020, based on the 2015–2030 international agenda of the Sustainable Development Goals, and on the other, it aligns with the specific Global Action Plan of UNESCO on Education for Sustainable Development.

Ingurugela is a network of advisory and teacher training service on Education for Sustainability, for the non-university education system. They were created in 1990 by the Department of Environment and the Education Department of the Basque Government, following the identification of the need for public administration to provide and develop counselling with respect to education for sustainability.

School Agenda 21 (henceforth SA21) is an educational program for sustainable development. It forms part of the ‘Research and Experimentation’ line of work of the Ingurugela educational

centers. The annual work of the Ingurugela educational centers is defined on the basis of the Basque Government's Environmental Education Program (Order of 22 June 1998 of the Official bulletin of the Basque Autonomous Community –BOPV- of 1 October 1998).

The program's organization in the schools is as follows (Figure 2):

- The coordinator is responsible for setting the process underway and leading it.
- The support team is formed of people from the teaching staff and school authorities who help in the day-to-day work of organizing the project.
- The Environmental Committee is a participatory space for the whole educational community. The people interested are represented and decide on the main lines of the program (planning, plan of action, evaluation, etc.).
- The county-level coordination meetings are a space for cooperation amongst the educational centers. The coordinators of these centers meet periodically with environmental specialist from the municipality and the adviser from Ingurugela.

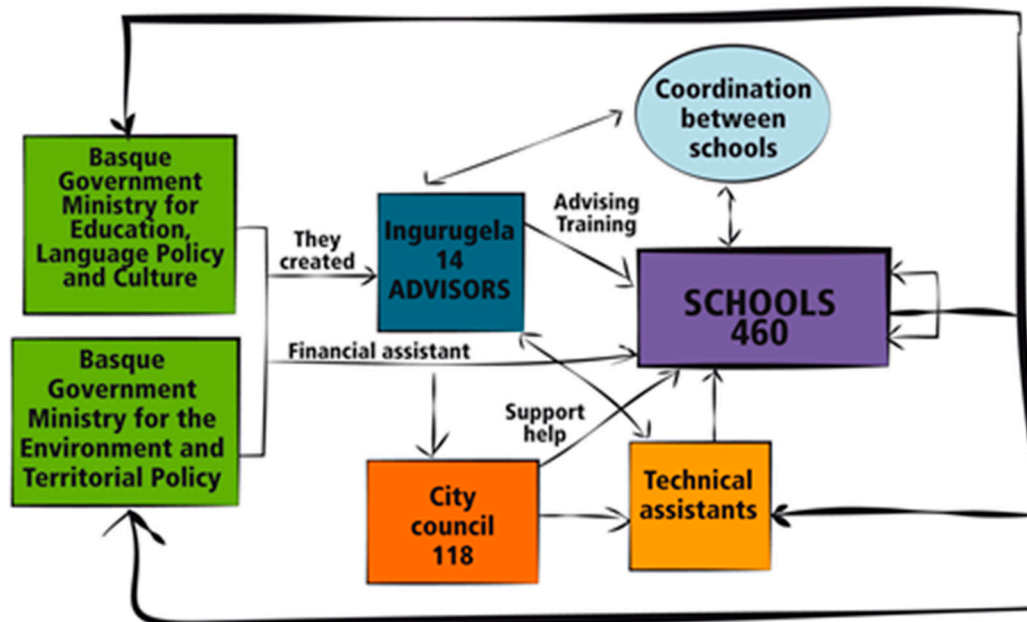


Figure 2. The organizational scheme of the School Agenda 21 program [18].

In turn, the aim of certification and recognition as a 'Sustainable School' is to give a distinction to outstanding experiences in the SA21 program. This means recognizing the work and the quality of the school with respect to education, participation and sustainability (Figure 3, sustainable schools are marked with a red star).

In order to take part in this examination, the schools must have spent a minimum of 5 years in the SA21 program. Recognition lasts for 4 school years. A total of 460 schools took part in the SA21 program in the 2017/2018 school year, with approximately 60% of the schools belonging to the BAC as well as 118 municipal councils participating.

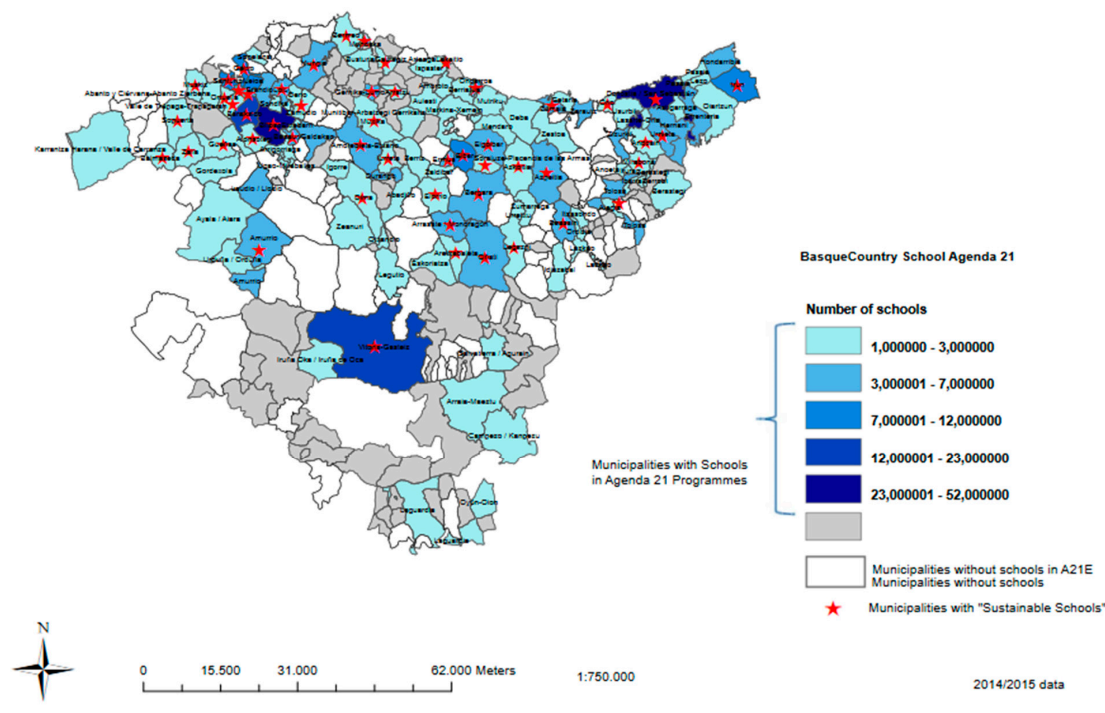


Figure 3. A map of the Basque Autonomous Community, showing schools taking part in School Agenda 21 and municipalities with schools certified as a ‘Sustainable School’ (for the 2014/2015 school year) [19].

2.2. Sample and Research Strategy

When defining the schools for inclusion in the sample, we selected those certified as sustainable schools by the Basque government (some of which are shown in Figure 3 indicated by red stars), to guarantee a certain level of commitment and the realization of activities framed in the SA21 project [20] (pp. 41–42). Similarly, we selected schools located in different socio-economic and geographical settings to obtain a diverse sample.

At schools considered sustainable, a topic is dealt with each year and relevant activities are designed and carried out around this. For example, the topic of the year might be climate change, waste or circular economy and activities to be carried out during the school year are designed around that central axis. These are the profiles of the schools where we carried out the study. At the request of those interviewed, no names are given so as to avoid generating any stigmas.

- School A: This is a public school located in an urban area. At this school they have been working with School Agenda 21 since 2004, and it has been certified as a sustainable school since 2009, a certification that has been renewed every 4 years.
- School B: This is a public school located in a municipality considered to be semi-rural. The link between School Agenda 21 and the municipality is an especially close one as it is the only school in the town. They have been involved in School Agenda 21 together with Ingurugela since 2001 and were certified as a sustainable school in 2010, which was subsequently renewed in 2018.
- School C: This is a private school located in a semi-rural area. The School Agenda 21 project has been in effect in the school since 2007 and they obtained recognition as a sustainable school for the first time in 2016.
- School D: This is a private school located in a semi-urban municipality. The School Agenda 21 project has been put into effect in this school since 2007. They obtained recognition as a sustainable school in 2014. The majority of the students in this school are from that same municipality, with the result that they have a direct link with the town in relation to the local A21.

- School E: This is a private school located in the city center of Vitoria, the capital of Alava. The School Agenda 21 project has been in effect in the school since 2007. They obtained recognition as a sustainable school for the first time in 2009–2010, and this was renewed for the next four years in the 2017–2018 school year.

To obtain specific results from the schools analyzed, we mainly used a qualitative methodology, that is, one “that produces descriptive data—People’s own written or spoken words and observable behavior” Taylor and Bogda [21]. Through qualitative practices, it is possible to verify that the object studied is made up of a group of subjects and that each subject is in movement, including the social science researcher [22]. For that reason, it is necessary to reconstruct and interpret the route created by these subjects. Qualitative analysis proves to be especially relevant in education, given that it is important to understand how teachers and classrooms function before making recommendations for change. And that is the purpose of a deep qualitative examination of education, which involves understanding and ‘paying attention’ to the context [23].

The (individual) in-depth interviews were chosen as the main tool, since our selected sample “does not aim for statistical representation, but for a socio-structural typological representation corresponding to the objects of study” [24] (p. 68). A total of 38 interviews were conducted with secondary school teachers at 5 schools in the BAC. We chose to analyze this topic from the viewpoint of the teaching staff, as we considered that they play an indispensable and decisive role in generating an education with values oriented towards sustainability. It is worth underscoring that the profiles of the teaching staff interviewed are varied. These include teachers of biology, technology, computers, plastic arts, mathematics, languages, physical educational, philosophy or geography and history. This was in order to obtain a diverse sample that would be as unbiased as possible due to the subjects taught by each of them. Likewise, their ages and professional experience also varied, ranging from people with more than 25 years of experience to others who are in the early years of their professional career. The average age of the teachers ranged from 30 to 50, and there were teachers who had been in the world of education from the start of their careers, while others had previous experience as researchers in the university or even in private companies (Appendix A). These interviews were conducted by the researcher between April and June 2018, followed by different visits to each school. Similarly, the head teachers of the different schools issued a letter agreeing that the school would participate in this research.

To design the interviews (Table 1) we used the Wengraf decision-making scheme with the following steps: (1) Definition of goals and central research questions (CRQ); (2) Translation of each central question into three and seven theoretical questions (TQ); (3) Development of sets of interview questions (IQ) or interview interventions (II) for each theoretical question, taking into account the class of interviewee or informant [25]. Similarly, to carry out point 2, the scheme proposed by Kvale was taken as a reference [26] (p. 131).

The analytical approach employed when dealing with the material transcribed from the interviews basically consisted in an interpretative, socio-linguistic and semiological discourse analysis. This involves a ‘qualitative paradigm’ [27] insofar as it is associated with interpretative epistemology (the intersubjective dimension), focusing on the individual subject and in discovering the meaning, motives and intentions of their activity [28].

Table 1. Interview design scheme.

Thematic Research Questions (TRP)	Dynamic Research Questions (DRQ)
TRQ 1: Context: Do their previous working career and background influence the teaching staff's motivation and involvement in the School Agenda 21 programs?	DRQ 1: What was your working experience before you started working here?
	DRQ 2: How long have you been working at this school? Tell me something about your job, the subject you teach, the methodologies you use (games, workshops, individual reflective tasks . . .) and other tasks.
TRQ 2: What is the teaching staff's level of knowledge and how do they perceive environmental education? (To adapt to the context, we opted to use the concept 'environmental education' when designing and conducting the interviews, since it was a more familiar concept that has been more frequently used and taught in classrooms to date.)	When we talk about Environmental Education: What comes to mind/what do you identify it with? What types of projects/methodologies?
	What contact/involvement have you had with Environmental Education at this school?
	(In cases where the topic is dealt with in the classroom): Do you deal with any environmental problems in the classroom (Local or global perspective?)
	How do you think that these programs (Environmental Education) are viewed by the teaching staff? And by the students/their families. Why?
TRQ 3: From the teaching staff's point of view: What are the challenges and opportunities of the SA21?	Specifically with respect to students' families: How do you inform and involve them? How do you see this?
	What things do you think work when dealing with the topic of Education for Sustainability? That is, what type of activities, projects, methodologies.
TRQ 4: What do you know about the concept of sustainability? What attitudes, motivation and behavior do you show/teach?	What do you think are the main challenges?
	Are you familiar with the concept of sustainability? What do you understand by, or know about this concept? How would you define it in just three words (what do you associate with the concept)?
	In the specific context of this school, how is this subject dealt with? What do you show?
	How do you deal with this in your personal life? Do you illustrate what you teach in the school with examples of activities taken from your personal life?
TRQ 5: Do you relate sustainability with the holistic and integral idea posited by the SDGs? What knowledge is there about the SDGs and what does move from the SA21 to the SDGs involve?	What would you say motivates you to hold that attitude? Do you try to transmit that attitude in class?
	Continuing with the topic of sustainability, have you heard anything about the SDGs?
	How do you think this can be included in this new agenda?
	Would it be positive to move from School Agenda 21 to Agenda 2030 involving the SDGs? Why?

3. Results

This research is based on qualitative methodologies that uses in-depth interviews [29] with teachers currently working at different schools as its main tool. The following are the principal results arising from the field study, divided into the central blocs previously defined in the interview design.

3.1. Context and Career of Teaching Staff

The principal result is that teachers in public schools have been working between 15 and 30 years and have often changed schools in the course of their career. This is due to the hiring system that incorporates teachers into schools in the public sector, which involves their assignment to a series of schools until they finally obtain a permanent position. Similarly, the majority of the interviewees from public schools with a short career were carrying out substitutions in schools for a period of a few months or at the most for the current school year. Conversely, this situation is not found so widely in the private schools, since the majority of the interviewees had only worked at their particular school or

at most in one other. It should be kept in mind that access to private schools is by means of a direct contract with the school.

This question influences the extent to which the teaching staff develop a sense of identification with the school and thus with the School Agenda 21 (SA21) project, with the result that there is a greater sense of identification with the SA21 project in private schools than in public ones. This situation does not necessarily translate into better results in some schools rather than others, but it does affect the ease or difficulty with which the coordinators and the support team can develop their work. Teachers who feel that the school is a part of their life, and not simply a place of work, have assimilated certain tasks to a greater extent, with the result that these tasks now form “part of the school’s identity” for the teaching staff and hence also for the students. “At first it required making an effort, but nowadays I consider it to be completely natural” [30].

On the other hand, interviews were conducted with teachers of different academic subjects like biology, physics, chemistry, physical education, philosophy, languages, mathematics, history and geography, amongst others. In the majority of their discourses, they identified environmental education with teachers in the area of the natural sciences. Nonetheless, some of the teachers in this area insist that the task is not their responsibility alone. There are also some teachers from the social sciences who identify environmental education with their area, but they are a small minority. The coordinators were from the teaching field of natural sciences in all but one of the five schools studied. Furthermore, it is possible to perceive that the discourse on environmental education is constructed differently depending on whether or not the interviewee proceeds from the social sciences, the natural sciences or technology. Each teacher approaches the topic from their own way of thinking and relates it to the content that they teach in their classroom subject, “For example, I try to get them to reflect about computers, where they come from and where they go when we get rid of them” [31]; “Reflecting on happiness, whether or not material goods make us happy, and what all of that consumption of material things implies for our planet” [32].

One final point is that the immediate surroundings of each school are not reflected in the activity developed by the teaching staff, as a large part of them are not from the locality where the school is located, above all in the case of the public schools. However, in some private schools, like schools D and E, all the interviewees are from the same locality, which generates a much stronger link to what School Agenda 21 means for the municipality’s Local Agenda 21.

3.2. Perception and Understanding of Environmental Education

In the first place, it should be underscored that all those interviewed directly identified environmental education with the SA21 project. In one of the interviews, the interviewee was trying to understand what the purpose of the interview was and asked: “By that I take it that you are referring to Agenda 21?” [33]. This indicates that the name is at least widely known, although at the same time the topic is reduced to SA21.

The picture that emerges is that nobody objects to the need for implementing projects on the topic, they are well-informed and familiar with the socio-environmental problem, and believe that action must be taken to tackle it. Subsequently, however, on a day-to-day basis they do not act in the way they say that they should. That is, the project is perceived as something necessary that must be worked on, but they do not dedicate the necessary time to it. In some cases, this can be explained by the limited commitment shown, while in other occasions concern is expressed that the topic is not given the importance it merits. In cases where the teachers show concern, they propose ideas like giving it a more ‘central’ timeslot in the academic timetable, amongst other things.

Sometimes, the problem we have in education is that actions which are not evaluated and measured academically—i.e., examined—are left aside and have less weight. My concern is with how to give more time, more weight to the topic . . . in general it is taught in the last hour of class . . . perhaps it should be mid-morning . . . during a central timeslot, to give

more importance and presence to the topic. I think that this topic should occupy a central place in today's education. [32]

Another perception is that a reduced set of ideas is being covered, above all restricted to recycling, "yes, I know they do a lot of things, there is recycling in all classes, there's a bin for plastic, one for paper and one for the rest", according to one literature teacher from school D who continues, "I can't pay much attention to it in my class, because I am teaching the Spanish language; they possibly do more in the natural sciences". Similarly, the idea is stressed that, "a lot of things are being done", which is considered very positive, but there is still a long way to go.

In sum, environmental education is perceived as something very important, something that is essential to work on and there is a lot of talk about the need for change, but little action is taken in that respect. There is still a gap between environmental awareness on the one hand, and the motivation or will to work on the topic in the classroom and obtain conscious attitudes and actions in that respect, on the other.

3.3. Challenges and Opportunities for Continuing to Advance: Keys to Successful Implementation

One of the problems repeatedly encountered is 'time'. It is frequently observed that little time is available for covering all the material in the corresponding school subject itself, and even less for dedicating classroom time to topics related to SA21, "time is always the obstacle; we have got a program to cover and we have to introduce it into that program, so that it's not just a loose item. That's what I consider to be most difficult, integrating the program and Agenda 21; that's one difficulty and the time available is another. In our field it is easier or harder to tie it in depending on the topic you are teaching. For example, you can do this with functions but not so easily with square roots" [34]. The teachers mention that there is sufficient classroom time for this topic, but that time is usually spent covering topics that the students find more important or relevant, while those related to SA21 are treated as less important. Additionally, they usually add the comment that their classroom time is "completely filled up with activities". However, they do recognize that carrying out such tasks is a necessary part of their profession as teachers and that without such projects, nothing would be done:

On the one hand, you feel disinclined when you find you've received an email: 'You must insert topics like M8, SA21 into your annual plan for teaching Basque' ... with respect to SA21, yes, I'm very aware of it, I would demand it and obviously I would always do it. And this ... it makes you feel disinclined, but there's no alternative, because if it depended on our own initiative it wouldn't get done. If they didn't make us, we'd leave it aside ... at least we've got something programmed. Perhaps due to worry, due to necessities or due to disinclination, but on the other side there's one's own awareness, however small that might be. [35]

In the same vein, the role of each teacher's awareness or personal involvement is identified as a challenge. That is, the school's project for environmental education is implemented in the school with greater or lesser dedication and effectiveness, depending on the commitment of the teaching staff. Several SA21 school coordinators mentioned that this is the reason why, they turn to those members of the teaching staff who think along the same lines as they do or are the friendliest, to be able to carry out the project,

The importance of the role of the school authorities is an idea repeated at several schools. If the project is implemented strongly by the school authorities, and if they are perceived as firmly believing that the project forms one of the school's central axes, then the teaching staff become involved, irrespective of their personal awareness of the topic, since they understand that it forms part of the school's identity, "from the start the school authorities believed in this project and made available all the necessary tools and resources for carrying it out", according to the SA21 coordinator at school E. The authorities at the same school stated that, "the project coordinator has a high leadership capacity and is also personally very conscious. I believe those are the keys to the project's success" [36]; "We've

been very lucky with the people in charge of the project, the coordinator's personal involvement is notable and her awareness and ethics are highly developed" [37]. Although this is identified as a key idea in all the schools, not all of them have the same working reality, which is identified as an obstacle. This idea is also held by teachers with a lot of experience on working on the topic, who shared their opinions at a meeting and in informal conversations and interviews. They agreed that when a school 'adopts a project as its own', this identification creates a link that naturally results in much greater involvement.

The age of the students the interviewees work with is perceived as a possible obstacle but also as an opportunity. On the one hand, a recurrent idea is that "at that age what students are worried about is what they're going to be doing at the weekend, or what clothes to wear. They're interested in everything except what we're trying to teach them" [38]; "Age is a problem, they're always going to go against what we tell them, they're at that stage in life, adolescence" [39]. On the other hand, "it's true that in primary education they're willing and happy to do all types of activities, with complete enthusiasm, unlike in secondary education. But in secondary education they have a capacity to reflect that enables them to tackle topics in class in a deeper way. For example, this talk that is being given here at the moment by the humanitarian aid worker who works in Lesbos, Greece, could not be done in this way in primary education, and that opens other doors" [37].

When it comes to identifying opportunities, it is more a question of identifying those activities that work and that must be further developed. In this sense, one clear idea stands out: To obtain positive results and successfully implement the activity, it is essential that it should be something that involves practical experience, in which the student gets involved with her own hands, outdoors, in contact with nature. For example, at school B, the school's SA21 coordinator told us that according to his experience, several projects, talks and other activities were carried out each year. But he believes that the students will remember one activity especially; when they went to clean the town's river.

The need to carry out experimental activities is emphasized, although this is not always possible:

To be able to write about rain, they have to feel it on their own skin . . . Yes to theory, but where is the practice? I believe that that is a problem with education. The theory gets taught, but then they don't go outside to look at the flowers. Perhaps it's because of the pressure of the amount of content to be worked on. But I believe that is a mistake. People have to touch, to smell, they have to feel it. [40]

It thus becomes clear that outdoor activities in natural settings have the greatest impact on environmental awareness. However, some obstacles are also encountered, since "all of them are always willing and happy to do activities outdoors, but the problem is when we ask for money, even if it's only 2 euros, in the end there's the mounting cost of all the school materials, and at our school 60% are grant-holders" [39]. This can be perceived as forming an obstacle in the public schools unlike the private ones.

We also encountered the idea of the importance of having a good team with a good leader for obtaining good results. The need to have one person as a referential figure who is seen to believe in the project. For example, at school C they say that for the last two years the project has been coordinated and led by a person who has a lot of contact with most of the staff, unlike the previous coordinator. They mention that they now know each other better and this factor, amongst others, might be one of the keys.

On the other hand, an interesting idea that emerged regarding the approach employed with students is that a negative perspective is often used and this does not help in attaining the goal of raising the students' awareness and sensibility prior to doing the activity. This is mentioned by the social sciences teacher and SA21 coordinator at school B:

The students are interested in things. But often things are 'sold' to them from a perspective of culpability of the type: 'we do everything badly and that's why the world is in a bad state' and so they don't want to know anything else about the topic. I think we have to part ways

with that perspective. For example, in the 3rd year social sciences class many things are given a bad evaluation and I think we have to invert that. [41]

Continuing with this line of thought, an interesting reflection was provided by the philosophy teacher at school C. Based on his experience, he thinks that there are many ways of addressing the topic, not just from the perspective of defending the planet, and it might be more effective for getting students to reflect on excessive consumption by approaching it from the perspective of happiness.

Does this level and form of consumption make us happy? . . . In this way we start to analyze the repercussions of our addiction to consumption, whether or not all these objects fill that vacuum we might feel . . . in the psychology class they can be transversal questions. And of course they are linked to the topics of ecology and caring for the planet. But also to the many traps in our way of living, since we are all under the power of advertising. This can be addressed, not only at the existential level, but also at the level of everyday life, by discussing the lies that are found behind consumerism. In that sense we find a link for dealing with these topics. [32]

3.4. *What is Understood by Sustainability?*

In general sustainability is a word that ‘frightens’. There is the case of the interviewee who said that it was not a topic that he kept up on and that he did not understand it very well, with the interviewer then having to stress that the aim was not to provide a perfect definition but to determine each person’s perception and ideas.

A recurrent idea was sustainability understood as balance, “a balance between what we spend and what we have” [42]; “maintaining natural resources over time” [43]; “finding the balance between what we have . . . and what we need” [34]; “a reflection on what is generated by our life and presence on the planet, what paths we are taking” [44].

On other occasions, sustainability is only considered in relation to recycling. Once again, we encounter a reductionist idea of what is involved in acting responsibly to respect the environment. Although there is talk about the need to cut down on our consumerist lifestyle and all that it generates etc., this is not the general pattern of thought.

Finally, it should be underscored that sustainability is automatically related to environmental sustainability and that this is a widely-held idea. When we speak of sustainability we are also entering into the game of social and economic sustainability, but this dimension is only mentioned on a couple of occasions. Above all, sustainability is related to the question of gender equality and social equalities.

3.5. *Motivation and Intentions: Why Work on Environmental Education?*

This question was only included with people who showed an interest in the topic and with the coordinators. Two results were obtained in this respect. On the one hand, there are those who work on this project out of conviction and their own awareness of the topic, and on the other, there are those who, although they are aware of the topic, only work on it ‘because it was assigned to us’. Once again we encounter personal motivation.

It should be underscored that the administration (Ingurugela) makes a positive contribution to doing work on the topic through its provision of support. It provides materials, counselling and training, as well as spaces where experiences can be shared with students. In any case, in spite of that, we once again find that it is personal commitment and sensibility that continue to be the most relevant factors.

All of the people interviewed are convinced that it is a topic that should be worked on, that it is a necessary issue. They are well-informed about the problem and about global socio-environmental crises, the repercussions on the future of the planet and future generations and about the urgent need to pass on these values of respect for the planet and attitudes for a more sustainable life. However, the majority, in spite of repeating this discourse and indicating that they know about the topic, do not

work on it in class. Their justification is that this question is not included in their school subject, that they have no time or that it is covered in tutorials.

3.6. Knowledge about the Proposal of the SDGs

The question of the SDGs is not yet a familiar one, and the two schools where it was most discussed are both in the private sector. The reason for this is perhaps that in the private sector every year they make an effort to update themselves and ‘keep up with the latest developments’ and that is why they started to discuss the SDGs, which they understand to be a key line of work. It is at school E where Agenda 2030 has been most embedded in their activities, with its goals and integral view used as a work tool.

In the context of the SDGs, the interviewees were asked about working on the different programs included at the school (co-education, gender equality, School Agenda 21 etcetera), with all of these integrated under the umbrella provided by School Agenda 21. There are different opinions in this respect. Some consider that it would be ideal if everything were to be integrated as proposed, but that at present the logistics are perhaps not so simple. On this point, some concerns and reflections were expressed about the lack of communication amongst the departments responsible for the different school subjects, “in some cases it can be easier to work together because we are physically close, but everyone gets on with their own concerns” [45]. On the other hand, there is the idea that it is better for each subject to preserve its identity and be kept separate.

4. Discussion

4.1. The Attitude of the Teaching Staff

Environmental education is a tool with a high potential for contributing to social transformation towards a sustainable lifestyle. Education and educational centers play a leading role in implementing sustainable development [46]. Education has a key role to play in activities on the path towards a more sustainable future, although educational practice must be specifically adapted to its target audiences [47]. In the specific field of formal education, in all the cases studied in this research, the teaching staff are the key element for successfully putting the programs of environmental education into practice.

In this respect, we observed that individual awareness and sensibility determines the motivation, and thus the work that is done in the school. Our research underscores that the great majority of the teaching staff show concern for the environment; nonetheless, it also reflects the scant commitment to an active pro-environmental position in the classroom or in the personal sphere. Studies carried out from the perspective of environmental psychology, like that of Thomson and Barton (1994), show that in spite of holding values that favor the environment, it is difficult to change personal behavior and involve oneself in change, especially if this calls for sacrifices or involves inconvenience [48]. Some reasons are identified that might affect this disconnection between a pro-environmental attitude and behavior, which tend to contradict each other. There are several models that analyze this relation amongst values, attitude and conduct, such as Schwartz’s scale of ecological values [49], Dunlap and Van Liere’s methodological tool—the New Ecological Paradigm (NEP) [50,51] or Hines, Hungerford and Tomera’s model [52]. What all of these models agree upon is that initially it is necessary to possess information and have a good understanding of the problem, and that the corresponding behavior will come later. It must be borne in mind that the teaching staff are a part of society and therefore their concern about the environmental problem is not necessarily linked to their classroom work, as our study clearly showed.

The current theoretical frameworks of education for sustainability must be embedded in the educational curricula of the teaching staff at teachers’ training colleges in order to promote awareness and develop sustainability skills in students, who will be the future teachers. ‘Sustainable education’ is a necessary, holistic, educational paradigm that advances towards a sustainable culture and

lifestyle [15]. It is recommended that for programs on Education for Sustainability to be successful, these “must be holistically integrated into the curriculum and institutional practices” [8], as they would not work solely on the basis of the individual efforts of some educators. In this sense, it is important to analyze from the perspective of the Sociology of Education, how teachers are trained to deal with the topic of sustainability [53].

4.2. *Connecting with Nature*

From an analysis of the specific activity of educational projects for sustainability, we can deduce that one of the keys to successful implementation that manages to get people involved and raise their awareness lies in carrying out activities in which they participate. This implies the development of an activity that entails experiencing direct contact with reality and with nature. There is a relation between reconnecting people with nature and their subsequent progress towards a greater environmental sensibility. Recent research carried out in primary and secondary schools in Singapore has shown that, “Nature connectedness counts as a crucial predictor of pro-environmental behavior” [54]. Similarly, there have been recent research experiences, in Scotland and Canada amongst others places, which showcase the potential of outdoor education for developing pro-environmental sensibility [55,56]. Although the potential of experiences outside the classroom is recognized, the teaching staff bring up certain problems, such as the time availability and budget limitations, to carrying them out.

It is also important to underscore the age at which this type of activities is carried out. In fact, one of the results of our research shows that working with adolescents provides interesting challenges and opportunities, a finding that is also shown by other studies [54]. Kaplan and Kaplan argue that during adolescence, there is less preference for natural spaces as opposed to more ‘developed’ spaces. They call this period ‘time out’, when there is a loss of interest in things related with nature [57]. On the other hand, Crone and Dahl stress the importance of social and affective research as variables for exploring immersion and for better understanding the opportunities for motivational apprenticeship during adolescence in reference to the subjects covered [58].

4.3. *Sustainable Development Goals as a Framework for Education for Sustainability*

The results also show that one of the keys to success lies in approaching the topic with a holistic or interdisciplinary view, that is, not treating it as a separate school subject that is understood as ‘environmental education’ or solely in relation to the natural sciences, but instead as something embedded in the curriculum and the study plan of each school subject. In spite of the fact that some schools are already doing this, it continues to pose a challenge, although attention is now being focused on it. It is a question of developing an education in which the concept of sustainability is embedded in a natural way, with education understood as forming a whole. “Schools must teach students about the world we live in, our place in it, and how to sustain and protect the ecosystems that support us all” [59]. Education for sustainability requires an interdisciplinary approach that encourages critical thinking and resolving complex problems, which must be addressed from more than one discipline [60]. Environmental sensibility is generally understood in terms of recycling, sustainable consumption and visits to natural parks, while cultural sustainability is not well known [61]. In this sense, Agenda 2030 of the SDGs provides an opportunity if it is considered as an accessible tool for starting to work on sustainability in a more integral way, since the SDGs provide a framework for integrating all the educational subjects and projects. In this context, it is crucial for the effectiveness of education for sustainability that teachers should receive a specific qualification through the educational offers aligned with the United Nations’ SDGs [46].

5. Conclusions

In the first place, this study showed that key factors for successfully implementing education for sustainability programs are the involvement of the teaching staff, personal motivation and the leadership of the coordinator, although the support of the school authorities is also needed

(complementary focuses). Moreover, the stability of the teaching personnel and their identification with the project are essential. Differences can be established in this respect between public schools and private schools that condition the difficulties of the teaching staff to a certain degree.

The analysis carried out from the perspective of the teaching staff showed that there are different perceptions of the topic depending on their different areas of knowledge, while the prevalent view considered that the topic falls under the scope of the natural sciences. On the other hand, it clearly showed the need to address all the dimensions of sustainability, although there was a problem with integrating contents, above all due to how the departments are structured. Additionally, it has been shown that different approaches can be taken to the problem, for example it can be considered from topics like consumption, philosophy/happiness, etc.

With respect to key educational methodologies, experiential activities outside the classroom are considered to be an opportunity for ensuring the programs' success. The focus on the topic must be a positive one for it to have greater effect. In all the schools studied, environmental education is clearly identified with School Agenda 21, while the support of Ingurugela provides a great opportunity and is a key element for developing the educational programs. Working on the topic of SA21 with secondary school students can pose a challenge (lack of interest) as well as provide an opportunity (capacity for critical argument). With regards to the SDGs, these are still largely unknown to the teaching staff but could provide a good framework for multidisciplinary education.

Finally, as future research that could complement this research, it would be interesting to carry out the same analysis from the perspective of the students and to contrast the perspective of the teaching staff with that of the students, thus obtaining conclusions that reflect this comparison.

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Appendix A Interviewed teachers' profile

School A:

1. Social Science teacher; 35 years of experience as teacher, 22 years in this school.
2. Social Science; 26 years of experience as teacher, 2 years in this school.
3. Physical Education; 31 years of experience as teacher, 18 years in this school.
4. English teacher; 12 years of experience as teacher, 6 months in this school.
5. Natural Science teacher; 12 years of experience as teacher, 6 months in this school.

School B:

6. Natural Science teacher; 32 years of experience as teacher, 4 years in this school, 4 years as School Agenda 21 coordinator.
7. Social Science teacher; 20 years of experience as teacher, 4 years in this school, 3 years as School Agenda 21 coordinator.
8. Pedagogue; 13 years of experience as teacher, 1 years in this school.
9. Mathematics teacher; 3 years in private sector, 24 years of experience as teacher, 5 years in this school.
10. Physical Education teacher; 18 years of experience as teacher, 2 years in this school.
11. Chemistry teacher; 4 years of experience as teacher, 1 years in this school.
12. Technology teacher; 6 years private sector, 2 years of experience as teacher.
13. English teacher; 35 years of experience as teacher, 11 years in this school.
14. Basque Language teacher; 11 years of experience as teacher, 6 months in this school.

School C:

15. Natural Science teacher; 12 years of experience as teacher, always in this school; 2 years as School Agenda 21 coordinator.
16. Basque language teacher; 18 years of experience as teacher, 16 years in this school.
17. Philosophy teacher; 18 years of experience as teacher, always in this school.
18. Mathematics teacher; 18 years of experience as teacher, always in this school.
19. Natural Science teacher; 8 years as university research experience; 16 years of experience as teacher always in this school.
20. History teacher; 10 years of experience as teacher, always in this school.
21. Natural Science teacher; 8 years of experience as teacher, 7 years in this school; 2 years as assistance of the School Agenda 21.

School D:

22. Technology teacher; 10 years in private sector; 1 year as teacher in this school.
23. English teacher; 1 year of experience as teacher, always in this school.
24. Literature teacher; 38 years of experience as teacher, always in this school.
25. English teacher; 24 years of experience as teacher, always in this school.
26. Physical Education teacher; 20 years of experience as teacher, always in this school.
27. Social Science teacher; 11 years of experience as teacher, always in this school.
28. English teacher; 1 year of experience, always in this school.
29. Social Science teacher; 40 years of experience as teacher, 10 of those years as school director, always in this school.

School E:

30. Technology teacher; 10 years in private sector, 7 years of experience as teacher, always in this school.
31. Literature teacher; 16 years of experience as teacher, always in this school.
32. Philosophy teacher; 9 years of experience as teacher, always in this school.
33. Art Teacher; 20 years of experience as teacher, always in this school.
34. Physical Education and Religion teacher; 6 years of experience as teacher, always in this school.
35. English teacher; 15 years of experience as teacher, always in this school.
36. Social Science teacher; 22 years of experience as teacher, always in this school.
37. Natural Science teacher; 24 years of experience as teacher, always in this school and 14 years as School Agenda 21 coordinator.
38. School director; 32 years of experience as teacher; 13 years as teacher and 19 years as school director.

References

1. Waters, C.N.; Zalasiewicz, J.; Summerhayes, C.; Barnosky, A.D.; Clément Poirier Gafuszka, A.; Cearreta, A.; Edgeworth, M.; Ellis, E.C.; Ellis, M.; Jeandel, C.; et al. The Anthropocene is functionally and stratigraphically distinct from the Holocene. *Science* **2016**, *351*, 6269. [[CrossRef](#)] [[PubMed](#)]
2. Steffen, W.; Grinevald, J.; Crutzen, P.; McNeill, J. The Anthropocene: Conceptual and historical perspectives. *Philos. Trans. R. Soc.* **2011**, *369*, 842–867. [[CrossRef](#)] [[PubMed](#)]
3. Zalasiewicz, J.; Williams, M.; Haywood, A.; Ellis, M. The Anthropocene: A new epoch of geological time? *Philos. Trans. R. Soc. A Math. Phys. Eng. Sci.* **2011**, *369*, 835–841. [[CrossRef](#)] [[PubMed](#)]
4. Global Footprint Network. Ecological Footprint vs Biocapacity. Available online: <http://data.footprintnetwork.org/#/countryTrends?cn=5001&type=BCtot,EFCtot> (accessed on 11 March 2019).

5. Pericault, Y.; Karrman, E.; Viklander, M.; Hedstrom, A. Expansion of Sewer, Water and District Heating Networks in Cold Climate Regions: An Integrated Sustainability Assessment. *Sustainability* **2018**, *10*, 3743. [CrossRef]
6. Bauer, D.; Arnold, J.; Kremer, K. Consumption-Intention Formation in Education for Sustainable Development: An Adapted Model Based on the Theory of Planned Behavior. *Sustainability* **2018**, *10*, 3455. [CrossRef]
7. Lauder, H.; Brown, P.; Halsey, A.H. Sociology of education: A critical history and prospects for the future. *Oxf. Rev. Educ.* **2009**, *35*, 569–589. [CrossRef]
8. Chinedu, C.C.; Wan Mohamed, W.A.; Ajah, A.O. A systematic review on education for sustainable development: Enhancing TVE teacher training. *J. Tech. Educ. Train.* **2018**, *10*, 109–125.
9. Turner, B.L., II; Kasperson, R.E.; Matson, P.A.; McCarthy, J.J.; Corell, R.W.; Christensen, L.; Eckley, N.; Kasperson, J.X.; Luers, A.; Martello, M.L.; et al. A framework for vulnerability analysis in sustainability science. *Proc. Natl. Acad. Sci. USA* **2003**, *100*, 8074–8079. [CrossRef]
10. Liu, J.; Dietz, T.; Carpenter, S.R.; Alberti, M.; Folke, C.; Moran, E.; Pell, A.N.; Deadman, P.; Kratz, T.; Lubchenco, J.; et al. Complexity of coupled human and natural systems. *Science* **2007**, *317*, 1513–1516. [CrossRef]
11. Serpa, S. A Reflection on Sociology of Education. *Int. J. Soc. Sci. Stud.* **2018**, *6*, 33–39. [CrossRef]
12. Flecha, R. The dialogic sociology of education. *Int. Stud. Sociol. Educ.* **2011**, *21*, 7–20. [CrossRef]
13. Lea, A.Z. Fracaso escolar y relación con el saber. Elementos de comprensión de las teorías sociológicas de base [School failure and relationship with knowledge. Elements of comprehension of the sociological theories]. *Prax. Educ.* **2016**, *20*, 13–14.
14. Gerrero, A. The Double Contribution of Sociology to Teacher Training. *Rev. Int. Sociol. (RIS)* **2007**, *48*, 203–220.
15. Sterling, S. An analysis of the development of sustainability education internationally: Evolution, interpretation and transformative potential. In *Sustainable Development: A Challenge for Higher Education*; Blewitt, J., Culling-ford, C., Eds.; Earthscan: London, UK, 2004.
16. Eustat Population of Basque Autonomous Community by year of birth, according to the historical territory and sex. Available online: http://www.eustat.eus/elementos/ele0011400/Poblacion_de_la_CA_de_Euskadi_por_ano_de_nacimiento_segun_el_territorio_historico_y_elsexo/tbl0011424_c.html (accessed on 11 March 2019).
17. Gobierno Vasco. *Estrategia de Educación para la Sostenibilidad del País Vasco 2030*; Servicio Central de Publicaciones del Gobierno Vasco: Vitoria-Gasteiz, Spain, 2018.
18. Ingurugela. The Basque Experience of Education for Sustainability: School Agenda21. Available online: http://www.euskadi.eus/web01-a2inghez/en/contenidos/informacion/a21e/en_def/index.shtml (accessed on 11 March 2019).
19. Ingurugela. Map of the Basque Autonomous Community: Schools Taking Part in School Agenda 21 and Municipalities with Schools Certified as a ‘Sustainable School’. Available online: http://www.euskadi.eus/contenidos/informacion/a21e/es_def/adjuntos/MUN.pdf (accessed on 11 March 2019).
20. Martínez, J.; Manuel, J.; Cantera, A.; Agirreazkuenaga, M. *Ecobarómetro Escolar de la comunidad autónoma del País Vasco*; Ingurugela: Bilbao, Spain, 2017; pp. 41–42.
21. Taylor, S.J.; Bogdan, R. *Introduction to Qualitative Research Methods. The Search for Meanings*; Paidós: New York, NY, USA, 1984.
22. Alonso, L. *La Mirada Cualitativa en Sociología; Fundamentos*; Caracas, Venezuela, 1998.
23. Eisner, E.W. *El Ojo Ilustrado. Indagación Cualitativa y Mejora de la Práctica Educativa*; Paidós: Buenos Aires, Argentina, 1998; pp. 27–28.
24. Valles, M.S. *Entrevistas Cualitativas*; Centro de Investigación Sociológicas: Madrid, Spain, 2007.
25. Wengraf, T. Qualitative Research Interviewing. In *Biographic, Narrative and Semistructured Methods*; Sage: London, UK, 2001.
26. Kvale, S. *InterViews. An Introduction to Qualitative Research Interviewing*; Sage: London, UK, 1996; p. 131.
27. Ritzer, G. *Classical Sociological Theory*; MacGraw Hill: New York, NY, USA, 1993.
28. Cea D’Ancona, M.A. El análisis de la realidad social: Aproximaciones metodológicas. In *Metodología Cuantitativa: Estrategias y Técnicas de Investigación Social*; Editorial Síntesis: Madrid, Spain, 1998.
29. Lindlof, T.R.; Taylor, B.C. *Qualitative Communication Research Methods*, 2nd ed.; Sage: London, UK, 2002; p. 17.

30. Oral source: School Agenda 21 Coordinator, school E. Personal communication, 2018.
31. Oral source: Technology teacher, school B. Personal communication, 2018.
32. Oral source: Philosophy teacher, school C. Personal communication, 2018.
33. Oral source: English teacher, school B. Personal communication, 2018.
34. Oral source: Mathematics teacher, school C. Personal communication, 2018.
35. Oral source: Basque Language teacher, school C. Personal communication, 2018.
36. Oral source: School Director, school E. Personal communication, 2018.
37. Oral source: Director of studies, school B. Personal communication, 2018.
38. Oral source: English teacher, school D. Personal communication, 2018.
39. Oral source: Natural Science teacher, school D. Personal communication, 2018.
40. Oral source: Physical Education teacher, school A. Personal communication, 2018.
41. Oral source: School Agenda 21 Coordinator, school B. Personal communication, 2018.
42. Oral source: Natural Science teacher, school A. Personal communication, 2018.
43. Oral source: Literature teacher, school D. Personal communication, 2018.
44. Oral source: Physical Education teacher, school B. Personal communication, 2018.
45. Oral source: Chemistry teacher, school B. Personal communication, 2018.
46. Bertschy, F.; Künzli, C.; Lehmann, M. Teachers' Competencies for the Implementation of Educational Offers in the Field of Education for Sustainable Development. *Sustainability* **2013**, *5*, 5067–5080. [[CrossRef](#)]
47. Pauw, J.; Gericke, N.; Daniel Olsson, D.; Berglund, T. The Effectiveness of Education for Sustainable Development. *Sustainability* **2015**, *7*, 15693–15717. [[CrossRef](#)]
48. Thompson, S.C.; Barton, M.A. Ecocentric and anthropocentric attitudes toward the environment. *J. Environ. Psychol.* **1994**, *14*, 149–157. [[CrossRef](#)]
49. Schwartz, S.; Bislky, W. Toward a universal psychological structure of human values. *J. Personal. Soc. Psychol.* **1987**, *53*, 550–562. [[CrossRef](#)]
50. Dunlap, R.E.; Liere, K.D. The New Environmental Paradigm. *J. Environ. Educ.* **1978**, *9*, 10–19. [[CrossRef](#)]
51. Dunlap, R.E.; Liere, K.V.; Merting, A.G.; Jones, R.E. Measuring endorsement of the New Ecological Paradigm: A revised NEP scale. *J. Soc. Issues* **2000**, *56*, 425–442. [[CrossRef](#)]
52. Hines, J.M.; Hungerford, H.R.; Tomera, A.N. Analysis and synthesis of research on responsible environmental behavior: A meta-analysis. *J. Environ. Educ.* **1987**, *18*, 1–8. [[CrossRef](#)]
53. Caballero Guisado, M.; Baigorri Agoiz, A. The climate change in the ESO. Exploring Extremadura case. *Rev. Sociol. Educ.* **2018**, *11*, 89–100.
54. Braun, T.; Dierkes, P. Connecting students to nature—How intensity of nature experience and student age influence the success of outdoor education programs. *Environ. Educ. Res.* **2016**, *23*, 937–949. [[CrossRef](#)]
55. Crone, E.A.; Dahl, R.E. Understanding adolescence as a period of social-affective engagement and goal flexibility. *Nat. Rev. Neurosci.* **2012**, *13*, 636–650. [[CrossRef](#)] [[PubMed](#)]
56. Higgins, P.; Kirk, G. Sustainability Education in Scotland: The Impact of National and International Initiatives on Teacher Education and Outdoor Education. *J. Geogr. High. Educ.* **2006**, *30*, 313–326. [[CrossRef](#)]
57. Kaplan, R.; Kaplan, S. Adolescents and the natural environment: A time out. In *Children and Nature. Psychological, Sociocultural, and Evolutionary Investigations*; Kahn, P.H., Kellert, S.R., Eds.; MIT Press: Boston, MA, USA, 2002; pp. 227–257.
58. Nazir, J.; Pedretti, E. Educators' perceptions of bringing students to environmental consciousness through engaging outdoor experiences. *Environ. Educ. Res.* **2015**, *22*, 288–304. [[CrossRef](#)]
59. Saylan, C.; Blumstein, D.T. *The Failure of the Environmental Education—And How We Can Fix It*; University of California Press: Berkeley, CA, USA, 2011.
60. Zoller, U. Science Education for Global Sustainability: What Is Necessary for Teaching, Learning, and Assessment Strategies? *J. Chem. Educ.* **2012**, *89*, 297–300. [[CrossRef](#)]
61. Janhonen-Abuquah, H.; Topp, J.; Posti-Ahokas, H. Educating Professionals for Sustainable Futures. *Sustainability* **2018**, *10*, 592. [[CrossRef](#)]

