Erasmus+ EduSTA, Academy for Sustainable Future Educators

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D2.1 Results of the politico-legislative framework research, T 2.2. workshops and T2.3. inquiry

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Work Package 2 Final Report

Contents

1. Introduction to WP2

The EduSTA –Academy for Sustainable Future Educators project aims to co-create and develop an agile model for teachers' professional development concerning their professional sustainability competences. This proceeds through a design-based research as the overarching methodology and the project rationale can be understood as a guided exploration of a teacher profession beginning with a cross-analysis of sustainability competences and an educator's work in practice. To develop a diverse palette for educators' learning paths, training schools are closely involved in this process which will result in the establishment of a set of digital badges and educational offering that will scaffold and allow for multiple learning journeys. It will be as a part of open digital badge-driven learning process model. The presented process will strengthen the competence based professional development and transformative pedagogical principles in teacher training contributing significantly to the teachers' readiness as educators of a sustainable future.

According to the project plan the project will provide:

1. A strong network of teacher education institutions with shared understanding of educators' role in ecological transition, the needed competences and educational needs, "Academy for Sustainable Future Educators" (EduSTA) leading to sustainable, long-lasting collaboration.

2. A collaboratively produced operationalisation of Key Sustainability Competences in the teaching profession implemented through a jointly developed educational offering and open digital badge-driven learning pathways.

3. Deeper understanding and tested sustainable project collaboration practices in international collaboration.

In this process, the main objective of WP2 is to provide the background information for the development of competence-based digital open badges (WP4), educational materials (WP3) and pilots (WP5).

The EduSTA project does not aim at defining a new competence framework for teachers in ESD but to operationalise a coherent set of competences from the literature to focus on helping educators to develop the competences they require to transform their practice into Education for Sustainable Development. The project will do so through the design of a constellation of micro credentials (Work Package 4) that can drive professional development pathways providing recognition for the competences they have and support, through an Academy of Educators for a Sustainable Future (Work Package 3) that will offer workshops, courses and materials, to develop teachers' competences for ESD. Both the constellation of micro credentials and the Academy are addressed to teachers of all educational levels across Europe.

Work package 2 has two main aims. The first one is identifying the teachers' competences for ESD that will be addressed in the project. To do so we have looked at the literature on ESD (WP 2.1.) The second aim is to obtain contextual information from different countries, from teachers of different educational levels, and from different professionals involved in ESD (WP 2.2). This information will help us make decisions in work packages 3 and 4 that better address the requirements and needs of the teachers to

whom the credentials and the Academy are addressed. This information will help us to operationalise the competences and to adapt our proposals to a diversity of contexts.

In the following pages we will present a summary of the work carried out in Work Package 2. We will also include information on the communication of WP2 results so far. This includes a work-shop seminar in the international conference Eye on TAMK 2023 (WP 2.3.) and the manuscript of the first co-authored publication of the WP2 results (Appendix .8).

The Work Package 2 was coordinated by the University of Girona (UdG) team in close collaboration with the coordinator of the project. The UdG team took the lead in the collaborative work to produce the necessary documents to run the data collection phase (Appendices 2, 3, 4 and 5). This team was also responsible for the literature review (WP 2.1). The data collection was conducted by all teams (WP2.2) and the UdG team carried out the analysis of all the data. Throughout the process there have been several meetings between the UdG team and other individual teams and meetings of all the work package coordinators to discuss the initial results and to organise the feeding of WP2 into WP3 and WP4.

A timeline for the work of Work Pacakge 2 can be found in Appendix 1.

2. WP2.1.: Literature review

2.1. Description of the task

The first task of WP2 is a literature review to gather up-to-date information about proposals of competencies teachers require to be involved in Education for Sustainable Development (from now on ESD) to underpin the decisions on the competence framework for teachers in EDS that will be used in EduSTA.

We have not conducted a systematic review, but we have aimed to cover the most relevant literature on frameworks of competencies for Teachers of ESD (we will call these frameworks TESD). Several reviews of this topic, and related ones, have been published in the past 10 years, including a systematic review published in 2020 (Corres et al, 2020). We have taken them into account, but our review had a very specific aim.

It is common in the literature that discussions about TESD include elements of either how the teacher training takes place or about the teachers' effectiveness at promoting the development of competences for sustainable development in their students (from now on CESD). Though we will not review here these two aspects, we will make reference to them when they are instrumental to the definition of the TESDs.

2.2. Summary of the literature review

During the last 3 decades, education for sustainable development (ESD) has become an important topic of discussion both in terms of its presence in policy documents and on the number of academic publications around it. This interest is a consequence of the widely accepted need for systemic changes to shift towards a sustainable development for the anthropocene and the central role that education must play in this paradigm change.

As with education in general, one of the key elements to foster an effective ESD is the improvement of the teachers' education/training/professional education. While there is wide consensus around this point, proposals on what this teacher training for ESD (TTESD) should aim at are rather scarce. Most of these proposals take the form of "competence frameworks" which often include a heterogenous set of components: areas, topics and goals of SD or ESD, aside from competences. This diversity might be connected to the complex nature of ESD and, hence, might be necessary to fully grasp what TTESD must tackle. Despite this heterogeneity, the different proposals found in the literature have many points in common, albeit with different accents on the importance of individual elements, differences in terminology to refer to the same, or almost the same, concepts, and with fluctuating status of some of the elements which might be a competence area or a teacher's competence depending on the proposal.

Our proposal has two aims. On the one hand to make a contribution to the confluence of existing proposals. To this end we adopt the idea of a framework of teachers' competences for education for sustainable development (TCESD) and we construct it on the basis of existing framework proposals. On the other hand, our goal is to operationalise this framework into elements that can be effectively used to design micro credential accreditation driven teacher professional development pathways. To address these goals, we have reviewed the literature on TCESD as well as the policy documents regarding ESD of five European countries, and we have conducted individual interviews and workshops with policy makers, experts in ESD, and students and teachers of professional development programmes.

As we have already mentioned, there are few proposals of TCESD in the literature (Vare et al. 2022). For the purpose of this summary, we will focus on six frameworks: UNECE, CSCT, RSP, KOMBiNE, Bertshcy et al.´s and Cebrián and Junyent`s). UNECE is the most influential in terms of other frameworks referencing to it. If we look at papers on ESD that refer to Techer Education we can see that, even though the majority do not refer to a TCESD framework - other than their own proposal-, UNECE is also the most widely cited. Our proposal is also based on UNECE and offers a comparison of the frameworks that are most used/quoted.

Two assumptions have guided our analysis. First, a definition of competence as a combination of knowing, doing and being. Secondly, the choice of the GreenComps framework as the definition of the aims of ESD we will consider. Our choice of the GreenComps is eminently practical: this is the mostly likely framework of reference for policies in EU countries in the immediate future. Furthermore, we think that the GreenComps are located in a wide consensus on ESD which means that, while making explicit reference to it, our proposal should be useful for other ESD competence frameworks.

The UNECE framework, as the GreenComps, uses a matrix to define the competences. This matrix has two axes. The first one contains three ESD characteristics: *Holistic approach, envisioning change, achieving transformation.* The second axis contains 4 elements that UNECE refers to as learning experiences: *learning to know, learning to do, learning to be and learning to live together*. These seven elements appear, in one way or another, in all the selected TCESD.

In the case of the GreenComps the two axes are: *embodying value, embracing complexity, envisioning futures, acting for sustainability;* and *knowledge, skills* and *attitudes*.

If we compare that axis of both frameworks, we can establish some connections:

Elements	GreenComps	UNECE
(E)SD characteristics	Embracing complexity	Holistic approach
	Envisioning futures	Envisioning change
	Acting for sustainability	Achieving transformation
	Embodying values	
Competence dimensions		Learning to live together
	Attitudes	Learning to be
	Knowledge	Learning to know
	Skills	Learning to do

Even before considering the way each framework considers each element we can see two broad areas of agreement and one area that fluctuates. There are three characteristics of ESD that make them distinctive in relation to other education perspectives that we find in every proposal of TCESD (connected to ESD goals in terms of the competence goals for students):

ESD1. To consider the complexity of our world/context,
ESD2. To envision different solutions/situations for the future of the world/context
ESD3. To plan and carry out action to bring about the envisioned futures

It is important to note that the action characteristic of ESD is not just an added competence, it changes the nature of all the competences included in the ESD frameworks; to develop a competence in ESD is not just to be able to apply knowledge and skills to concrete contexts/problems/situations, it is to

actually do so. This is explicitly seen in the inclusion of the idea of urgency in some of the TCESD proposals.

To make this action-oriented perspective possible ESD requires bringing together attitudes aligned with change (and with the proposed change in particular) and the building up of agency. Together, they change the idea of interest (in nature) from the earlier ESD proposals to the idea of (personal) investment in the (complex) problems and the bringing about of change. All of these are connected to identity.

Identity elements can be seen as part of the action-oriented characteristic of ESD or as a dimension to be included in the competences to be developed by students (SCESD) and they fluctuate in their conceptualisation across framework proposals. Identity does not have to be seen as a purely individual issue. Identity is often seen as arising from the interaction with, mostly, other people. Hence, identity can be connected, not just with the idea of learning "to be", but also with the idea of "learning to live together". The latter is very important for ESD because of the connection between complexity outlook and action orientation - as well as being part of the poetical-ideological milieu of SD-. I suggest that we separate this "learning go live together" into two areas: one connected with values and attitudes to be included in identity and one related to how we cooperate with others to be included in the area of bringing about change.

Elements	GreenComps	UNECE
(E)SD characteristics	Embracing complexity	Holistic approach
	Envisioning futures	Envisioning change
	Acting for sustainability	*Achieving transformation/learning to live together - cooperation-*
Competence dimensions	*Embodying value/ Attitudes*	*Learning to be/ Learning to live together - empathy*
	Knowledge	Learning to know
	Skills	Learning to do

All these elements together constitute what I call the Level 1 of the TCESD. This level defines the playfield within which we will operate. This playfield gives us the core ideas of SD and ESD that will underpin our framework. The competence dimensions are defining the orientation of the learning situations/goals in ESD and the ESD characteristics provide goals for ESD in a very general form.

If we take now RSP we find two axis as well: Thinking holistically, envisioning change, achieving transformation; and integration, involvement, practice and reflexivity. The first axis is easily connected with the ESD characteristics. The second axis is connected to a model of education (action-oriented, transformative pedagogy). The way Vare et al (2019) define these pedagogy elements allows us to connect them with competence dimensions.

Elements	RSP	UNECE
(E)SD characteristics	Holistic approach	Holistic approach
	Envisioning change	Envisioning change
	Achieving transformation	*Achieving transformation/learning to live together - cooperation-*

	Reflexivity/Involvement	*Learning to be/ Learning to live together - empathy*
Competence dimensions	Integration	Learning to know
	PRactice	Learning to do

In a RSP identity elements in L1 are more focused/restrictive, but, as we will see, other elements appear when crossing the two axes to produce the competences in this proposal.
The main contribution from RSP to our L1 definition is the articulation of pedagogical foundations for ESD that orientate the work on competences.

We will now add to the comparison the CSCT proposal. Instead of two axes, this model uses a core of 5 areas seen as core elements of competences in ESD (knowledge, Systems thinking, emotions, ethics and values, and action), and general dimensions of the work of a teacher (teacher as individual, teacher in the educational institution, teacher in society) and "general competences" teachers must have (teaching, reflecting/visioning, networking).

These three tiers are not just connected but, to some degree they overlap (as the authors of the proposal say). The proposal makes an explicit effort to focus on the teacher and, in places, it blurs the distinction between the teachers as a professional or as an individual citizen. This duality appears also in UNECE but that proposal focusses more on the teacher as professional – and indeed most of the transformation element of the ESD characteristics focuses on the teachers transforming education. This is an interesting point that we will recover later on when we make our two proposals for TCESD.

The five core elements of the competences in CSCT can be connected to the pedagogical/competence dimensions. Emotions, ethics and values would fit into learning to be/learning to be together-respect-, action with learning to do and knowledge wit learning to know. This latter dimension would be associated with the fifth core competence chosen by CSCT: systems thinking. Something similar happens in RSP where knowledge is referred to by integration. In both cases the proposals are singling out a way of dealing with knowledge which, as we have already discussed, connects with the characteristics of (E)SD. In the case of CSCT the proposed element is not just a characteristic of how one should deal with knowledge in (E)SD - integration, complexity,… - but refers to something more specific and elaborated: systems thinking. This is not a competence dimension (learning to know), it does not talk about the characteristics to be underlined in the knowledge of the world/context from the SD perspective – complexity, integration –. Systems thinking has epistemological as well as ontological characteristics that are precise enough to consider it a methodology/tool to be used in SD and, hence, to be learnt in ESD. This is an example of the Level 2 of our proposals: elements that we can see as goals or competences of ESD – competences that are build-up of more general competences. More general competences might deal with one or more than one of the dimensions and, in practice, they are used in conjunction with other general competences. These sets of coordinated general competences can constitute a big competence that functions as a whole. [This might be used to think about micro credentials and badges, but I am not suggesting that micro credentials should, or could, be defined for all general competences].

The rest of the CSCT elements can be connected with learning to live together -cooperation- (networking, teacher in the educational institution, teacher in society), learning to be (reflecting, teacher as individual), envisioning change (visioning, and achieving transformation (teacher in the educational institution, teacher in society).

Something that is very present in this proposal (as in Cebrián and Junyent, 2019) is the importance of embedding the local-global and the past-present-future dimensions in the conceptualisation of the world/context students construct in ESD.

Elements	GreenComps	RSP	UNECE	CSCT
(E)SD characteristics	Embracing complexity	Holistic approach	Holistic approach	Systems thinking
	Envisioning futures	Envisioning change	Envisioning change	Visioning
	Acting for sustainability	Achieving transformation	*Achieving transformation/learning to live together - cooperation-*	Teacher in the educational institution/Teacher in the society/ Networking
Competence dimensions	*Embodying value/ Attitudes*	Reflexivity/Involvement	*Learning to be/ Learning to live together - empathy*	Teacher as an individual/Values and ethics/Reflecting
	Knowledge	Integration	Learning to know	Action
	Skills	Practice	Learning to do	Knowledge

Taking all of the above into consideration we could define the level 1 of our proposal as follows:

Elements	EduSTA Level 1
(E)SD characteristics	Holistic approach
	Envisioning change
	Achieving transformation/learning to live together - cooperation-
Pedagogical / competence dimension	(Identity elements: values, attitudes, investment agency) Learning to be/Learning to live together –respect/ Reflectivity
	Learning to know
	Learning to do
Orientations	Considering global-local
	Considering past-present-future
	Considering past-present-future
	Considering past-present-future

We have added agency and uncertainty as two elements (one in identity and one in general orientations) because of their presence in the literature.

Previous proposals move from the "foundations" we have already discussed to define a, usually large, number of "competences". They tend to be very heterogeneous and, even though they often present specific examples, in many instances the "competences" are far from being something that can be directly translated into an educational activity (either for students or for teachers as part of their CPD). UNECE, for instance, proposes in the same "competence" to generate dialogue for interdisciplinary (an element of content), complex reasoning (an epistemological element) and to situate students in a glo-cal context (a contextual perspective). RSP, lists as "competences" elements as diverse in nature as futures

thinking (a well-defined methodology), values (a dimension of our identity) and creativity (something difficult to even define).

These "competences" are useful but probably too many and too varied to serve as a guide to a concrete, open-badge-driven professional development plan, which is our aim. We need to do two things in order to achieve our goal. First, select a small number of competences for teachers to work within the coordinates defined by Level 1. This will be the level 2 of the proposal. Secondly, we should provide specific, well-defined, context applicable examples of learning situations where each of these competences can be developed; this will be the level 3 of our proposal.

As a rule, all competences in level 2 must be recognisable "action-cognitive tools" which can be applied to different contents and contexts. These competences could be seen as a combination of more general competences, but not all of them might be able to be developed independently. And even when that is possible it might not always be advisable. It is also important to keep in mind that many general competences are not specific to (E)SD nor are they, in themselves, conducive to develop SCESD. In contrast, level 2 competences should be more closely related to (E)SD – the nature of this relation will be discussed later on.

Some level 2 competences have been the focus of a lot of research and designed proposals. They are mostly the ones connected with knowledge – unsurprisingly - and, to a lesser extent, with action. Much less so in relation to identity elements. This means that in some cases Level 3 examples are well defined and easy to find while other will require more work. In all cases, Level 3 elements should be easy to turn into learning situations which would fit more easily with the idea that SCESD cannot be taught directly but they must be developed.

2.3. An initial proposal of competences based on the literature review

The outcome of the literature review (EduSTA Level 1) was only meant to be a starting point, as we have mentioned in the previous section, of a process of development and refinement to obtain a framework of operational competences oriented to teacher education. This further work will take place in the frame of WP3 and WP4. Nevertheless, these work packages needed an initial proposal based on the results of the literature review and oriented to being used to define open badges. With these requirements in mind, the proposal was discussed among partners of the consortium, and we arrived to an agreement. Figure 2 shows the EduSTA Level 1 proposal coming from the literature review and the proposal we have agreed to use as a starting point for the next two work packages.

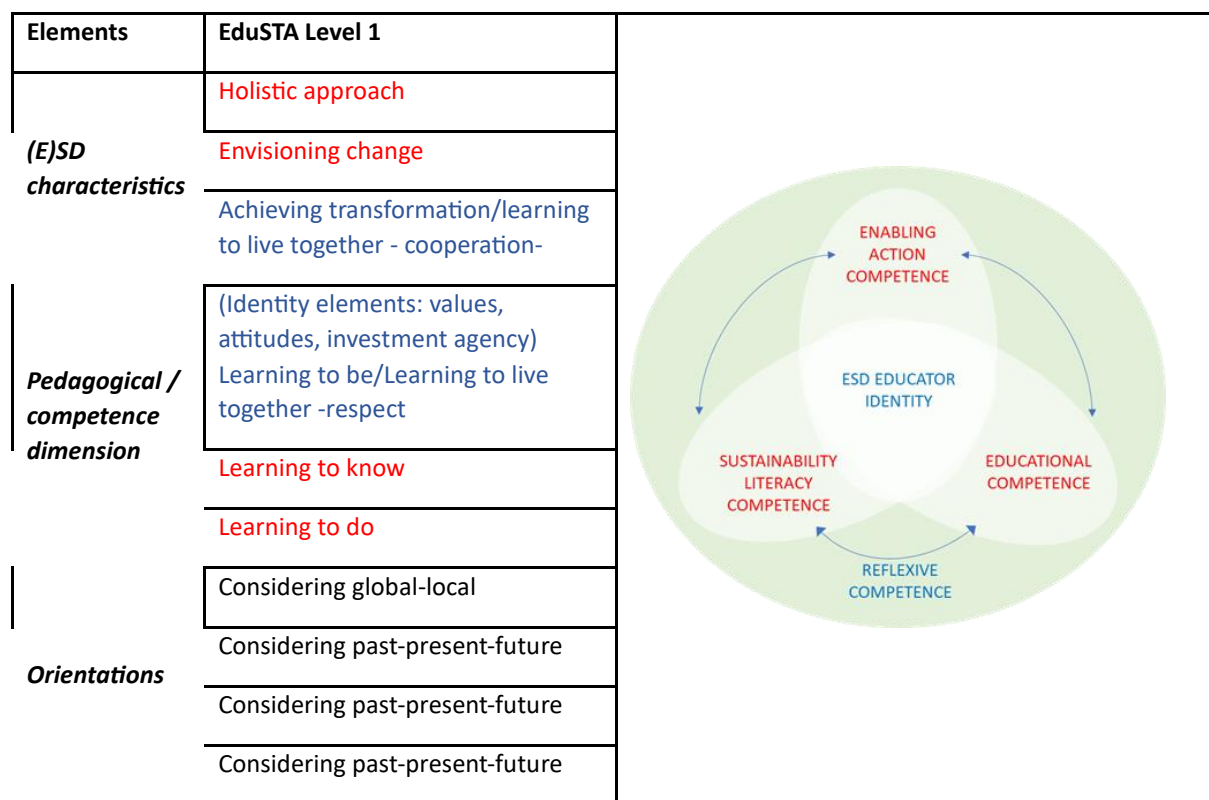| Elements	EduSTA Level 1	
(E)SD characteristics	Holistic approach	
	Envisioning change	
	Achieving transformation/learning to live together - cooperation-	
Pedagogical / competence dimension	(Identity elements: values, attitudes, investment agency) Learning to be/Learning to live together -respect	
	Learning to know	
	Learning to do	
Orientations	Considering global-local	
	Considering past-present-future	
	Considering past-present-future	
	Considering past-present-future	

Figure 2: EDuSTA Level 1 and Core operational teachers' competences for ESD

We left out some elements for time being and kept what we considered to be the core competences that we could operationalised through WP3 and WP4. We have started using hem in the work on defining badges with the following starting definitions:

Educator Identity is the educator's understanding of their role as educator, responsibility to students and society underpinning their educational practise.

(A) Ability to integrate ways of knowing, being, doing for sustainable development relevant to the educator's (societal) context (incl. KSC).

(B) Ability to apply appropriate educational methods in different contexts, and justify pedagogical-didactical choices through vision on ESD.

(C) Ability to anchor ESD in society, by enabling student action (on societal issues) and action within education systems.

(D) Ability to reflect on (aligning) process, decisions and implementation of ESD.
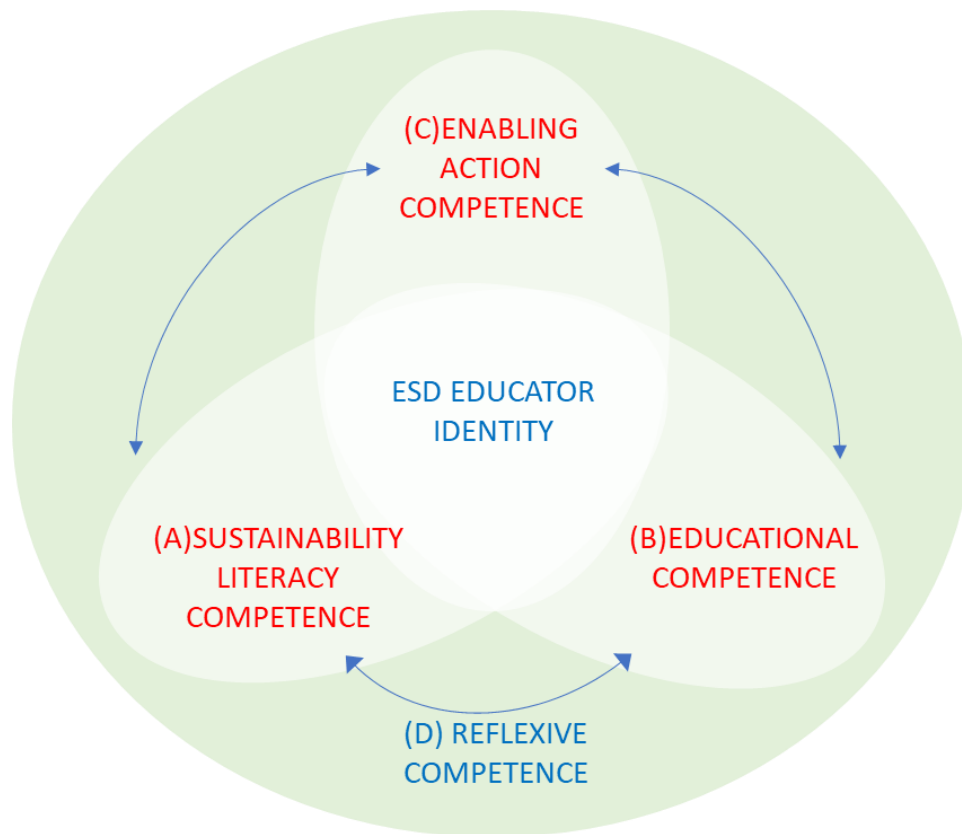
3. WP 2.2.: Data collection

3.1. Description of data collection

Data collection has been carried out by all partners and has consisted of:

1. Workshops with teachers and teacher-students.
2. Interviews with three types of professional profiles: expert teachers, policy makers.
3. Review of policy document related to ESD

Table 1 provides information on the date and the type of respondent for each of the workshops and interviews.

We designed data colletion to gather, collectively, the information that could be more useful for the aims of the project. We started by defining the topics on which we wanted to collect data and then we decided which types of informants would be better place to provide that data.

The following is a list of topics to be addressed during the WP2 data collection. They are areas of inquiry rather than questions. The wording of exact questions will be decided by each team according to the specific characteristics of the interview and of the interviewee. Topics are presented with a certain degree of context considering that WP2 has the aim of informing WP3 and WP4, however, more general questions can be posed when considered appropriate, as long as the required information is gathered.

Each team gathered information in relation to the educational level that is more relevant to its context and expertise. Therefore, we have used "academic institution" instead of school, college or university in the rest of the document. Each team has adapted this to the relevant context.

The order in which topics are presented in the list is not necessarily the order in which they would be covered during interviews or workshops.

1. **Characteristics of an academic institution that is working on ESD.**

We would like to know how informants see ESD in practice in terms of how the institutions taking this perspective/approach work (or will work). This information will help us imagine how are the institutions teachers for SD should be ready to work in and, hence, will help us to define the competences they would require to work in that way, and to design the badge driven training pathways to achieve those competences.

2. **ESD teachers: competences, knowledge and praxis**

This is one of the key topics. On top of what the literature review, and the expertise of the EduSTA consortium, will tell us, we will use WP2 data collection to collect data on what ESD teachers should know/be able to do to make ESD possible at all education levels.

3. **Teacher education for ESD**

This is also a key topic. Our badge driven pathway and training proposals must address relevant competences for ESD and they must do so in a way that fit teachers' expectations, policy makers' proposals and experts' knowledge. We need to know what is being already offered and the empty spaces we might want to address. We also need to consider if our proposals should be part of pre-service or in-service training.

4. **Situation of ESD in each country (and internationally, in Europe and the World).**

To correctly pitch our WP3 and WP4 proposals we need information about how ESD is addressed in policy and implemented in practice. Here we will gather information about ESD in general terms, in terms of policy, organisation, aims, etc.

5. **ESD taking place in academic institutions**

Closely connected to topic 4, we are interested in how ESD is taking place in concrete terms at the academic institutions.

6. **Connecting academic institutions to their surroundings/communities**

This topic is closely related to topic 5. In this case we want to focus on how ESD is connecting academic institutions to their social contexts. ESD implies changes in the classrooms, but it requires going outside of the classroom and the school to ground itself in real problems, real solutions and real networks. Knowing what is already taking place will help us design feasible proposals.

7. **ESD in the context of educational change**

ESD does not happen in an educational vacuum. For better or for worst, ESD is part of a milieu of elements connected to how education should evolve to meet the needs of society in the future. These elements pull teachers in different directions through policy, training, and public and professional discussion. To what extend these elements fit with ESD, fostering, hindering, or just helping to define it in practice, is an important issue when designing WP3 and WP4.

8. **ESD policy**

Policy concerning ESD is a key element to consider when making our proposals. Interviews to policymakers and experts can throw light on how to interpret existing policy and on how policy might evolve in the future.

Question	Expert	Teacher	Policy maker	Lit Review
1	X	X	X	X
2	X		X	X
3	X	X	X	
4	X		X	
5	X	X	X	X
6	X	X	X	X
7	X	X	X	
8	X		X	X

Fig. 1. Questions coverage in each data collection exercise. In the case of experts and policy makers items to be covered will depend on the profile of the interviewee.

TEAM	INTERVIEW 1		INTERVIEW 2		INTERVIEW 3		INTERVIEW 4		INTERVIEW 5		WORKSHOP 1		WORKSHOP 2	
	Date	*Type*	*Date*	*Type*	*Date*	*Type*	*Date*	*Type*	*Date*	*Type*	*Date*	*Type*	*Date*	*Type*
TAMK	03/01/23	Teaahcer -expert-	06/02/23	Policy Maker	08/02/23	Other	20.02.	Expert	27/02/23	Teaahcer -expert-	25/01/23	Students	14/02/23	Teachers
UGoth	04/12/22	Teaahcer -expert-	05/12/22	Teaahcer -expert-	07/12/22	Teaahcer -expert-	07/12/22	Teaahcer -expert-	07/12/22	Teaahcer -expert-	05/12/22	Teachers and Students		
Hanze	16/02/23	Expert	17/02/23	Policy Maker	17/02/23	Expert	16/02/23	Expert			26/01/23	Teachers and students	08/02/23	Teachers
CZU	13/01/23	Expert	13/01/23	Expert	17/01/23	Expert	19/01/23	Expert	19/01/23	Expert	23/01/23	Teachers	17/02/23	Students
UdG	24/02/23	Teaahcer -expert-	06/03/23	Policy Maker	08/03/23	Policy Maker	08/03/23	Expert	10/03/23	Policy Maker	30/11/22	Teachers and students	22/02/23	Teachers

Table 1. Data collection: interviews and workshops.

3.2. Workshops

3.2.1. Description of the task

Workshops were intended to collect data from teachers on different aspects about ESD in their institution and professional development for ESD, particularly which training they would like to receive. Each team has targeted teachers of different educational level according to the teacher training each team is involved in at their university. Across the consortium, workshops have been carried out with primary, secondary and vocational schoolteachers, pre-service teachers of vocational schools, and university teachers.

There have been both face-to-face and on-line workshops which have been attended by up to 21 participants. The consortium agreed on a basic structure of information to be addressed in the workshops (Appendix 3) that each team has implemented according to their context. Table 2 provides the type and number of participants in all workshops

The consortium agreed on a reporting format for workshops (Appendix 4) that partners completed in English and shared with the rest of the consortium. This way of collecting data ensures the anonymity of the participants.

TEAM	WORKSHOP 1		WORKSHOP 2	
	# of teachers	*# of students*	*# of teachers*	*# of students*
TAMK	0	5	21	0
UGoth	10			
Hanze	12	5	5	3
UdG	10	10	9	0
TOTAL			*67*	*23*

Table 2: Number and type of participants in workshops

3.2.2. Summary of data from workshops

In this section we will present a summary of the data collected in the workshops across the consortium. We will present the information for each of the eight topics comprised in the data reporting form (Appendix 4). By "academic institution" participants were asked about the institution they teach at (from primary school to university depending on the context of each team). In the same way, teacher is contextual to the participants in each workshop.

The summary of the data highlights the main ideas that teachers contributed in the workshops to each of the selected topics. Some of those ideas are echoed in different workshops and contexts while others seem very context specific (either in terms of national (policy) context, or in terms of the professional context of the participants). The former will help us decide on the elements of WP3 and WP4 that we can see as common to all educators while the latter will help us adjust our designs to be implemented in different contexts.

- *Characteristics of an academic institution that is working on Education for Sustainable Development (ESD)*

Most of the teachers' comments on this topic refer to three ideas. The first idea is that an academic institution that wants to work on ESD must embody the sustainable development (SD) principles in its way of functioning, i.e. it has to always consider the SD perspective and act accordingly. This idea of "walking the talk" reappears in different topics through the workshops. Under this general umbrella of having "Sustainable House Rules", academic institutions need to clearly articulate ESD. Teachers offered different examples of actions to take to articulate ESD, for instance, having an ESD coordinator or rethinking the curriculum to integrate the Sustainable Development Goals (SDG). The third idea is the importance of the team perspective. Although individual commitment from all members of the institution is also mentioned as a requirement, the importance of teams was highlighted here -and, as we will see, in other topics as well -. These teams might include members from outside the institution and they are meant to work in ways that support the SD perspective, like co-learning.

- *Which competences, knowledge and practices are required from an ESD teacher*

When asked to describe a competent ESD teacher, participants talked about what teachers should be able to do, but also about what teachers should be able to accomplish with their students, and also about the teachers' professional identity.

There was a strong focus on being able to work in teams, in line with the comments to the previous topic. Comments about team work often were paired to the requirement of being able to move from theory to action. Required specific knowledge on ESD of SDGs in the curriculum was not stressed in all wokshops. On the other hand, being able to deal with information was often mentioned, for instance, pointing out that ESD teachers need to be able to think critically, for instance, to deal with disinformation – and help students do the same-.

The goal of ESD teaching was also addressed in terms of fostering independent, critical thinking in their students through being a role model. This connection with the teachers' identity was very present in the discussions. ESD teachers' identity include aspects such as being positive about the future, having strong values and being open minded.

- *How should be the teacher education for ESD?*

Requests for teacher education include content and delivery aspects. Some of the requests are clearly connected to contextual, and even contingent, situations, for example the recent implementation of a new curriculum. Nevertheless, there are several contributions that are rather transversal, mostly in terms of the type of training teachers would like to see for ESD. Several participants requested time and space to collaborate with peers, share experiences and plan together the transformations needed in schools and universities. This does not necessarily mean that teachers do not feel that they need outside input. The value of having access to examples rooted in teaching experiences developed by ESD experts is also mentioned by some participants. This emphasis on a communal approach might reflect on the one hand, their ideas on what ESD should be in their institutions -as seen in previous topics – and it might also be connected wit the fact many of the participants did not know of clear pathways to learn about ESD as part of their professional development. Finally, there are different voices asking for "something new" in professional development; there is a sense that present offers are not seen as being useful, at least for ESD, and also, the idea that ESD requires going beyond individual training.

- *What is the situation of ESD in your country?*

This topic was not discussed in most workshops, but two related points were made by different participants. On the one hand, the feeling that ESD has many hurdles to jump is accompanied by the sensation that SD has even more barriers outside educational institutions. On the other hand, the idea that there are other countries where ESD is in a better situation – which implies that there are ways forward that we could explore-. Sweden, Denmark and Germany are mentioned.

- *How is ESD taking place at your institution?*

When asked about what happens in terms of ESD in their institutions the responses reflect significant contextual factors. Catalan primary and secondary school teachers say that ESD is mostly seen as an "add-on" to the rest of the teaching, Finnish vocational schoolteachers from schools that are active in ESD answered that ESD is now part of daily practices in schools. Participants of both Catalan and Dutch workshops mentioned that there is still too much reliance on individual efforts despite the sense of urgency in the institutions. Some specific elements and programmes are mentioned as helping develop ESD in their educational institutions, this is the case of Societal Challenges, Civic Skills and green ambassadors at Hanze University.

- *How are the connections of academic institutions and their surroundings and communities on relation to ESD?*

Even though this topic was not discussed in detail in most workshops references to the relationship with actors outside of the educational institution were mentioned at different times, for example when discussing collaborative teams as a requisite of ESD educational institutions. Participants in all countries are taking place or organising projects with different degrees of involvement of the institution's social and physical context and with clear contextual factors. Primary and secondary school teachers mention more often the connection with students' families, while teachers at Hanze University single out collaboration with government, and vocational education teachers mention connections with companies as examples of good sustainability practices.

- *How does ESD interact with educational change?*

ESD is, according to EU policy, an important element in European educational policy. However, it is, by no means the only disruptive innovation that teachers and educational institutions are asked to address. When asked about how ESD interacts with other educational change teachers the answers fall into one of three categories. The first type of answers refers to curricular elements already in place which are seen by teachers as either a problem (a reduction of experimental sciences curriculum) or a driver (the inclusion of societal challenge) to ESD depending, mostly, on how clearly the element aligns with what teachers in that context understand ESD to be. The second type is connected to methodologies and approaches that are directly relevant to ESD and hence are not seen as a separate innovation that has to find a fit with ESD but an innovation that helps or is necessary to deploy it. An example of this would be Futures Education, mentioned by Finnish teachers. The third type is connected to digital education which has speed up changes in education in the last few years, particularly since the COVID-19 pandemic.

- *How is ESD connected to your academic institution?*

The discussions in the workshops about policy on ESD show that most teachers consider policy through its educational implications via the curriculum or the definition of educational profiles, to give two examples mentioned by participants.

To sum up, teachers' contributions to the workshops have shown that teachers working at different levels and in different contexts share some views that are in line, as we have seen in the summary of WP 2.1., with the most relevant literature on ESD. Not only that, when talking about different aspects of ESD, as a whole, their contributions show a coherent view of the roles of educational institutions, teachers and teacher education. The teachers' contributions have also provided the project with useful insights on the characteristics practitioners would like to the find in their teacher education. Finally, the differences between workshops have also provided valuable information on aspects that we need to take into account in the design of the WP3 and WP 4 outcomes.

3.3. Interviews
3.3.1. Description of the task

We have conducted interviews to add to our project the perspective from professional profiles that could complement that from teachers gathered in the workshops. We see interviews and workshops as complementary data triangulating over the same topics. Therefore, we used the same list of topics to design workshops and interviews (Appendix 3) and the same models to report the data (appendix 4). We were particularly interested in three professional profiles: experienced teachers (referred in the section as teachers), ESD research experts (referred in this section as experts), and policy makers - from government and educational management- (referred in this section as policy makers). As we explained for workshops (section 3.2) each consortium team interviewed professionals with connected to the educational level addressed by that team within EduSTA.

All interviewees were presented with information about the project and asked for consent (Appendix 2). The interviews were audio recorded. The recordings are securely stored by in each institution (according to the Data Management Plan of the project). The consortium agreed on a reporting format for workshops (Appendix 4) that partners completed in English and shared with the rest of the consortium. This way of collecting data ensures the anonymity of the participants. Table 3 shows the number of persons interviewed and their professional profiles.

TEAM	Expert Teacher	ESD Expert	Policy maker
TAMK		3	2
UGoth	10	0	0
Hanze	10	3	0
CZU	5	0	0
UdG	1	2	2
TOTAL	26	8	4

Table 3: Number and type of participants in interviews

3.3.2. Summary of data from interviews

In this section we will present a summary of the data collected in the interviews across the consortium. We will present the information for each of the eight topics comprised in the data reporting form (Appendix 4). We use "academic institution" as a general term encompassing schools and universities. While we acknowledge that context is always important here, we keep the general denomination unless we consider that, according to the interview data, we need to specify the type of educational institution it refers to. Similarly, we use teacher as a generic term regardless of the education level.

The summary of the data highlights the main ideas of the interviewees for each topic. There are many commonalities across different respondents and the differences cannot always be attributed to their professional profiles, nevertheless, when taken the interviews as a whole set, insights from the respondents enrich those coming from the analysis of the workshops and will help us decide to take design decisions in WP3 and WP4.

- *Characteristics of an academic institution that is working on Education for Sustainable Development (ESD)*

Several respondents referred to characteristics that go beyond adding a specific element to the institution but rather contributing to redefine it so that sustainable development (SD) and ESD are not just things the educational institutions work on but that are that affect how the institution work. In particular, ESD pushes institutions to redefine the definition of their goals and how they assess their attainment. Aspects related to institutional identity included, for instance, there were several responses referring to ESD requiring changes in the management of the institution. There were also several contributions on the importance of the involvement with the community. This community is primarily the institution's local community, but wider networks are also considered. These elements must be reinforced, according to some experts, with internal communication of the institution's ESD "pedagogical brand". This can include SD seminars for all the staff or share examples of good practices showing how activities are transformed to be aligned with ESD. Finally, some interviewees were in favour of appointing staff with ESD specific responsibilities.

Most respondents argued that the integration of ESD in the curriculum has to also be approached with this globalised perspective rather than being approached in individual specific courses, but some university teachers defended the latter when the university programmes do not allow long-term development of individuals.

Another aspect widely addressed in the interviews is that ESD institutions must foster continuous professional development in different ways, for instance, with spaced to foster collaborative reflection, or by promoting the sharing of ESD based teaching.

- *Which competences, knowledge and practices are required from an ESD teacher*

The interviews provided a lot of information on the characteristics of ESD teachers which, similarly to the ideas on the characteristics of ESD institutions, includes characteristics of almost all professional areas for teachers and points to an ESD teacher identity.

There is strong emphasis on knowledge, particularly in the answers from experts and policy makers. This includes knowledge about Sustainable Development and disciplinary knowledge. Regarding disciplinary knowledge, scientific knowledge is the one that appears more often singled out, particularly in primary and vocational education which might be connected to the requirements of their curriculum but also to the perception about the scientific knowledge of teachers in these contexts. Several respondents stressed that ESD teachers do not need to be experts in any given disciplinary knowledge but rather being able to connect appropriate, interdisciplinary. bits of knowledge with a ESD perspective. Several educational/pedagogical methods were also mentioned as required with systems and futures learning being more often discussed.

Another characteristic that appeared in the interviews is the requirement to be able to work in teams, both inside schools and with outside actors. Some respondents mentioned that ESD specialist were needed in the institutions with, among other things, could support and lead teamwork.

Finally, a key characteristic for many of the interviewees was that ESD teachers must understand why ESD is important and practice what they preach. This means that there was a focus on reflectiveness, self-awareness, empathy, open-mindedness, acceptance of diversity, and commitment to social change.

- *How should be the teacher education for ESD?*

Teacher education is seen as both important and in need of change. There is a broad consensus that initial teacher training is important but insufficient to tackle a broad an complex approach as ESD, and that continuous professional development is key at all educational levels.

Ideas for initial teacher training programmes depend, understandably, on the kind of teaching job they are preparing for – and the profile of students they serve-. Some of the characteristics of initial teacher education include an integrated approach to SD into the curriculum rather than adding specialised modules on ESD. This requires that these programmes are designed by professionals with a deep understanding of ESD which, according to some of the respondents, is not always the case presently. Besides focusing on the basics for ESD knowledge and pedagogical methods, respondents stressed the importance of training in appropriate assessment approaches and on fostering the professional identity required of an ESD teacher, in line with the characteristics discussed in the previous topic.

In both initial and in-service training there seems to be a need for change the types of formative proposals to align them to ESD methods and objectives. This includes a collaborative and reflective approach to teacher education.

Focusing on in-service training there seems to be a lack of clear development pathways in place. The situation is different depending on the context of the respondent but improvements on this aspect are needed everywhere. Using networks of educational institutions to foster professional development is also suggested, including existing examples of good practice in this area.

Finally, some of the interviews mentioned the importance of providing opportunities to experiment with ESD through the use of course students could enrol in with the aim of experiencing new educational approaches, which would provide a safe environment for teachers to be more innovative.

- *What is the situation of ESD in your country?*

Two main ideas run across different contexts on relation to the situation of ESD. On the one hand, there is a sense that ESD policies follow a top-down approach. On the other hand, but connected to the first point, while respondents point at some policy changes (curriculum, directives for training,…) they do not manage to achieve a significant impact on teachers' professional life

- *How is ESD taking place at your institution?*

Amongst the natural diversity of issues depending on the context, responses point at two common elements. First, while ESD is being introduced in the planning and strategy of institution through policy, or the government of universities, there is a lack of coherent changes across the board. Secondly, there are plenty of examples of ESD proposals and projects happening in all types of educational institutions, but it is often down to motivated individuals and there is often insufficient recognition for these efforts.

- *How are the connections of academic institutions and their surroundings and communities on relation to ESD?*

When asked about the relationship of educational institutions to their environments all professional profiles provided examples of how this could happen and is already happening. This shows that, despite the organisation hurdles that some teachers mentioned, this connection is fostered at different levels. Universities usually have wider and more diverse networks than primary, secondary and vocational education schools, but examples from all types of institutions abound.

Collaboration with other institutions was mentioned both as a way to share reflection and experiences but also as a way to coordinate efforts in projects involving local communities. Engagement with local communities take different forms often connected to programmes promoting social change. Internships in vocational education and universities were also mentioned as ways of connect the institutions to professional driven action.

- *How does ESD interact with educational change?*

The idea of education being in a state of flux is echoed in different interviews. Several new objectives are being established for Education alongside ESD. Teachers need a coherent framework to connect these priorities and make sense of ESD in this situation. The two educational changes mentioned by more respondents were digital education and equity in education.

Digital technologies are increasingly present in educational institutions and the curricula challenging almost all aspects of education. ESD has to develop in this digital context. There are ways in which this is particularly relevant for ESD. For instance, on relation to the technologies that have the potential to contribute to SD aims in specific areas and hence should be present in training for those industries (several examples in vocational education were suggested in the interviews). Another interesting connection is how ESD can serve provide a critical perspective to the use of technology in education and beyond.

Equity and inclusion policies are increasingly present and articulated at all levels of education in the EU. ESD is excellently places to address some of the core concerns of these policies and contribute to rethinking educational goals with a holistic perspective.

- *How is ESD connected to your academic institution?*

Information about policies related to ESD in the countries that make up the EduSTA consortium is presented in section 3.4 of this report. Nevertheless, this topic was also discussed in the interviews, particularly on relation to the situation of ESD in the educational institutions (see above). The main idea from respondents was that SD is present in policy but that its translation to educational change encounters similar types of hurdles everywhere. These difficulties can be related to a lack of clarity on who is responsible for ESD policies (SD policies are often spearheaded by ministries/departments that do not have responsibilities in education.); not enough funding to support the translation of policy aims into transforming education; lack of focus – too many objectives being put forward- and contradictory policies - for instance in curriculum reforms-.

National context is nowhere more relevant in our topics than here. The history and focus of SD policy in different countries has an impact on ESD policy and the way it has reached different levels of education from government to schools creating contexts that are quite different from each other. However, some common ideas and challenges provide a fertile ground for collaboratively looking for solutions.

To sum up, the interviews have provided a wealth of insights that share many points with the insights from the workshops (section 3.2) but that, at the same time, complement and enrich them. Further analysis for national contexts will be carried out to support the design of proposals tailored to particular contexts. The first results on this national context analysis can be seen in the first publication of WP2 (Appendix 8)

3.4. Policy documents

3.4.1. Description of the task

To address the objective of operationalise competences for teachers in ESD so that we can effectively contribute to improving ESD through supporting teachers' professional development, we must design proposals that fit the professional and social context in which teachers need to act. This means that our proposals must correlate with the policy framework of each specific context, even when trying to overcome its limitations. To this end, we have reviewed the policy literature relevant to ESD from each of the countries in the EduSTA consortium. As in previous sections while differences are useful to contextualise our specific designs, commonalities are important to underpin the European reach of our overall proposal.

3.4.2. Summary of data from policy documents

Each partner of the consortium has analysed policy documents regarding ESD for a specific educational level as in the previous sections. There was not a specific guideline regarding the quantity, type or the scope of these documents and this leads to a diversity in the type of documents selected by each partner, but the topics were same as in interviews (Appendix 3). A guideline for reporting the information was agreed (Appendix 5) containing the topics the agreed would be more relevant for the project.

Altogether policy documents were review referring to policy concerning the educational level in which each partner develops its work and/or initial teacher training study plans. This section summarises the most relevant information following the topics used to report the reviews. The national reports can be found in Appendix 6.

- *Are there any national (including regional jurisdictions such as cantons, states, provinces, etc.) strategies, policies, or legislations, which recognise ESD in the addressed educational level? What ESD processes and approaches do national policy promote?*

The presence of ESD in public policy documents is associated with educational key ideas that are relevant from a political point of view. The most common ideas relating ESD and education place emphasis on the acquisition of knowledge as well as learning life skills within a transformative learning and eco-social perspective. That means entailing values such as guaranteeing the universality of quality education, values for problem solving, co-creation or social innovation.

Widely the national educational strategies for the partners are closely linked to the implementation of the SDGs and/or the 2030 Agenda. However, the priority where ESD is placed in each policy strategy varies between the partners.

We have identified a generalized trend across all the policy documents analysed: ESD is an education in values. In general, ESD is characterized as an education that must be inclusive, respectful of the diversity of lifestyles, identity choices, origins, etc. It must also take care of people's well-being. These ideas must be integrated into the curricula, and this almost always leads to having ESD as a transversal issue, or a recommendation without concrete guidelines on how to implement it.

Finally, we find out that the deployment of ESD is embedded in other areas or fields and this is reflected in the fact that the vision of ESD in public policies include different areas or topics. The most recurrent are: building management, energy efficiency, resources management -specially water and waste management-, and climate. We also find references to circular economy, corporate social responsibility and biodiversity in some countries.

- *Is ESD included in role descriptions? Are there specific responsibilities associated to ESD?*

Although there aren't specific sections in the policy documents referring to role descriptions, public policy documents also allow us to deduce the functions of ESD expert educators or those professionals in whom political institutions entrust this responsibility: mostly words like encourage, promote, and emphasize are used in the descriptions of responsibilities associated to ESD. A more detailed description is provided:

- ESD expert educators are expected to be responsible for encouraging, promoting, and emphasizing ESD-related actions in the school context.
- ESD expert educators are expected to be competent not only in promoting sustainability at their work, but in leading the social transformation through education aligned with the Sustainable Development Goals (SDG).
- ESD professionals should be capable of identifying and articulating dilemmas or controversies in the field of sustainable development and seeking solutions or recommending appropriate measures in terms of SDGs or ESD principles.
- Finally, ESD teachers should be able to design and develop learning spaces with regard to the principles of sustainable development.

- *How is ESD recognised, rewarded, or funded?*

The general perception is that there isn't a professional recognition for teachers related to ESD competences although we can find some funding initiatives regarding institutional ESD oriented actions. The form of these funding initiatives varies depending on the country. For example, we can find governmental green school programs that recognises and rewards the schools that accomplish a set of criteria related to ESD in the school context, but it doesn't reward the teachers individually. We find funding and investment of public institutions in ESD related projects which accomplish a series of criteria aligned with the national policies, but these projects not necessarily have an educational goal.

On the other hand, we have identified another way of promoting ESD professional development through the funding of further education for teachers or specific rewards for teachers who have developed ongoing training relating ESD competences.

- *Do the policy documents refer to ESD professional development for educators (such as asking for skills and capabilities)? Are there any national (including regional jurisdictions such as cantons, states, provinces, etc.) initiatives (projects, programmes, etc.) on ESD professional development for educators?*

The answer to this topic can be read as an extension of the answer provided when we discussed the presence of ESD in role descriptions. We have looked for specific skills and capabilities referred to educators that seek to promote ESD principles. This information was provided by the policy documents that specifically define the study plans of different educational levels.

We have summarised the most common skills:

- Teachers should accompany citizens and collectives to relate the socio-environmental crisis to personal and collective decisions and educate them for transformative action.

- An ESD professional can accompany in the process of learning and transforming the community, training for action-oriented decision-making, designing resources and/or carrying out environmental education activities, making use of pedagogical tools based on principles of sustainability.

- An ESD professional conceptualizes, designs and coordinates plans, campaigns, programs and activities that develop environmental education to promote the culture of sustainability at community level. Organize the educational and technical teams and works in collaboration with the different agents (customers, users, suppliers...).

- An ESD professional can lead comprehensive management within a team. Drives the strategy and carries out analysis, planning and management based on the needs of the environment and the interpretation of public policies by the community transformation towards sustainability through environmental education.

If we take a closer look in specific methodological skills, the policy documents make emphasis on inclusive education in the sense that an ESD expert teacher should educate within this perspective. That means include LGBT+ diversity in lessons, scaffolding for racism and diversity in the classroom or being able to "design for all". Other skills mentioned in the policy documents refer to specific knowledge that teachers must have (mostly related to ecology and environmental science), application of effective methods and teaching strategies of environmental education in school practice, implementing and updating environmental education into the School Education Programme or management skills to increase the support and efficiency of environmental education in the organisation and operation of the school.

- *Do educational institutions have strategic plans or guidelines to promote ESD?*

The answers to this question vary from "few" to "many" depending on the partners and the educational level, but we can assure that almost all educational institutions have some kind of strategic plan or guideline referring ESD. The scope of its implementation depends on the place where ESD is placed in the priorities of the institution.

At the school level, we can agree that many schools have developed their own school programme on environmental education and sustainable development, that defines the responsibilities of the staff in different tasks, presents a SWOT analysis, defines a long-term development plan regarding environmental education as well as a concrete action plan with different specific activities to be realised during the school year.

At the university level, most, if not all, seem to have some strategic plans or guidelines to promote ESD. According to the social function of universities for making a positive impact on society, ESD almost inevitably is a vehicle for this to happen. In some cases the guidelines refer to mission statements and visions, explicit examples of active promotion of ESD principles, or recommendations regarding the definition of criteria, evaluation tools and supporting material that would enable educational institutions to self-evaluate and develop their management, teaching and operational culture from the perspective of sustainability.

- *Are there official initiatives (projects, programmes, etc.) to support the professional development of educators in ESD?*

We have not identified any official initiatives supporting professional development of educators in ESD. This could be explained by the fact that it is not mandatory for teachers at any level to prove their ESD expertise.

The only identified initiatives take place when a particular employer decides to reward their employees with a certificate, or in the field of public funding of ongoing teacher training or further education, as explained before.

- *Are there any networks, partnerships or main drivers (public, private, NGOs) that support the professional development of educators in ESD in your country?*

Through the analysis of the different policy documents, we came across the fact that in all the participant countries there are networks, associations and strategies to promote ESD as opposed to what we were saying in the section above. There are many initiatives, networks, courses, and research groups that aim to support professional development for ESD in different educational levels and in a variety of forms: from networks of environmental education centres or eco schools, to sustainable development certification of educational establishments or educational institutions for environmental training that provide didactical tools for Environmental and Sustainability Education.

All these platforms help enhancing the visibility of the many practices that are currently taking place and complement the governmental support to educational institutions through different programmes or champions.

- *Are there guidelines or initiatives addressing the relationship of educational centres with their social context on relation to ESD?*

It is difficult to provide a unanimous answer to this question due to two issues: first of all the low presence of specific policies addressing the relationship of educational centres with their social context on relation to ESD, and secondly, the few examples that we have found are very diverse.

To provide an overview of the examples we could appeal to the social function of educational institutions independent of the education level. So, at school level we find that school competitions provide a linkage of educational centres with their social context on relation to ESD, strengthening the tides between the

local community members and public administration. At the university level students work on societal challenges while teachers facilitate their learning.

- *In the light of the information provided, what would you consider to be priority needs in professional development of educators related to ESD in your country?*

In this final topic we share a critical reflection on the results regarding the analysis of the policy documents. Although there are obvious specific needs for each country, we could also find some common needs regarding the professional development of educators related to ESD.

Policies are important in ESD because they frame the discourse on SD and orientate the work of educational institutions in particular directions. National policies within the EU tend to converge in the more general aims, underpin by common ideas, and diverge as they approach to the particular contexts, more influenced by the national reality and prevailing ideas in terms of definition of challenges and appropriate solutions. Our analysis of these policies has provided us with insights that should help us compare this divergences and learn from each other when making proposals to educators and to policy makers.

4. WP 2.3.: Open seminar on WP2 results

4.1. Description of the task

According to the project plan, WP2 results will be initially disseminated via two actions: an open seminar and a publication of results. The manuscript of the publication can be found in Appendix 8. The seminar, entitled "Operationalising Teacher's Sustainability Competences - Preliminary Results of EduSTA Project" was presented in the "Eye on TAMK 2023" event (https://events.tuni.fi/eyeontamk/) at Tampere (Finland) on 23/03/23. The seminar was presented by three members of the EduSTA consortium: Eveliina Asikainen (coordinator of the EduSTA project), Jaume Ametller (coordinator of WP2), and Sanna Ruhalahti (coordinator of WP4).

The seminar took the structure of a two-hour workshop in which participants were presented the preliminary results of WP2 and had the chance to discuss the results and co-construct proposals on using results from WP2 to make proposals for teacher training on competences to teach in ESD. This structure fostered a deeper discussion which has enriched the WP2 results. The session was offered in a hybrid format with online participants following the presentations via streaming and having discussions moderated by a member of the project.

The workshop had the following structure:

09:00 *Operationalising teachers' sustainability competences: moving from definitions to practice*: Overview of the EduSTA project, the aims of WP2 and the results of the literature review

09:20 *Which competences would you choose?* Participants were asked to complete in small groups the following task: "Propose 3 teacher competences for ESD you think should be in the framework. These competences can use and combine the elements of the existing frameworks."

09:40 Participants, in small groups, were asked to complete the following task: "Chose any of the competences we have selected, and thing how do you think it could be "taught", how it could be presented to teachers to help them develop that competence. Be as specific as possible and as creative as you like."

10:00 Break

10:20 *Asking practitioners, policy makers and experts across Europe: what have we learnt so far* Preliminary results of the analysis of interviews and workshops carried out as part of WP2 data collection.

10:35 *Competence -based digital open badges.* Introduction to the open badges approach our WP2 results will feed into.

10:40 Participants, in small groups, were asked to complete the following task: "Go back to the competences you have proposed and think about what kind of evidences do you think would be useful to assess those competences. If you were teaching that competence, how would you assess your students?."

10:50 Open discussion and closing down

The session materials can be found in Appendix 7

5. Summary and conclusions from WP2

The core aim of this workshop is to provide part of the foundation required to support the design of an open badge accreditation model for teachers' competences in ESD and the materials, courses, and workshops that, as part of the Teachers Academy of Education for Sustainable Future, will support the open badge driven paths to developing those competences. This aim has to be embedded in a EU-international context so that the products of our project can serve a common endeavour of advancing ESD coherently in an international context while, at the same time, taking into account the contextual particularities of different countries and different educational levels to improve the chances of success and impact of the teachers' development of competences for ESD. Through the development of this WP we have also built a common understanding of the different contexts that we are considering in this project. Their commonalities and differences are as much a challenge as a potential for more significant results.

As we expected, policies from different countries incorporate common ideas coming from international organisations (UNESCO, EU…) and this makes our aim of having a common framework for teachers' competences in this area more likely to be able to be integrated in different policy contexts. To increase this likelihood, we have decided to choose our competence framework from existing literature - which is connected to the trends shaping existing policy - rather than making a new proposal. Furthermore, we connect our competence framework for teachers to the GreenComps, which is the framework for citizen competences in ESD chosen by the EU. With all these constraints in mind we have selected a small number of competences from the literature that cover the basic competences of the most widely used frameworks and are defined to facilitate their operationalisation. This framework has the intention to be a first proposal to be discussed and farther developed in WP3 and WP4.

The data collection has provided a wealth of insights on teachers and ESD from different professional perspectives but with a special focus on the teachers' point of view. The data has shown that despite all the contextual particularities that, undoubtedly, lead to different realities, issues and possible solutions, there is a lot of common ground shared by teachers working in different national and professional contexts. This strongly suggests that ideas on SD and ESD have permeated education governance, educational institutions and, probably, society, making some issues arise in all the contexts we are considering. If this has happened despite of the insufficient teacher training on ESD and the lack, I most contexts, of a coherent approach to ESD at institutional level, the potential for common approaches across the EU with improvements in these areas is very promising.

The differences we have encountered in policy context, institutional situation, and teacher training requirements stresses the challenges we will face in WP3 and WP4 to make our proposals as transversal as possible and as responsive to particularities as needed. To do so we will revisit WP2 data and its analysis. We intend to publish this more in-depth analysis in academic journals and to organise a new dissemination event in the shape of an on-line seminar.

The results of WP2 already point at wider issues which might lead to policy recommendations. ESD can be seen as an opportunity to develop the social function of universities or teacher training institutions through educational practice and through the practices of the educational institutions themselves. We think that a better alignment of all efforts and initiatives for teacher professional development would help providing sufficient opportunities for networking between the different community stakeholders, both in teaching and research. Networking has been identified as an important boost for the engaging in

ESD initiatives. The challenge is not to create new networks, but to take advantage of the existing structures to create spaces for reflection and exchange. These existing networks could work as a driving force to move towards the eco-social responsibility of educational institutions that would contribute to promoting the sustainability strategy of educational institutions with the support of the administrations and strengthen it as a country policy.

We have identified some ESD goals or SDGs oriented policies in the different educational levels but at the same time, there is not a clear path for teachers on how to achieve those goals and, in consequence, on how to develop the necessary competences to fulfil them. This means that on a daily basis teachers are currently modelling ESD in schools, but nobody taught them how to do it during their training. This leads to the need for certification/recognition of that knowledge and, on the other hand, the importance of including ESD in the university / VET study plans that recognises ESD teacher competences. That is why particular attention should be paid to the faculties of education, which not only play an important role in research and professional discussion aimed at developing new approaches and teaching methods related to ESD, but also have to test and use them in practice for teaching future teachers.

6. Reflections on the process of completing Work Package 2

The Work Package 2 has established some of the conceptual and empirical foundations for the next phases of the project. It has also served as the foundation of our work as a consortium and the building up of a learning community. Establishing these foundations has not been exempt of difficulties but these difficulties have provided the chance to test the coordination and collaboration measures in place and the results have been very positive.

We have not kept the original timeline for the development of the WP2 tasks. During the first months of the project, we faced several hurdles. The consortium is made of partners that have not worked together before. This made the kick off meeting a very important landmark, but we had to wait until September to meet because summer holidays and the delay on signing the contract made an earlier start impossible. The meeting was very important for the team dynamics of the consortium and to realise that the different perspectives that each partner was bringing into EduSTA were indeed a strength of the project but also required devoting significant time to discussion among national teams. Furthermore, several members of the WP2 coordinator team (UdG) had to deal with unexpected hardships during 2022. As a result of these circumstances the work of WP2.1 and the organisation of WP2.2. were delayed. This meant that the data collection period was shorter than planned and that had a knock down effect on the timeframe of the analysis. The shorter time available for the discussion of the analysis of the data due to the aforementioned changes in the timeline has meant that the first co-authored publication of WP2 is not yet published and we are presenting it as a manuscript appended to this report. This will be rectified shortly ensuring the highest possible quality of the final product.

Through these pressing times, the coordination of the project put in place all the measures needed to keep the tasks on track supporting the UdG team professionally and with a high degree of collegiality. The rest of the teams have also done everything in their hands to help getting the work done despite the shorter timeframes. The consortium showed a high degree of flexibility and collaborative spirit that has contributed to overcome the difficulties and to create a collegial atmosphere. The systems and measures we have put in place during the last months have contributed to meet the deadline of the WP2 report and constitute a strength of the EduSTA community moving forward.

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8. Appendices

Appendix 1.

WP2 TIMETABLE

This table gathers the main actions remaining for WP2. Actions shaded in blue are those carried out by the UdG team alone.

TASK	Date - Action/**Teams**		
Data collection (interviews, workshop(s) and policy review)	24/02 - Conducting Workshop(s)+Interviews+Policy review/**All teams**		
Data reporting (interviews, workshop(s) and policy review)	09/01 - Share guidelines for data reporting / **UdG**	10/01-23/01 - Comments on guidelines for data reporting using TEAMS / **All teams**	24/02 - Data reporting sent to UdG / **All teams**
Literature review	16/01 - First draft of the review / **UdG**	17/01-27/01 - Comments on first draft using TEAMS / **All teams**	03/03 Final draft circulated - **UdG**
Competence Framework	23/01 First draft of competence framework / **UdG**	23/01 -10/02 - Discussion of first draft / **UdG & HANZE**	13/02 - 03/03 Open discussion / **All teams**
Webinar	31/01 - Discussion on the date for the WP2 open webinar. The initial proposal is to hold it at the end of March during the TAMK internationally week / **All teams**		
WP2 Report	31/03 Draft of the report / **UdG**	03/04-21/04 Discussion of draft / **All teams**	30/04 Final draft circulated - **UdG**

Appendix 2. Template of letters of consent

INFORMED CONSENT FORM FOR WORKSHOP PARTICIPANTS

EduSTA – Academy for Sustainable Future Educators

By participating this workshop you take part in EduSTA, an Erasmus+ Teacher Academies project developing a digital-open-badge constellation for educator's sustainability competences. The purpose of this project is to produce an operationalisation of Key Sustainability Competences in the teaching profession and to use the knowledge to jointly develop an educational offering and open digital badges-driven learning pathways for educators in Europe.

Consent for participation in a research study

I have been requested to participate in the research study identified above. I have received information about the study in writing and have had the opportunity to ask questions from the researcher(s) conducting the study.

I understand that participating in the study is voluntary. I am aware that I have the right to refuse to participate and the right to withdraw from the study permanently or for a temporary period at any time and without giving a reason. I understand that any personal data collected in the course of the study will remain confidential.

I hereby give my voluntary consent for participation in this study.

Place and date

_____

Signature

_____

Name in block letters

_____   _____

Phone number   Email address

INFORMED CONSENT FORM FOR EXPERT INTERVIEW

EduSTA – Academy for Sustainable Future Educators

You are invited to participate in EduSTA, an Erasmus+ Teacher Academies project developing a digital-open-badge constellation for educator's sustainability competences. The purpose of this project is to produce an operationalisation of Key Sustainability Competences in the teaching profession and to use the knowledge to jointly develop an educational offering and open digital badges-driven learning pathways for educators in Europe.

Consent for participation in a research study

I have been requested to participate in the research study identified above. I have received information about the study in writing and have had the opportunity to ask questions from the researcher(s) conducting the study.

I understand that participating in the study is voluntary. I am aware that I have the right to refuse to participate and the right to withdraw from the study permanently or for a temporary period at any time and without giving a reason. I understand that any personal data collected in the course of the study will remain confidential.

I hereby give my voluntary consent for participation in this study.
[I hereby give my voluntary consent of referring to my

by my name
by my position]

Place and date

_____
Signature

_____
Name in block letters

_____   _____
Phone number   Email address

Appendix 3.

Guideline for workshops   EduSTA – WP2

The consortium agreed on a basic structure of information to be addressed in the workshops that each team can implement according to their context.

The workshops will be organized to collect data on teachers' views on ESD. These workshops might also be attended by pre-service teacher students if that is adequate. The main objective is to know how teachers approach ESD and their views on the teacher education they have received for ESD both in pre-service and in in-service training.

Because of the diversity of contexts present inside the consortium workshops are likely to be differently organised in different countries.

Topics to be discussed will include:
1. From the teacher's perspective:
    1.a. Think about teachers who embed the ESD perspective in their practice
    - How are they different from other teachers?
    - Which specific competences do they require?

    1b. In order to be able to "label" them teachers for sustainable development:
    -   Which training do they need?
    -   What kind of training?
It is important to get teachers to talk about particular examples of training to gather information on whether they have received ESD oriented training, whether it was practical or theoretical in nature, who were the teacher trainers…

2. From the schools perspective:
    2.a. Again, we are interested on examples of how ESD is addressed at school level.
    2.b. What are the main difficulties and the main positive result they face when trying to integrate ESD in their classroom and in their schools? What would they need to help them overcome those difficulties?

Guideline for interviews and document analysis

The following is a list of topics to be addressed during the WP2 data collection. They are areas of inquiry rather than questions. The wording of exact questions will be decided by each team according to the specific characteristics of the interview and of the interviewee. Topics are presented with a certain degree of context considering that WP2 has the aim of informing WP3 and WP4, however, more general questions can be posed when that is considered appropriate as long as the required information is gathered.

Each team will gather information on relation to the educational level that is more relevant to its context and expertise. Therefore we have used "academic institution" instead of school, college or university in the rest of the document. Each team will adapt this to the relevant context.

The order in which topics are presented in the list is not necessarily the order in which they would be covered during interviews.

1. Characteristics of an academic institution that is working on ESD.

We would like to know how informants see ESD in practice in terms of how the institutions taking this perspective/approach work (or will work). This information will help us imagine how are the institutions teachers for SD should be ready to work in and, hence, will help us to define the competences they would require to work in that way, and to design the badge driven training pathways to achieve those competences.

2. ESD teachers: competences, knowledge and praxis

This is one of the key topics. On top of what the literature review, and the expertise of the EduSTA consortium, will tell us, we will use WP2 data collection to collect data on what ESD teachers should know/be able to do to make ESD possible at all education levels.

3. Teacher education for ESD

This is also a key topic. Our badge driven pathway and training proposals must address relevant competences for ESD and they must do so in a way that fit teachers' expectations, policy makers' proposals and experts' knowledge. We need to know what is being already offered and the empty spaces we might want to address. We also need to consider if our proposals should be part of pre-service or in-service training.

4. Situation of ESD in each country (and internationally, in Europe and the World).

In order to correctly pitch our WP3 and WP4 proposals we need information about how ESD is addressed in policy and implemented in practice. Here we will gather information about ESD in general terms, in terms of policy, organisation, aims, etc.

5. ESD taking place in academic institutions

Closely connected to topic 4, we are interested in how ESD is taking place in concrete terms at the academic institutions.

6. Connecting academic institutions to their surroundings/communities

This topic is closely related to topic 5. In this case we want to focus on how ESD is connecting academic institutions to their social contexts. ESD implies changes in the classrooms but it requires going outside of the classroom and the school to ground itself in real problems, real solutions and real networks. Knowing what is already taking place will help us design feasible proposals.

7. ESD in the context of educational change

ESD does not happen in an educational vacuum. For better or for worst, ESD is part of a milieu of elements connected to how education should evolve to meet the needs of society in the future. These elements pull teachers in different directions through policy, training, and public and professional discussion. To what extend these elements fit with ESD, fostering, hindering or just helping defining it in practice, is an important issue when designing WP3 and WP4.

8. ESD policy

Policy concerning ESD is a key element to consider when making our proposals. Interviews to policy-makers and experts can throw light on how to interpret existing policy and on how policy might evolve in the future.

Appendix 4. Workshops and interviews reporting form

WP2 Data collection

☐ **Interview** **Date of data collection:** ☐ **Policy-maker** ☐ **Expert** ☐ **Teacher** **Job title:**	☐ **Workshop** **Date of data collection:** ☐ **Face-to-face**　　　☐ **On-line** **Number of participants** **In-service educators:** **Pre-service educators:**

For each of the following topics, if they have been covered in the interview/workshop, write down the most important points (up to three).

Known catalyst for ESD change are included in italics. If your data refers to any of them, please provide a brief account.

1. **Characteristics of an educational institution that is working on ESD.**

2. **ESD teachers: competences, knowledge and praxis**

C1: Is ESD included in role descriptions? Are there specific responsibilities associated to ESD?

3. **Teacher education for ESD**

C2: Are there clear pathways to teacher development? Are there opportunities for reflection and evaluation?

4. **Situation of ESD in each country (and internationally, in Europe and the World).**

5. **ESD taking place in educational institutions**

C3: How is ESD recognised, rewarded or funded?

C4: What kind of ESD resources are made available to educators?

6. **Connecting educational institutions to their surroundings/communities**

7. **ESD in the context of educational change**

C5: Are new technologies being used in ESD in your context? If so, how?

C6: Is Futures Education part of ESD in your context? If so, how?

8. **ESD policy**

C7: Is there a "whole-of-government" approach?

Write down here any other information you deem important.

Appendix 5. Policy documents data collection form

Mapping Policies for Education for Sustainable Development (ESD)

TEMPLATE

January 2023

General information

Country information

Country	
Number of Education institutions in the country	
Number of teachers in the country	
Education level addressed in the review	Early childhood and primary Secondary Vocational University

Part A –
The status of ESD within Education at the national level

This section aims at gathering a general view about the integration of ESD within the educational level addressed in the review for each EduSTA partner country, with an emphasis on the issue of professional development opportunities for educators to develop ESD competences.

1. **Are there any national (including regional jurisdictions such as cantons, states, provinces, etc.) strategies, policies or legislations, which recognise ESD in the addressed educational level?** *(If yes, please provide details. Max. 400 words.)*

   1.1. If yes, what ESD processes and approaches do these promote? (*Max. 200 words.)*

   1.2. If yes, is ESD included in role descriptions? Are there specific responsabilites associated to ESD? (*Max. 200 words.)*

   1.3 If yes, how is ESD recognised, rewarded or funded? (*Max. 200 words.)*

   1.4. If yes, do these documents refer to ESD professional development for educators (such as asking for skills and capabilities)? *(If yes, please provide details. Max. 200 words.)*

2. **Are there any national (including regional jurisdictions such as cantons, states, provinces, etc.) initiatives (projects, programmes, etc.) on ESD professional development for educators?** *(If yes, please provide details. Max. 400 words.)*

3. **Do educational institutions have strategic plans or guidelines to promote ESD?**
   (Please tick the box regarding your estimation of the situation in your country and provide an overview, not specific details. Max. 400 words.)
   ☐ None
   ☐ Few
   ☐ Several
   ☐ Many
   ☐ All

4. **Are there official initiatives (projects, programmes, etc.) to support the professional development of educators in ESD?** *(Please tick the box regarding your estimation of the situation in your country and provide an overview, not specific details. Max. 400 words.)*
   ☐ None
   ☐ Few
   ☐ Several
   ☐ Many
   ☐ All

5. **Are there any networks, partnerships or main drivers (public, private, NGOs)**

that support the professional development of educators in ESD in your country? *(If yes, please provide details. Please note that networks at the local but also global level might be relevant. Max. 400 words.)*

6. **Are there guidelines or initiatives addressing the relationship of educational centers with their social context on relation to ESD?** *(If yes, please provide details. Please note that networks at the local but also global level might be relevant. Max. 400 words.)*

Part B – Data collection

1. **What documents have you consulted to complete this template?**

Part C – Reflection

This section is seeking your own thoughts and reflections towards professional development of educators for ESD in your country.

1. **In the light of the information provided, what would you consider to be priority needs in professional development of educators related to ESD in your country?**

2. **Is there any further information that might be relevant and which you would like to share?** Please provide links, references, documents that can already be collected for the collection of resources on the common online portal. (Documents in all languages are welcome at this stage).

Appendix 6. National policy reviews

Mapping Policies for Education for Sustainable Development (ESD)

January 2023

General information

Country information

Country	Catalonia, Spain
Number of Education institutions in the country	3.491 early childhood and primary education schools (3-12 years of age) 1.131 secondary education schools (12-18 years of age) Data from 2020
Number of teachers in the country	64.897 early childhood and primary teachers (3-12 years of age) 50.343 secondary teachers (12-18 years of age) Data from 2020
Education level addressed in the review	X Early childhood and primary X Secondary ☐ Vocational ☐ University

Part A –
The status of ESD within Education at the national level

This section aims at gathering a general view about the integration of ESD within the educational level addressed in the review for each EduSTA partner country, with an emphasis on the issue of professional development opportunities for educators to develop ESD competences.

1. **Are there any national (including regional jurisdictions such as cantons, states, provinces, etc.) strategies, policies or legislations, which recognise ESD in the addressed educational level?** *(If yes, please provide details. Max. 400 words.)*

At the level of legislation, we have looked for policy documents related to primary and secondary initial teacher training. We looked for ESD requirements when applying for primary and secondary teacher training. At the same time, we have looked at the current curricula to find out if they include education for sustainability and how they do it, since in this case it will be necessary that the active teachers must be able to attend to the curricular needs.

Keywords used: sustainability, sustainable, sustainable development, environmental, education for sustainability, environmental education, education, Agenda 2030.

1.1. If yes, what ESD processes and approaches do these promote? (*Max. 200 words.***)**

Organic Law on Basic Education (3 to 18 years of age) (DECRET 175/2022)
Summary or general features: sustainability as a concept appears a lot and in almost all areas of knowledge. The SDGs and the 2030 Agenda are also mentioned several times. This means that primary and secondary school teachers must be familiar with what 2030 Agenda and sustainability entails. Education for sustainability, however, only appears once as another type of education with a transversal character. It does not receive distinctive treatment. There is also education for sustainable development linked to globalizing projects to be carried out in the community. The fact that they only appear twice and with different names suggests that either not all sections of the curriculum have been developed by the same team, or that it is not given much importance as a type of education.

When we look for "Education for Sustainability" we find it in the sections related to the pedagogical principles of education, next to other important ideas such as responsible consumption, peace or health education. On the other hand, when look for "Education for Sustainable Development" it appears as a recommendation for the schools to take into account within the school hours, next to other ideas related to the development of a local and global citizenship. When we look for "Sustainability" we find it in several occasions, also related to the pedagogical principles underpinning the Education law: it makes emphasis on the need to educate for an engagement with sustainability within all the knowledge areas into which the curricula is divided.

If we take a look when "Agenda 2030" is mentioned, we find more dispersion in the areas or disciplines where it appears:
- *Environmental ethics and values module: emphasis on sustainable and responsible lifestyle, and the relations between humans and nature, interdisciplinary activities that encourage systems thinking.*
- *Geography and history module: emphasis on critical thinking, controversial issues, identifying causes and effects, climate emergency or equity.*
- *Economics module: emphasis on the mechanisms that explain the global dynamics of our society, aims at solidarity, gender perspective, critical thinking, democratic conscience and the need to know how the financial system works.*
- *Philosophy module: sustainability issues are related to the competence of being able to assess in a global,*

systemic and transdisciplinary manner the fundamental and current ethical and political problems by analysing them philosophically in order to be able to deal with them creatively and take a position.

<u>*University degrees regulation (Real Decreto 822/2021)*</u>
"Education" appears related to "higher education" in most cases (and then refers to infant and primary education). Neither education for sustainability nor environmental education appear. "Agenda 2030" does not appear.
When we look for the word "sustainable" we find it related to teacher development (see section 1.2), related to SDGs in the sense that the study plans must consider the SDGs in their definition as specific knowledge or transversal competences, making emphasis on the ones related to human rights, democratic values, gender and equality, and peace and participation culture. It also refers to sustainability and climate change according to the general Spanish law related to climate change and energetic transition.

<u>*Initial teacher training (6 to 12 years of age) (ORDEN ECI/3857/2007):*</u>
There are some requirements that a study plan must apply to. Some of those requirements refer to ESD related areas such as:
- *Value individual and collective responsibility in achieving a sustainable future.*
- *Within the module "Society, family and school" there is a skill referred to being able to relate environment education with families and the community around the school. This skill is related to gender issues, cultural diversity, inclusivity and sustainable development.*
- *Within the module "Didactics and disciplines", referring to science competencies we find a reference to futures literacy in these terms: Recognize the mutual influence between science, society and technological development, as well as the relevant citizen behaviour, to ensure a sustainable future. The scientific competence it is also related to democratic education and active citizenship, values education, and critical thinking. We also find the last terms in the module "Educational Procedures and contexts".*

<u>*Secondary school teacher training (12-18 years of age) (Orden ECI/3858/2007)*</u>
We find less references to sustainable concepts in this document. The most remarkable refer to a sustainable future: Design and develop learning spaces with special attention to equity, emotional education and values, equal rights and opportunities between men and women, citizen training and respect for human rights that facilitate life in society, taking decision-making and building a sustainable future.
We don't find any references to the words: sustainability, sustainable development, environmental education, education for sustainable development or environmental.

1.2. If yes, is ESD included in role descriptions? Are there specific responsabilites associated to ESD? (*Max. 200 words.)*

General overview:
Education for sustainability appears very tangentially or with little importance as a transversal axis (even though the curriculum later has a very sustainable essence, or contains many terms and concepts related to sustainability). In this way, it cannot be said that there is a description of the EDS in the professional profile of the teachers, nor of the associated responsibilities.

We looked at a specific document which defines the training conditions for the exercise of teaching in compulsory secondary education, high school, vocational training and special regime teachings and establishes the specialties of the teaching bodies of secondary education (REAL DECRETO 1834/2008) and the results are the following:

- *Sustainability, sustainable development or sustainable: not found.*
- *Environmental appears one time within the module "Environmental and earth sciences".*
- *Environment: not found.*
- *Competence: it appears 5 times but related to the competence of the State to legislate in the field of Education.*

We looked at another document related to teacher role descriptions (RD 48/2010), which approves the Regulation of admission, access and acquisition of new specialties in the teaching bodies of Education, and regulates the transitory admission regime referred to in the seventeenth transitory provision of the aforementioned law. The results are like the above ones: no role description related to ESD teacher competences is provided.

The one exception we have found is in the policy document referred in section 1.1. (Real Decreto 822/2021) where a brief role description related to ESD competences is provided:

The professionals who emerged from universities are capable of leading these transformations to collectively build a society open to change, economically and environmentally sustainable, technologically advanced, socially equitable, without any type of discrimination based on gender, national or ethnic origin, age , ideology, religion or beliefs, disease, social class, or any other personal or social condition or circumstance, and clearly aligned with the Sustainable Development Goals (SDG).

We also found a reference in the document referring to secondary teachers:
[Secondary teachers should be able to] Design and develop learning spaces with special attention to equity, emotional education and values, equal rights and opportunities between men and women, citizen training and respect for human rights that facilitate life in society, taking decision-making and building a sustainable future.

1.3 If yes, how is ESD recognised, rewarded or funded? (*Max. 200 words.***)**

The general perception is that there isn't a professional recognition for teachers related to ESD competences although we find a path to recognition through the Green Schools Program (Programa Escoles Verdes). This program recognises and rewards the schools that accomplish a list of criteria related to ESD in the school context, but it doesn't reward the teachers individually.

1.4. If yes, do these documents refer to ESD professional development for educators (such as asking for skills and capabilities)? *(If yes, please provide details. Max. 200 words.)*

ND (See section 2)

2. Are there any national (including regional jurisdictions such as cantons, states, provinces, etc.) initiatives (projects, programmes, etc.) on ESD professional development for educators? *(If yes, please provide details. Max. 400 words.)*

To answer this section we have looked at other policy documents, with the aim to find the information we didn't find in the other documents.

1. *Declaration of the II National Congress of Environmental Education "To transition individual action to collective transformation" (CNEA 2021):*

We can find ideas related to training and ESD where the emphasis is on transformation, especially social and individual. In the final commitments section of the document, it appears the next recommendation:

"[teachers should] accompany citizens and collectives to relate the socio-environmental crisis to personal and collective decisions and educate them for transformative action".

2. *PROJECT FOR THE DEFINITION OF PROFESSIONAL PROFILES IN THE ENVIRONMENTAL EDUCATION SECTOR (Generalitat de Catalunya, 2022):*

From the Department of Territory and Sustainability (DTES), currently the Department of Climate Action, Food and Rural Agenda, of the Generalitat de Catalunya, promoted by the Environmental Education Service, the Professionalization of the Environmental Education Sector project began with a diagnosis study carried out during 2020.
The three professional profiles and the following list of skills are established:

a) Environmental educator technician (direct action):

Professional who has the ability to accompany in the process of learning and transforming the community, training for action-oriented decision-making, designing resources and/or carrying out environmental education activities, making use of pedagogical tools based on principles of sustainability.

Main professional roles:
- Carry out environmental education activities.
- Design, development and use of pedagogical resources.
- Carry out environmental information and awareness campaigns.
- Follow up on environmental education activities.

Secondary professional roles:
- Carry out guided tours (nature itineraries or guided tours).
- Disseminate environmental education topics or activities (environmental communication).
- Design activities and/or resources and environmental educational materials.

Complementary professional roles:
- Collect and select documentation to disseminate environmental information.
- Carry out the control and surveillance of natural spaces and report on their public use in collaboration with rural, civic or other territorial agents (in educational campaigns).

Technical skills
1. Pedagogical tools that help motivate and raise awareness about the environment.
2. Enhancing groups of children, young people and adults.
3. Interpretation of heritage.
4. Communication and information tools.
5. Global mastery of environmental issues.
6. Documentation tools and implementation of specific knowledge.
7. Computer knowledge in general.
8. Design tools for environmental education activities, educational resources and materials.
9. Knowledge of the environmental education sector.
10. Tools and resources for carrying out environmental awareness campaigns.
11. Tools and resources for the communication and dissemination of environmental projects.
12. Design and implementation tools for environmental education programs.

Attitudinal skills
1. Interpersonal communication.
2. Active listening / Empathy.
3. Self-knowledge / Management of emotions.
4. Ethical and critical responsibility.
5. Autonomy and proactivity.
6. Ability to devise creative solutions and decision making / conflict resolution.
7. Adaptation and flexibility.
8. Teamwork.
9. Permanent learning

b) Environmental Projects and activities technical coordinator

Professional who conceptualizes, designs and coordinates plans, campaigns, programs and activities that develop environmental education to promote the culture of sustainability at community level. Organize the educational and technical teams and works in collaboration with the different agents (customers, users, suppliers...).

Main professional roles:
- Coordinate environmental education projects/programs.
- Coordinate teams of educators, manage staff (professional performance evaluation).
- Design and write environmental education projects/programs.
- Monitor and evaluate environmental education activities.
- Consulting and advising on environmental education.

Secondary professional roles:
- Reorient environmental education activities, make the design according to their results.
- Design, execute and/or evaluate participatory processes for the general population and groups specific as a training tool for action-oriented education.
Complementary professional roles:
- Characterize environmental problems and propose educational solutions.
- Monitor and evaluate the effectiveness of education campaigns/programmes/projects environmental and introduction of the necessary changes or modifications.
- Produce technical reports on environmental education and citizen participation.
- Participate in the analysis of the feasibility (economic, organizational, resources, etc.) of new projects or lines of action.

Technical skills
1. Management of physical, financial and personal resources with workloads.
2. Knowledge of the environmental education sector.
3. Knowledge of the subject matter of the project/programme of activities.
4. Tools and criteria for the evaluation of environmental education programs and activities.
5. Computer knowledge in general.
6. Design of environmental education activities, educational resources and materials.
7. Pedagogical tools that help motivate and raise awareness about the environment.
8. Interpretation of heritage.
9. Design and implementation tools for environmental education programs.
10. Technical mastery of one or more environmental topics.
11. Drafting of projects, grants and/or justification reports.
12. Tools and resources for the communication and dissemination of environmental projects.
13. Design tools for environmental interpretation materials.

Attitudinal skills
1. Coordination and teamwork.
2. Planning and organization.
3. Leadership / team management.
4. Interpersonal communication.
5. Active listening.
6. Ability to devise creative solutions and decision-making/conflict resolution.
7. Adaptation and flexibility.
8. Self-knowledge / Management of emotions.
9. Ethical and critical responsibility.
10. Autonomy and proactivity.
11. Lifelong learning.

12. Innovation.

c) Environmental education project manager

Comprehensive professional manager who drives the strategy and carries out analysis, planning and management based on the needs of the environment and the interpretation of public policies by the community transformation towards sustainability through environmental education.

Main professional roles:
- Make executive decisions (management/management).
- Design environmental education strategies and plans.
- Lead and coordinate teams (interdisciplinary: educational, economic, legal, administrative).
- Promote and represent the project and/or organization, and network with other agents.
- Carry out the analysis of the feasibility (economic, organizational, resources, etc.) of the new projects or lines of action.

Secondary professional roles:
- Search for resources and new opportunities.
- Design the communication and dissemination strategy of the own program at a relational level with others agents
- Analyse and monitor reports.
- Manage environmental facilities, nature centres or similar.
- Promote participatory processes of the population in general and of specific groups such as training tool for action-oriented education.

Complementary professional roles:
- Produce technical reports on environmental education and citizen participation.
- Characterize environmental problems and propose educational solutions.

Technical skills
1. Knowledge of direction and management.
2. Technical mastery of one or more environmental topics.
3. Knowledge of the environmental education sector.
4. Drafting of projects, subsidies and/or justification reports.
5. Knowledge of public procurement.
6. Knowledge of tools and criteria for the evaluation of environmental education programs and activities.
7. Computer knowledge in general.
8. Pedagogical tools to help motivate and raise awareness about the environment.
9. Knowledge about natural spaces and public use.
10. Interpretation of heritage.

Attitudinal skills
1. Planning and organization.
2. Innovation.
3. Self-knowledge / Management of emotions.
4. Ethical and critical responsibility.
5. Interpersonal communication.
6. Leadership / team management.
7. Resource management.
8. Ability to devise creative solutions and decision making / conflict resolution.
9. Autonomy and proactivity.
10. Coordination and teamwork.
11. Adaptation and flexibility.
12. Lifelong learning.

3. **Do educational institutions have strategic plans or guidelines to promote ESD?** *(Please tick the box regarding your estimation of the situation in your country and provide an overview, not specific details. Max. 400 words.)*

☐ None
X   Few
☐ Several
☐ Many
☐ All

The information provided refers to primary and secondary schools. <mark>We have not looked at university strategic plans.</mark>

We used the document that defines the criteria for a school to be part of the Green Schools Program. This document provides us with a guide with quality criteria for carrying out sustainability education activities at school. The document is structured in 9 sections with 34 criteria that we reproduce in the following table:

SECTION	CRITERIA
1. Participation, decision-making and actions	1. It favours the participation and involvement of the entire educational community 2. The students are protagonists 3. It promotes the cohesion of the centre and the interaction between the different educational levels, generations and groups. 4. Promote networking among the teaching team.
2. Visibility and communication of results	5. The results are visible, verifiable and reflected on 6. It is disseminated among the educational community 7. The activity is projected outside the centre
3. Values	8. The activity encourages critical thinking 9. Promotes autonomy, responsibility and consistency 10. Promotes awareness of the impact of one's own actions
4. Teaching-learning process	11. The educational proposal is significant for the students 12. Work is done around an action in a defined context 13. Encourages creativity 14. It promotes communication skills 15. Observation and experimentation are encouraged 16. Promote cooperative work 17. Work on emotions and affectivity 18. The educational action has a functionality and can be applied to contexts and situations different from those where the learning originated
5. Objectives and contents	19. The objectives are well defined and are shared and agreed upon 20. Carrying out the activity provides new knowledge 21. The activity cross-links the contents of different areas 22. The contents are consistent with the objectives (or enable them to be achieved)
6. Look at the complexity	23. The principles of sustainability (environmental, economic and social) are considered 24. The treatment of the different topics includes the historical perspective, the current situation and future scenarios 25. The local and global perspective is worked on
7. Relationship with the environment	26. Promotes knowledge, relationship and commitment to the environment 27. The action transforms the environment

	28. It favours networking with other centres, entities and institutions in the municipality.
8. Resources management	29. Improve the sustainable management of the resources used in the centre in order to become a model
	30. The use of resources required by the activity is consistent with the sustainability criteria
9. Evaluation	31. The evaluation activities are consistent with the objectives
	32. Specific criteria and indicators are specified
	33. Self-evaluation is encouraged
	34. It has continuity in time and future projection

4. Are there official initiatives (projects, programmes, etc.) to support the professional development of educators in ESD? *(Please tick the box regarding your estimation of the situation in your country and provide an overview, not specific details. Max. 400 words.)*

☐ None
X Few
☐ Several
☐ Many
☐ All

The most remarkable is the Green Schools Program, which is described in the next section.

5. Are there any networks, partnerships or main drivers (public, private, NGOs) that support the professional development of educators in ESD in your country? *(If yes, please provide details. Please note that networks at the local but also global level might be relevant. Max. 400 words.)*

1. **Catalonia Schools for Sustainability Net: Xarxa d'Escoles per la Sostenibilitat de Catalaunya (XESC):** http://escolesxesc.cat/

XESC is a network of networks that work in collaboration to promote education for sustainability and support educational centres in Catalonia. It brings together 17 municipal networks and two supra-municipal networks, the Green Schools Network of the Generalitat de Catalunya with 759 educational centres, and the Villages and Cities Towards Sustainability Network of the Diputació de Barcelona (1 in every 4 educational centres of Catalonia). The XESC provides training, change and improvement, collaboration, exchange (networking), etc., and create alliances with other agents, with regard to/in order to improve the sustainable management of the centres, the curriculum, the involvement with the community and participation in the educational community, so that they constitute transformative centres. Being part of this programme is voluntary and there are obviously different levels of commitment and engagement.

2. **Green Schools Program: Programa Escoles Verdes** (https://xtec.gencat.cat/ca/projectes/escoles-verdes/)

The Green Schools Program arises as a commitment by the Generalitat of Catalonia to support all educational centres in Catalonia that want to innovate, include, advance, systematize and organize educational actions that have the purpose of facing, from education, the new challenges and values of sustainability.
And, therefore, there are three main objectives:
- Help centres to incorporate the values of education for sustainability in all areas of the center's life (curriculum, management, relations with the environment, etc.).
- Promote the participation and active involvement of the educational community in the improvement of its environment.
- Encourage exchange between centres that share the same objectives.

The training of teachers in educational centres is a priority of the Departments of Education and of Territory and

Sustainability, since it is a tool for supporting and strengthening the educational project of each center, which promotes pedagogical exchange and the training of people from different educational centres.

- The program offers several training modalities:
- Initial training of center teams: Introduction to education for sustainability.
- Territorial seminars for center teams
- Thematic training and workshops depending on the needs detected in each territorial service

One of the objectives of the Green Schools program is to launch various instruments that promote interrelationship and collaborative work between schools.

For this reason, spaces have been created where the people who lead the change in each of the centers (teachers and students) can get to know each other personally and establish initial relationships that enable and facilitate this exchange, as well as the realization of shared projects.

3. **Basic Skills Network: Xarxa de Competències Bàsiques** (https://projectes.xtec.cat/xarxacb/)

The Basic Skills Network is made up of a group of teachers who reflect and act as a team to transform the school into a space that promotes learning. It is offering or will offer to address the new sustainability competence in the curriculum (e.g., videos uploaded).

It promotes the creation of pedagogical spaces within the centers to empower the teaching teams.

It encourages the exchange of experiences and the creation of shared knowledge.

It promotes peer-to-peer and online teaching training, to improve student learning.

This net makes emphasis in project-based learning and assessment:

Society evolves and more and more we have to prepare our students to give innovative answers in a changing and constantly evolving society. If the objective is to encourage school learning to be useful for forming critical citizens, with their own opinion, autonomous and capable of solving new challenges in cooperation with others, the model that presents learning in a fragmented way by disciplines it must be revised and it must tend towards globalized approaches. Since the 2015-16 academic year, the teachers of the Cb Network have started experiences of globalized work to promote the competent learning of their students, which have been documented through teacher diaries in xtec.blocs format, which include the planning, the implementation process and project evaluation.

4. **Transformative Education Lab: Laboratori de Transformacio Educativa**
   (https://projectes.xtec.cat/transformacioenxarxa/)

The Department of Education promotes initiatives of collaboration, co-responsibility and joint work between the different agents and educational actors with the common horizon of educational change that starts from an inclusive and guiding conception of education and that must lead to a global transformation of the education system.

This planned process is based on student-centered learning that involves significant changes in the schools' educational projects that affect teaching practices and methodologies, the organization and operation of the schools.

The Educational Transformation Laboratory is part of the field of educational policies to strengthen the Catalan school model, with the transformative purpose of improving the educational quality of centers in Catalonia. It is a departmental strategy that foresees the work and support of different units of the Department, Territorial Services, the Barcelona Education Consortium, and alliances with other agents, especially the local Administration and the ICEs of the universities in a new scenario of co-responsibility that must ensure a better provision of the public education service. Its structural and methodological characteristics give it the specific characteristics of a flexible R+D+I initiative in the set of processes and strategies and in constant progress between the "inputs" and the emerging products of its "outputs".

This departmental initiative is based on several successful experiences of the center and, especially, of the Nova 21 School Program. It aims to achieve significant and effective models of educational transformation in the paradigm of continuous improvement. It consists of the shared learning of the centers and the accompanying agents with the aim of inducing their transformation in an accelerated manner, based on the unique reality of each center and an exhaustive diagnosis of its pedagogical project.

Also, the Laboratory must be based on the initiatives that are developed in the different Territorial Services

because they constitute an important source of knowledge in relation to the processes of educational transformation that must be deposited at the head of the system as a whole to guarantee equity and equal opportunities. Decentralization in decision-making and management are essential to guarantee the success of this departmental initiative.

The knowledge generated by this Laboratory must make it possible to define the Framework of reference for educational transformation and a new educational innovation program that allows educational success for all students through transformation and improvement processes agreed by the centers and that modify the educational purpose, assessment, center organization and teaching/learning practices. Support for the centers will be prioritized according to their needs.

The Laboratory must become the engine of change for the educational system as a whole and must allow progress in quality. To this end, the Department will design strategies and mechanisms to extend the transformation processes to all centers. To make it possible

The program incorporates advanced and innovative techniques to achieve significant progress in terms of quality in those aspects agreed with the center (audits, organizational coaching, inquiry spiral, reflective practice, etc.). It also provides for the accompaniment of professionals from Educational Services, the Inspectorate and other educational and social agents.

The next to organizations constitute two important platforms that support the interaction between schools, universities, environmental education centers, etc. These platforms help enhancing the visibility of the many practices that are currently taking place.

5. **Environmental Education Catalan Society: Societat Catalana d'Educació Ambiental (SCEA)** (https://scea.cat/)

The Catalan Environmental Education Society is an association created in 1985 in order to promote a renewed education that contemplates socio-environmental problems and at the same time contributes to training a citizenry capable of analyzing them and providing answers.

Since its inception, it has promoted shared, interdisciplinary work projects distributed throughout the Catalan territory.

It brings together professionals and people interested in the world of environmental education , from very diverse profiles and work areas and with the common goal of working for sustainability through education.

It offers support to develop ESD educative actions, training or job search for ESD professionals.

What is proposed?
- Stimulate, promote and disseminate research, studies and activities related to Environmental Education, in order to progress in its development
- Search and consolidate points of reference in Environmental Education
- Discuss objectives and strategies, experiences and results
- Facilitate the publication and dissemination of bibliography and resources
- Improve the training of environmental educators
- Promote networks of exchange of experiences to achieve personal and institutional enrichment

Within the Statutes of 1985 it was already stated that one of the objectives of the SCEA is to stimulate, promote and disseminate research, studies and activities related to environmental education in order to progress in its development. During the 2000 EA Forum, the need to carry out research in environmental education deepening the theoretical bases and carrying out studies linked to practice and to Catalonia's own needs was highlighted. The strategic lines were defined:
- Biannual Environmental Education Forums
- Working groups, projects and programs related to education and the environment
- Collection of Monographs and publications on Environmental Education
- Environmental Education job board
- Entities Adhered to Environmental Education

- Environmental Education Documentation Service (SDEA)
- Seminars, courses, workshops and conferences to help the reflection, deepening and permanent training of educators.
- Relations with local and international networks of Environmental Education
- Trips to Environmental Education facilities
- Communication service with partners
- Participation in environmental councils and forums, consultative councils for protected natural areas...

6. **National Environmental Education Conference: Congrés Nacional d'Educació Ambiental (CNEA)** (https://www.cnea.cat/)

The National Environmental Education Conference (CNEA) is the meeting place for environmental education in Catalonia, a working environment to act in the face of the challenges posed by a changing and complex world and to conceive solutions for a better society sustainable, co-responsible and fair.

After two editions, the first (2018) with the theme Forging alliances to advance environmental education and the second (2020/21) with the theme From individual action to collective transformation, the CNEA is consolidating itself as a laboratory synthesis of knowledge of environmental education in Catalonia. The second edition closed with a Declaration that gathers the main conclusions of the Congress, gathered in a participatory manner.

Since 2022, the CNEA has been established as a permanent Congress. It aims, thus, to become the natural space for analysis and reflection of environmental education actors and to look for tools that allow reaching new groups and creating innovative alliances to move from individual change to collective and structural transformation.

The permanent Congress is managed and led by the CNEA Commission which oversees the implementation of the agreements of the CNEA Declaration and is constituted as a permanent space for reflection and action on environmental education in Catalonia.

The CNEA structures its axis of reflection around the culture of sustainability, understood as the set of knowledge, values and practices that citizens, both individually and collectively, must develop with responsibility, rationality and creativity to face the socio-environmental problems and to defend the basic rights of people within the ecological limits of the planet.

Beyond the strategies and instruments that create awareness of the seriousness of the socio-environmental crisis, we need to find ways to help everyone relate it to personal and collective decisions and we need to explore mechanisms to enable us to transformative action. The critical analysis of the environment, the discussion of values, the imagination of future scenarios, the exploration of alternatives, the making of decisions in a participative way, the construction of answers, the execution of cooperative actions and the evaluation of the results are key learnings in this training.

6. **Are there guidelines or initiatives addressing the relationship of educational centres with their social context on relation to ESD?** *(If yes, please provide details. Please note that networks at the local but also global level might be relevant. Max. 400 words.)*

The most relevant guidelines referring the social context are the criteria from the Green Schools Program, which are listed in section 3. Those criteria are:

1. The school favours the participation and involvement of the entire educational community.
7. The activity is projected outside the school.
10. The school promotes awareness of the impact of one's own actions
12. The activities are action-oriented and take place in a defined context
25. The local and global perspective is integrated in school activities
26. The school promotes knowledge, relationship and commitment to the environment
27. The activities are action and environment-oriented (actions transform the environment)
28. The school dynamics favor networking with other centres, entities and institutions in the municipality.

Part B – Data collection

1. **What documents have you consulted to complete this template?**

POLICY DOCUMENTS

- *BOE Núm. 312, pág. 53747, 22449. ORDEN ECI/3857/2007, de 27 de diciembre, por la que se establecen los requisitos para la verificación de los títulos universitarios oficiales que habiliten para el ejercicio de la profesión de Maestro en Educación Primaria.*
- Decret Educació 2023:
- *Ministerio de Educación y Ciencia «BOE» núm. 312, de 29 de diciembre de 2007 Referencia: BOE-A-2007-22450. Orden ECI/3858/2007, de 27 de diciembre, por la que se establecen los requisitos para la verificación de los títulos universitarios oficiales que habiliten para el ejercicio de las profesiones de Profesor de Educación Secundaria Obligatoria y Bachillerato, Formación Profesional y Enseñanzas de Idiomas.*
- *BOE Núm. 287, 47586, 19174 REAL DECRETO 1834/2008, de 8 de noviembre, por el que se definen las condiciones de formación para el ejercicio de la docencia en la educación secundaria obligatoria, el bachillerato, la formación profesional y las enseñanzas de régimen especial y se establecen las especialidades de los cuerpos docentes de enseñanza secundaria.*
- *BOE Núm. 33, Sección 1. Pág.11039. 1918. Real Decreto 48/2010, de 22 de enero, por el que se modifica el Real Decreto 276/2007, de 23 de febrero, por el que se aprueba el Reglamento de ingreso, accesos y adquisición de nuevas especialidades en los cuerpos docentes a que se refiere la Ley Orgánica 2/2006, de 3 de mayo, de Educación, y se regula el régimen transitorio de ingreso a que se refiere la disposición transitoria decimoséptima de la citada ley.*
- *Ministerio de Universidades «BOE» núm. 233, de 29 de septiembre de 2021 Referencia: BOE-A-2021-15781. Real Decreto 822/2021, de 28 de septiembre, por el que se establece la organización de las enseñanzas universitarias y del procedimiento de aseguramiento de su calidad*

OTHER DOCUMENTS

- *Xarxa d'Escoles per la Sostenibilitat de Catalunya (XESC) (any??) Criteris de qualitat d'una pràctica educativa de referència en educació per a la sostenibilitat a l'escola*
- *CNEA (2021) Declaració del II Congrés Nacional d'Educació Ambiental "Per transitar l'acció individual a la transformació col·lectiva", II Congrés Nacional d'Educació Ambiental, CNEA 20/21 24 de novembre de 2021*
- *Generalitat de Catalunya (2012) Document marc: Programa Escoles Verdes. Col·lecció: Materials del Programa Escoles Verdes ; 1 1. Desenvolupament sostenible – Catalunya – Ensenyament 2. Educació ambiental – Catalunya – Ensenyament*
- *Generalitat de Catalunya (2022) PROJECTE PER A LA DEFINICIÓ DELS PERFILS PROFESSIONALS DEL SECTOR DE L'EDUCACIÓ AMBIENTAL. INFORME I RESULTATS FINALS*

Part C – Reflection

This section is seeking your own thoughts and reflections towards professional development of educators for ESD in your country.

1. **In the light of the information provided, what would you consider to be priority needs in professional development of educators related to ESD in your country?**

   - ESD training is voluntary, is set as a recommendation but it is not a political priority.
   - ESD is not really embedded in the teachers' role description although there are currently teachers acting as environmental leader in their schools. So, there is the need for recognition to these professionals.
   - We can read some ESD ideas or SDGs oriented policies related to primary and secondary education. But at the same time, there is not a clear path to achieve those goals if we look at it from a teachers' perspective. This means that on a daily basis teachers are currently modelling ESD but nobody taught them how to do it during their training. This leads to the need of including ESD teacher training in the university study plans. To sum up, policies commend schools to implement ESD action but there are no clear guidelines on how to do it. At the moment, we only find the green schools program, which rewards and recognises schools as a whole, it is voluntary, and although it offers training it is ongoing training, not initial teacher training.
   - The training in ESD is voluntary and is not explicitly integrated in the training of teachers, for this reason, most teachers who have training in ESD have carried it out once they are already active and the Green Schools program is shown as a reference for teachers. Thus, the role of the trainers of the Green Schools Program is. Despite government support, the need for more resources and time to implement ESD policies and/or actions is evident, teachers and experts agree. Therefore, it is necessary for the Administration to plan ESD policies in the medium-long term to be able to observe the results.
   - In Spain we now have a new primary and secondary curriculum which is an opportunity to integrate ESD in school curricula. But at the same time, the initial teacher training study is lacking a scientific foundation which would provide rigour to ESD. Without scientific knowledge, as citizens, we are less critical and can be more easily manipulated. We are more vulnerable as we do not have the necessary competences.

2. **Is there any further information that might be relevant and which you would like to share?**
   Please provide links, references, documents that can already be collected for the collection of resources on the common online portal. (Documents in all languages are welcome at this stage).

EduSTA

Academy for
Sustainable Future Educators

Mapping Policies for Education for Sustainable Development (ESD)

CZECH REPUBLIC

February 2023

General information

Country information

Country	Czech Republic
Number of Education institutions in the country	Number of Education institutions = 10 803 4983 preschools 4297 elementary schools (6–15 years old, primary + secondary), including 8-year grammar schools 1330 upper secondary schools: vocational schools and high schools including 4-year grammar schools (15–18 years old) 167 higher vocational schools (18+ years, takes 3 years to complete) 26 Public higher educational institutions and universities 31 Private higher educational institutions and universities
Number of teachers in the country	Approx. 150 000 teachers work in schools overall (including preschools, elementary schools, secondary schools, vocational schools, high schools, grammar schools and higher vocational schools).
Education level addressed in the review	☐ Early childhood and primary **X Secondary** **X Vocational** **X University**

Part A –
The current position of ESD in education at the national level

This section aims at gathering a general view about the integration of ESD within the educational level addressed in the review for each EduSTA partner country, with an emphasis on the issue of professional development opportunities for educators to develop ESD competences.

1. **Are there any national (including regional jurisdictions such as cantons, states, provinces, etc.) strategies, policies, or legislations, which recognise ESD in the addressed educational level?** *(If yes, please provide details. Max. 400 words.)*

In the Czech Republic ESD is described in four areas: *Environment and Sustainability, Labour Market, Inclusive Education & Equal Opportunities and Global Development Education*.

As in other European countries, education in the Czech Republic is based on equal access to learning for all Czech citizens and citizens of other EU member states, without discrimination on the basis of race, colour, sex, language, religion, nationality, ethnic or social origin, property, health or other factors. It takes into account the educational needs of individuals. It aims at mutual respect, tolerance of opinions, solidarity and dignity of all participants.

The strategies on ESD are part of a larger concept: **the Strategy 2020 - 2030+**. This is a key document for the development of the education system in the Czech Republic in the decade 2020–2030+ (source: https://www.msmt.cz/uploads/brozura_S2030_en_fin_online.pdf). The two main strategic objectives are: **"Focus education more on the acquisition of competences needed for an active civic, professional and personal life."** and **"Reduce inequalities in access to quality education and pave the way for the maximum development of the potential of children, pupils and students."**

The Agenda 2030 of the Czech Republic describes concrete goals of sustainable development defined by the UN. The Czech Republic presented its second National Voluntary Review in 2021, which summarizes the implementation of the SDGs in the Czech Republic over the last 4 years (source: [Národní dobrovolný přezkum Agendy 2030 České republiky - Ministerstvo životního prostředí (mzp.cz)](#)).

The Seventh National Communication of the Czech Republic under the United Nations Framework Convention on Climate Change provides overall information on environmental policy in the Czech

republic and a thorough overview of all the laws and legislation processes as well as government initiatives and government bodies that relate to environmental education and public awareness as well as the sustainability development goal´s implementation (chap. 9): [7NS-3BR (mzp.cz)](7NS-3BR (mzp.cz))

In terms of inclusive education, the seminal document that defined the need for inclusive education was the 1994 **Salamanca Declaration**, the result of a meeting of three hundred participants representing a total of 92 governments and major international organisations. The Salamanca Declaration calls for the implementation of legislative changes that would directly support the development of an inclusive approach to education. Mainstream schools should then create the conditions for educating all students, including, of course, those with special educational needs (for more details, see UNESCO, 1994).

At present, **the State Programme of Environmental Education and Eco-counselling for 2016–2025** (SP EE and EC) is the Czech Republic's key national strategy in the field of environmental education and eco-counselling (EE and EC), source: Státní program EVVO a EP na léta 2016-2025 - Ministerstvo životního prostředí (mzp.cz) (in Czech only). The programme was adapted in accordance with Paragraph 1f) of Act No. 123/1998 Coll. on free access to environmental information. Environmental education, training and awareness should lead to thinking and acting in accordance with the principle of sustainable development, awareness of responsibility for maintaining the quality of the environment and life in all its forms (Section 16 of Act No. 17 /1992 Coll., on the Environment).

The Ministry of Foreign Affairs has defined the **Strategy for Global Development Education and Awareness of Global Contexts for the period 2018-2030** (GDE). GDE is understood as "a process of lifelong learning that contributes to an understanding of the differences and similarities between people's lives in different parts of the world and facilitates an understanding of the economic, social, political, environmental, and cultural processes that affect them" (source: English - GRV English - GRV (globalnirozvojovevzdelavani.cz)), Strategie_GRV_2018_2030.pdf (mzv.cz), in Czech only).

In the Czech Republic, each HEi is obliged to outline **Strategic Plan of Educational, Creative and Other Activities** (7-year period). In this document, there can be voluntarily included ESD strategy and measures how its goals are going to be implemented. Each university implement the ESD strategy at different level. The Czech University of Life Sciences is an illustrative example of ESD developed at high level. In 2022, the CZU ranked 45th in the UI GreenMetric ranking worldwide and repeatedly ranked 1st among participating universities from the Czech Republic. The assessment takes place in six main criteria - infrastructure, energy and climate change, waste management, water management, transport, and education**.**

CZU Strategic Plan of Educational, Creative and Other Activities consists of six strategic areas and each of correspond with ESD goals, for example

- High-quality and competent graduates actively contributing to sustainability and experience for the 21st century
- Available and flexible education for different sustainability dimensions
- Strategically managed research and development activities effectively using capacities leading to the fulfilment of the CZU vision in different sustainability dimensions
- A high-quality, international and sustainable environment for the implementation of CZU strategic measures

Apart of the Strategic Plan of Educational, Creative and Other Activities, the Gender Equality Plan is issued for every year.

As part of its educational and creative portfolio and the impact of its activities on society, the Czech University of Life Sciences (CZU) is a living example (national, European and global) of a socially responsible university, reflecting, fully accepting and implementing the principles of sustainability (its environmental, social and economic pillar in a projection into viability, justice/sustainability) expressed in the 17 ESD. CZU is a university with a digital campus, which has managed the transition to a low-carbon university and fulfils, through its activities in economic contexts, the principles of bio-economics, smart circular economy and clean energy (1), agriculture and food principles, as expressed in the EU "Farm to Fork Strategy" and they lead to food security and sovereignty (2), as well as the principles associated with smart technologies and technical solutions (3). In terms of the environment, through its activities CZU fulfils the principles of intelligent natural resource management ensuring the protection of the environment and human, animal and plant health (4), and principles leading to reducing the negative impacts of climate change and reasonable responses to major natural disturbances (5), consisting of extensive floods, droughts, pandemics and other natural disasters.

There is an Sustainability and Development Office (CSR Office), it processes the Sustainability Report, organizes the CSR conference, and manages the CZU Campus Sustainability Challenge student competition. The CSR office was established because of a growing need to address responsible and sustainable development goals comprehensively and co-ordinately at the CZU. A few activities and projects with a primary or secondary focus on social responsibility and sustainability are created every year at CZU. The implementation itself is often provided by individual faculties and the institute. The CSR department aims at cross-faculty coordination, centralized promotion, sharing good practices and spreading awareness among students, staff, and the public.

Education, creative activity, strategic management, and university operation are in line with the long-term goals and sustainability strategy. CZU annually publishes its actions and performance in individual areas of sustainable development and social responsibility in the CSR Report. Each year, the **CSR Report** (Corporate Social Responsibility Report) revises the fulfilment of goals and progress in achieving sustainable development, presenting information and its impact on society and the environment, and presents its sustainable activities and projects.

In the CSR Report 2022, there is information:

- How CZU managed to fulfil CSR values in 2022
- What were the priority goals of CZU in connection with the sustainable development goals of SDG's.
- How CZU manages to connect educational and creative activities with the topics of social responsibility and sustainability.
- How CZU manages to fulfil obligations and measures within the framework of university operations
    - How many composters do we have on the campus
    - How much green energy we have produced and what resources we have for green energy production
    - How we manage water and in what ways we retain water on the university campus and how we subsequently use it
    - How we support the circular economy
    - How it ensures the well-being of employees and students
- How individual faculties are involved in CSR
- How we take care of external relations
- What are the recommendations for the further development of CSR activities

1.1. If yes, what ESD processes and approaches do these promote? (*Max. 200 words.*)

The ESD strategies develop specific objectives for better integration of ESD in (1) formal education, (2) non-formal education, (3) public awareness, (4) capacity building and partnerships, (5) linking ESD to other policies and areas. The related action plans include specific indicators and identify the institutions responsible for their implementation.

The Action Plan regarding the State Programme of Environmental Education and Eco-counselling for 2016–2025 is now valid for the years 2022 - 2025 (Source: OFDN-AP_EVVO_22_25-20012022.pdf (mzp.cz), in Czech only).

The goal of environmental education and sustainable development in the Czech Republic is to develop the competencies necessary for environmentally responsible behaviour, i.e. behaviour that is most beneficial for the current and future state of the environment in a given situation with given possibilities. Environmental education helps develop the understanding of the following objectives:

- Relationship with Nature
- Relationship with one´s Environment
- Ecological Processes and Principles
- Environmental Issues and Conflicts
- Taking Action for the Environment

Further information and best practice examples of these goals can be found in this full colour brochure in English:

https://www.mzp.cz/C125750E003B698B/en/enviromnental_education_publications/$FILE/OFDN-EEinCR-20180517.pdf

The most recent reform of inclusive education in the Czech Republic took place in 2016, when Paragraph 16 of the Educational Act 531/2004 Coll. On Education of children, pupils and students with special educational needs was revised. Specific support measures have been introduced and put into practice through the Decree on the Education of Pupils with Special Educational Needs and Gifted Pupils (Decree No. 27/2016 Coll.). This means that children and students with special educational needs receive specific and individual support in their educational context. For more information please see the relevant information in the Agenda 2030, pg. 42: OUR-Narodni_dobrovolny_prezkum_CR_anglicka_verze-20210615.pdf (mzp.cz).

1.2. If yes, is ESD included in role descriptions? Are there specific responsibilities associated to ESD? (*Max. 200 words.*)

According to a study carried out by the Czech School Inspectorate, 50.5 % of upper secondary schools have appointed an **Environ. Educ. Coordinator (or EVVO coordinator to name the Czech abbreviation)**, 0.3% of upper secondary schools had an **ESD Coordinator** and 0.7 % had a **GDE Coordinator** in 2016 (Source: Česká školní inspekce (csicr.cz), in Czech only). All schools must employ an **educational counsellor** and a **prevention methodologist**.

School head teachers may appoint pedagogical staff members to coordinate environmental education -

in the position of an **Environ. Educ. Coordinator** in line with the Methodological Instruction on Environmental Education published by the Ministry of Education in 2008, SN 16 745/2008 – 22.

The Ecological Education Club EEC offers accredited life-long learning programme (course) "Coordinator of Environmental Education" for primary and secondary school teachers. The course consists of 250 face-to-face and online lessons of learning. Each Environ. Educ. Coordinator is obliged to complete this course and hold a certificate with description of his/her role and achieved competences.

Besides the Environ. Educ. coordinators, new roles, **the ESD Coordinator** and the Global Development Education Coordinator (or **GDE Coordinator** for short), have been established in schools. These roles are emerging in the system from the bottom up and do not yet have a legal basis. Specialised training to become an ESD or GDE coordinator is mainly offered by NGOs to already trained **Environ. Educ. Coordinators**.

Schools must employ an **educational counsellor** and a **prevention methodologist**. The school may also employ a **school psychologist** or a **special educator**. Together they are part of the school counselling centre and they provide counselling for pupils with special educational needs, help for disadvantaged children or children with a different language background, school-based prevention programmes (e.g. prevention of bullying, drug use) and careers advice. Children with special educational needs are also supported by **teacher assistants**.

At tertiary education level, some have a person for ESD strategy in the Rectors Council. For example, at the CZU, the Vice-Rector for Development and Sustainability is the Chairman of the Council for Sustainable Development (Council), which is the Rector's permanent professional advisory body in the field of sustainable development. The council mainly participates in the preparation of conceptual and methodological materials in the field of sustainable development, evaluates the implementation of strategies with regard to the principles of sustainable development and long-term priorities, discusses and recommends the basic directions of the CZU procedure in promoting a greater degree of coordination and cooperation of all workplaces, identifies current problems in the field of sustainable development and recommends appropriate measures and subsequently monitors and evaluates their implementation.

1.3 If yes, how is ESD recognised, rewarded, or funded? (*Max. 200 words.*)

According to Decree No. 317/2005 Coll. (§ 9(c) on Further Education of Teaching Staff, Accreditation Commission and Career System of Teaching Staff as amended by Decree No. 412/2006 Coll.), teachers

who are involved in specialised activities such as environmental education and sustainable development or school based prevention and who have completed their specialised training lasting at least 250 hours receive a financial reward for their work. Depending on the teacher's experience, this amounts to around €40-80 per month. Sometimes the number of teaching hours is also reduced or an annual reward is provided to them.

According to a 2016 report by the Czech School Inspectorate, in upper secondary schools, about 43% of Environ. Educ. Coordinators had completed the officially recommended specialised studies, 17 % had completed another type of environmental education training and 40 % had no training (source: Česká školní inspekce (csicr.cz), in Czech only). The Specialised Studies to become an Environ. Educ. Coordinator are paid by the participants but regional authorities may cover part of the costs by scholarships. For educational counsellors and prevention methodologists the completion of a specialised course is mandatory.

1.4. If yes, do these documents refer to ESD professional development for educators (such as asking for skills and capabilities)? *(If yes, please provide details. Max. 200 words.)*

The Further Education Standard regarding environmental education in the context of sustainable development (source: standard_EVVO.pdf, in Czech only) defines in detail all the competencies that must be acquired and how they can be measured. A whole competency model is defined including concrete skills and abilities. Specific indicators and criteria are introduced so the competencies can be objectively measured.

The basic competencies are:

    C 1: Implementing and updating environmental education into the School Education Programme
    C 2: Knowledge of ecology and environmental science
    C 3: Application of effective methods and teaching strategies of environmental education in school practice
    C 4: Management skills to increase the support and efficiency of environmental education in the organisation and operation of the school

The Environ. Educ. Coordinators must prove that they have all these competencies acquired, e.g.:

- by presenting a new and revised School Education Programme based on a SWOT analysis;

- a project plan with an indicative budget of costs, or a proposal of an application for sponsorship regarding ESD

- a critical assessment of a specific environmental problem or conflict at a global, regional or local level

- suggesting environmentally sound steps to improve the care of the school environment

- designing an educational unit focusing on sustainable development of the school

2. **Are there any national (including regional jurisdictions such as cantons, states, provinces, etc.) initiatives (projects, programmes, etc.) on ESD professional development for educators?** *(If yes, please provide details. Max. 400 words.)*

National level

The National Pedagogical Institute provides further training to teachers in all relevant areas. Specifically regarding the 17 Sustainable Development Goals to be achieved by 2030, the National Pedagogical Institute is offering a webinar called **"Our World in Data".** ("Our World in Data" is a tool produced by a research team based at Oxford University.) The webinar helps teachers to better understand the challenges of today's world. It uses interactive visualisations to show how the world has changed, where we are making progress and where we are falling behind. The webinar will focus on the UN Sustainable Development Goals to be achieved by 2030. (source: https://www.npi.cz/vzdelavani/15-vzdelavaci-programy/7821-nas-svet-v-datech2, in Czech only).

Besides that the National Pedagogical Institute offers many courses regarding the following topics: creating an inclusive class climate, working with disadvantaged pupils or students, educating foreign language children, new teaching methods to achieve quality education etc. (source: [EN | NPI ČR](EN | NPI ČR)). The National Pedagogical Institute trains teachers and provides materials and ideas for lectures also on the topic of global development education (source: NPI ČR Globální rozvojové vzdělávání, in Czech only).

Regional level

Each region has its own regional Environ. Educ. Coordinator who liaises with coordinators working in schools and supports them in their professional development. Regional authorities, universities and centres for environmental education work closely together to provide methodological materials and to prepare conferences, meetings and further training. The recommended Specialised Studies to become an

Environ. Educ. Coordinator emphasize the applicability of the acquired knowledge in practice - educators take part in a number of practical activities, field programs, visits to interesting schools, meet outstanding personalities in lectures, talk to active Environ. Educ. Coordinators and get acquainted with their work. The students have the opportunity to get to know areas of natural value, such as natural reservations.

According to the Ministry of the Environment 9 000 teachers take part in over 600 training sessions regarding environmental education and sustainable development each year (source: https://www.mzp.cz/C125750E003B698B/en/enviromnental_education_publications/$FILE/OFDN-EEinCR-20180517.pdf)

The Czech secondary vocational schools participate in many national projects supported by Ministry of Education, Youth and Sports or local municipalities, for example project Non-formal Education in Environmental Education (2023), Professionalization of the Work of Coordinators in the Central Bohemia Region (2023-2024) or Development of a New Generation of Environmental Classrooms (2021-2024).

3. **Do educational institutions have strategic plans or guidelines to promote ESD?** *(Please tick the box regarding your estimation of the situation in your country and provide an overview, not specific details. Max. 400 words.)*

☐ None

☐ Few

☐ Several

X Many

☐ All

Many schools have developed their **own school programme on environmental education and sustainable development**. It defines the responsibilities of the staff in different tasks, presents a SWOT analysis, defines a long-term development plan regarding environmental education as well as a concrete action plan with different specific activities to be realised during the school year.

Besides that, education on the 17 sustainability goals has become a recognised part of the Czech school curriculum at all educational levels. **ESD has been implemented as part of cross-curricular themes.** Cross-curricular themes should permeate the whole school curriculum because they are not only socially

important, but also significant for the pupils. They should prepare students for life in the 21st century. The cross-curricular themes are implemented and integrated through various cross-curricular activities, such as student projects, discussions, excursions, trips, courses… Cross-curricular themes are also applied in the hidden curriculum for example through a democratic climate for learning. It is also possible to create separate subjects or learning modules from cross-curricular themes or their individual parts.

Of course, various improvements can be made in this area, but in any case, it is very positive that the basic conditions for ESD are already in place.

In vocational schools, the following cross-curricular topics are introduced:

1. **Citizenship in a Democratic Society**
2. **Mankind and the Environment**
3. **The Individual in the World of Work**
4. **Information and Communication Technologies**

Currently a curriculum reform is underway, and the **Framework Educational Programmes (FEP)** are being revised. It is a curricular system for pupils and students from 3 to 19 years of age that was introduced into the Czech education system in 2007. The Framework Educational Programmes are based on a new education strategy, stressing key competencies, their interlinking with educational contents and the application of acquired knowledge and skills in practical life. They build on the concept of life-long learning. They promote the educational autonomy of schools as well as teachers' professional responsibility for the outcomes of the educational process. Ass. Prof. Jan Činčera, Ph.D. from the Masaryk University published a critical analysis regarding ESD as a basis for the up-coming educational framework change (environmentalni_vychova.pdf (npi.cz), in Czech only).

As for Higher Educational Institutions, they have a much more autonomy and are less influenced by the Czech Ministry of Education regarding the curricula they offer. An electronic web encyclopaedia "Enviwiki" (source: http://www.enviwiki.cz, in Czech only) has been created to support the education of all students not just for the benefit of future educators. Since 2006, the Centre of environmental studies has been publishing its own electronic magazine for environmental education "Envigogika" (source: Envigogika (cuni.cz)). The Charles University Environment Centre initiated the establishment of a "Forum of University Teachers: Education for a Sustainable Future". The objective of the Forum is to contribute to the clarification and generation of content, scope and methods of education for sustainable development and to ensure mutual awareness, to promote cooperation in preparation of courses,

lectures and teaching materials, research and project work (source: 7NS-3BR, mzp.cz). Ongoing research projects on sustainable development are also described (source: Running projects (cuni.cz)).

In the Czech Republic, there are not initiatives or programmes on ESD professional development. There is only the document of the Ministry of Education, Youth and Sports (MSMT) **Education for Sustainable Development. Recommendations for its Implementation at the HEIs Offering Education and Training of Teachers for 21+**. It means that there are not obligatory measures.

4. **Are there official initiatives (projects, programmes, etc.) to support the professional development of educators in ESD?** *(Please tick the box regarding your estimation of the situation in your country and provide an overview, not specific details. Max. 400 words.)*

☐ None

☐ Few

☐ Several

   X Many

☐ All

Prague 2022 hosted the 11th World Environmental Education Congress under the title Building Bridges in Times of Climate Urgency (Source: 11TH WORLD ENVIRONMENTAL EDUCATION CONGRESS WEEC (11TH WORLD Environmental Education CONGRESS WEEC (weec2022.org)). The World Environmental Education Congress (WEEC) is the leading international congress on environmental education and education for sustainability. It takes place every two years.

Sustainability and climate were the crucial topics of the Horizon 2020 program. This is no different in the case of the Horizon Europe. The Czech Republic participated in 1 396 projects of the Horizon 2020 program and the reported net financial contribution from the budget of this program so far amounts to almost 511 billion EUR for the Czech Republic. The number of projects with goals including measures in the field of sustainable development with the participation of the Czech Republic reached 1 165 which means that more than 83% of projects with Czech participation fulfilled the goals of sustainable development. The financial contribution for the Czech Republic from the H2020 budget intended for the implementation of projects connected with the issue of sustainable development reached 60% of the

total financial contribution for the Czech Republic. The most remarkable projects were BiodivClim, ForestValue, Aquatic Pollutants, BiodivRestore.

At present, schools and teachers can participate in the Johannes Amos Comenius project co-funded by the European Union (source: OP JAK – Webové stránky operačního programu Jan Amos Komenský). The project accents the need to acquire competencies for lifelong learning, thanks to which potential and long-term applicability in the society will be maximized. Part of the Jan Amos Comenius project will be to support the further education of teachers in the field of education for sustainable development. Another part of the Johannes Amos Comenius project will be the methodological support of locally embedded learning which uses all aspects of the local environment (natural, cultural, historical and socio-economic contexts) as a unifying context for learning and emphasises civic engagement in projects that are of practical relevance to the community and serve the community. Locally embedded learning is a close concept related to ESD.

The Technological Agency of the Czech Republic supports a project that helps to develop teaching tools to increase the proportion of outdoor learning and contact with nature in primary and secondary education. (The Technology Agency of the Czech Republic is an organisational component of the state, which was established in 2009 by Act No. 130/2002 Coll. and supports research projects useful for society).

Besides that the **National Economic Recovery Plan (NERP)** is currently being implemented. The National Recovery Plan is the Czech Republic's plan for reforms and investments aimed at mitigating the effects of the COVID-19 pandemic and getting the economy back on track using funds from the Recovery and Resilience Facility (RRF) (source: https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility/czechias-recovery-and-resilience-plan_en). As part of the National Recovery Plan, support will be provided for teaching and long-term education and awareness programmes focusing on climate change education. The focus will be on energy saving, the use of renewable energy sources, climate change and adaptation to climate change. Part of the NERP is also strengthening IT education – broadening its scope to include advanced digital technologies and digital literacy in all areas of education. Teachers' digital skills and the digital equipment in schools will be improved. A fund for mobile digital devices will be available for disadvantaged pupils and students. Education will be adapted to the changing needs of the labour market by increasing the number of IT professionals to ensure long-term employability. In the area of primary and lower secondary education, support will be provided to disadvantaged schools, tutoring for pupils at risk of failure, teachers and experts will acquire new knowledge for teaching in heterogeneous classes.

5. **Are there any networks, partnerships or main drivers (public, private, NGOs) that support the professional development of educators in ESD in your country?** *(If yes, please provide details. Please note that networks at the local but also global level might be relevant. Max. 400 words.)*

Worth mentioning is the Network of Environmental Education Centres in the Czech Republic, called Pavučina (in English: spider's web). (source: ENGLISH - Pavučina SSEV (pavucina-sev.cz). The network promotes the environmental education nationwide and its irreplaceable role in education, sustainable development and environmental protection. The network takes care of teacher development and cooperation in the field of ESD in a long-term nationwide programme called M.R.K.E.V (C.A.R.R.O.T.) - Mentor for Quality Environmental Education. Nearly 700 schools including upper secondary schools from all regions of the Czech Republic are currently involved in the programme. The aim is to develop and support schools, teachers and other organisations involved in ESD, in particular by providing methodological support and facilitating the exchange of experience between teaching staff from schools.

The Czech republic is also part of **Eco Schools** (Tereza Association), source: Our Programs | TEREZA (terezanet.cz)
This is the world largest sustainable schools program reaching over 59,000 schools in 68 countries. In Eco-Schools students with teachers make sustainability a true priority, which is not just taught about, but which is interwoven to school every day operation. They survey their school from „floor to ceiling", from school grounds to school canteen and examine what can be improved in themes of waste, energy, water, transport, food, biodiversity or climate change. What they start with at schools, they often continue in their homes and local communities. **There are 399 Eco-Schools in the Czech Republic.**

The Ecological Education Club (source: https://kev.ecn.cz/, in Czech only), founded in 1995, brings together individual teaching staff and those interested in ecological education and training as well as schools and other institutions. The ecological education club belongs to the UNESCO clubs and its main goal is to develop a comprehensive concept of ecological education and training in order to support sustainable development.

As an educational institution for environmental training, **Lipka** (source: https://www.lipka.cz/lipka-en) is one of the oldest and largest organizations in the Czech Republic to focus on public environmental education. Under its wide range of activities Lipka offers one-day or longer environmental educational programmes in schools and preschools whose student attendance is over 20 000 students every year. In the afternoons, Lipka's five training facilities buzz with children fully engaged in science and art courses. The institution also safeguards teaching of environmental-based subjects at several universities and promotes the systematic training of educators in the field of environmental education.

SEVER (The Rýchory Centre of Environmental Education and Ethics, source: [SEVER – The Rýchory Centre of Environmental Education and Ethics | Středisko ekologické výchovy a etiky Rýchory – SEVER (ekologickavychova.cz))](https://ekologickavychova.cz) is one of the largest and oldest Czech non-governmental organization in the field of environmental and sustainability education. Through practical environmental education and awareness-raising, the organization strives to reinforce responsible attitudes to the nature, the planet and other people.

Regarding global development education, inclusive education, quality teaching and work with disadvantaged pupils or students, the Czech republic has the following NGOs working in the field, e.g.: People in Need ([Help with us - People in Need](#)), Czech Professional Society for Inclusive Education ([ČOSIV | Česká odborná společnosti pro inkluzivní vzdělávání (cosiv.cz)](#), in Czech only), Cyril Mooney´s Value Education ([About | Skolacyril (cmeducation.org)](#)), Jules and Jim – Primary Prevention and Education of Teachers ([Primární prevence a vzdělávání pedagogů - Jules a Jim, z. ú.](#), in Czech only), Centre Locika ([English website is under construction (centrumlocika.cz)](#), Foundation Sirius ([Nadace Sirius - úvodní stránka](#), in Czech only), Czechitas ([Czechitas, IT is the future!](#)), Life Teache ([Home Teach Live - Učitel naživo (ucitelnazivo.cz)](#)), Teachers Platform ([Úvod - Učitelská platforma (ucitelskaplatforma.cz)](#), in Czech only).

6. Are there guidelines or initiatives addressing the relationship of educational centres with their social context on relation to ESD? *(If yes, please provide details. Please note that networks at the local but also global level might be relevant. Max. 400 words.)*

According to the State Programme for Environmental Education and Eco-Counselling, the promotion of links between ESD and the social sphere is only at the beginning. It is a new direction to be discovered and there is room for new ideas and solutions. Part of the annual conferences will be devoted to the topic of linking ESD with the social sphere (e.g. social and health work, work with the elderly, work with the disabled or other disadvantaged groups). The aim is to coordinate joint action by relevant ministries, but also at regional and local level (linking NGOs, state organisations and local initiatives in the field of ESD.

Currently, school competitions provide a linkage of educational centres with their social context on relation to ESD.

SCHOOL COMPETITIONS

The schools can participate also in a number of competitions.

E.g. to name just a few of them:

"Extra Class" (source: [About the Extra Class | Extra třída (extratrida.cz)](extratrida.cz)). In this competition pupils or students can create an own project that helps their village or city district. The aim is to motivate schools to activities that lead students to gain experiences in life and acquire practical skills. The program leads students to active citizenship and the interest in their environment. It is supported by the Ministry of the Environment.

The competition **"The School of Sustainable Development"** is organised by the Club for Environmental Education, z.s., in cooperation with the Central Bohemia Region, the Ministry of Environment and Agriculture and the Ministry of Education (source: [10. ročník soutěže Škola udržitelného rozvoje Středočeského kraje - Environmentální vzdělávání, výchova a osvěta (EVVO) | Životní prostředí (kr-stredocesky.cz)](kr-stredocesky.cz), in Czech only) and all schools (public, private and religious) and educational institutions located in the Central Bohemia Region can participate. There are three categories of the competition and it is also suitable for schools that have little experience with sustainable development and are just starting out. School activities are evaluated in three pillars: the natural sciences and sustainable development pillar, the social pillar (e.g. long-distance adoption, cooperation with charity organisations, old people's homes, children's homes) and the economic pillar (e.g. raising funds for ESD, including funds for greening the school).

ACTIVE CITIZEN – PEOPLE IN NEED (source: Empowering Active Citizens - People in Need)

The idea behind is to provide quality methodological materials to teachers to help them guide young people towards a responsible and active approach to life in a democratic society.

The programme helps teachers:

- work with the topic of active citizenship
- develop their pupils' competences for democratic culture – by encouraging dialogue and development of civic and social competences
- gain confidence in leading community projects with results of global impact.

Through these projects, pupils enhance their trust in the functioning of civic society and democracy and in themselves, and realise that they are able to change things around them and maybe even further afield.

Activities for lessons, handbooks for regular work with pupils and also the opportunity for further training for teachers are offered. Long-term support for systematic introduction of active citizenship into the syllabus and inspiration for how to guide pupils towards responsibility and action is provided.

Clean up Czechia (source: https://www-uklidmecesko-cz, in Czech only)

A big nationwide initiative is called Clean up Czechia and schools are usually involved. It involves collecting rubbish from towns, villages and countryside.

Part B – Data collection

1. What documents have you consulted to complete this template?

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School of Sustainable Development. Central Bohemian Region [online], [cit. 06.03.2023]. Available on: [9. ročník soutěže Škola udržitelného rozvoje Středočeského kraje - Ekologická výchova | Životní prostředí (kr-stredocesky.cz)](#), in Czech only

Second Voluntary National Review of the 2030 Agenda in the Czech Republic (2021). Ministry of the Environment of the Czech Republic [online], [cit. 06.03.2023]. Available on: [OUR-Narodni_dobrovolny_prezkum_CR_anglicka_verze-20210615.pdf (mzp.cz)](#)

Seventh National Communication of the Czech Republic under the United Nations Framework Convention on Climate Change including supplementary information pursuant to article 7.2. of the Kyoto protocol. Ministry of the Environment of the Czech Republic [online], [cit. 06.03.2023]. Available on: 7NS-3BR (mzp.cz)

SEVER – The Rýchory Centre of Environmental Education and Ethics. Official web page [online], [cit. 06.03.2023]. Available on: SEVER – The Rýchory Centre of Environmental Education and Ethics | Středisko ekologické výchovy a etiky Rýchory – SEVER (ekologickavychova.cz)

Strategic Plan of Educational, Creative and Other Activities of the CZU for the period from 2021. Czech University of Life Sciences Prague [online], [cit. 06.03.2023]. Available on: https://www.czu.cz/en/r-9186-about-university/r-9196-official-documents/r-15702-strategic-plans-and-documents

Strategy for The Education Policy of the Czech Republic up to 2030 + Ministry of Education, Youth and Sports [online], [cit. 06.03.2023]. Available on: brozura_S2030_en_fin_online.pdf (msmt.cz)

Strategy for Global Development Education and Awareness on Global Contexts. Ministry of Foreign Affairs of the Czech Republic. [online], [cit. 06.03.2023]. Available on: Strategie_GRV_2018_2030.pdf (mzv.cz), in Czech only

Sustainable Development. Ministry of the Environment of the Czech Republic. Copyright © 2008 [cit. 08. 04. 2022]. Available on: https://www.mzp.cz/cz/udrzitelny_rozvoj, in Czech only

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Teach Live. Official web page [online], [cit. 06.03.2023]. Available on: Home Teach Live - Učitel naživo (ucitelnazivo.cz)

Transforming our World: the 2030 Agenda for Sustainable Development. Department of Economic and Social Affairs. Home. Sustainable Development [online], [cit. 07. 04. 2022]. Available on: https://sdgs.un.org/2030agenda

Our World in Data. National Pedagogical Institute of the Czech Republic [online], [cit. 06.03.2023]. Available on: https://www.npi.cz/vzdelavani/15-vzdelavaci-programy/7821-nas-svet-v-datech2, in Czech only (Webinar for educators on the UN Sustainable Development Goals)

11TH World Environmental Education Congress WEEC. Prague 2022 [online], [cit. 06.03.2023]. Available on: 11TH WORLD Environmental Education CONGRESS WEEC (weec2022.org)

Part C – Reflection

This section is seeking your own thoughts and reflections towards professional development of educators for ESD in your country.

1. **In the light of the information provided, what would you consider to be priority needs in professional development of educators related to ESD in your country?**

According to Činčera, since the 1990s, two specific currents have developed, close in scope to environmental education. These are education for sustainable development and locally-embedded learning. As the concept of competencies is largely arbitrarily developed - based on the expert opinion of author teams or a synthesis of their work, there is currently no consensus on their definition.

Despite its apparent emancipatory character, ESD shares with the instrumental approach a tendency to understand education as a means to achieve socially desirable goals. ESD does not work with the concept of pro-environmental behaviour, but at the same time loosely links competences to Sustainable Development Goals (SDGs) such as eradicating poverty, hunger, ensuring quality teaching, reducing inequalities, climate protection, gender equality and others.

Locally embedded learning is close to an emancipatory approach and education for sustainable development, while differing from both in its specific focus on the local community (source: environmentalni_vychova.pdf (npi.cz)).

A frequent source of criticism, in particular, is the little connection between university teaching and practice. The key issue for ESD at this level is in particular the accreditation of specialised (interdisciplinary, inter-faculty) study programmes focused on ESD. The prerequisite is to enable high permeability of studies and student mobility between HEIs and faculties of HEIs and to provide sufficient opportunities for networking between departments focused on different aspects of ESD, both in teaching and research. In this respect, methodological support for the management of university teaching (HEIs and HEIs) is essential. Particular attention should be paid to the faculties of education, which not only play an important role in research and professional discussion aimed at developing new approaches and teaching methods related to ESD, but also have to test and use them in practice for teaching future teachers. Lifelong learning programmes, including those of the University of the Third Age, which do not provide comprehensive higher education but are nevertheless widely implemented by HEIs for the development of professional and general competences, do not currently include topics in the field of VUR. The development of cooperation between HEIs and HEIs with practice in the form of so-called expert centres or clinical education is also a focus of interest for ESD.

2. **Is there any further information that might be relevant and which you would like to share?** Please provide links, references, documents that can already be collected for the collection of resources on the common online portal. (Documents in all languages are welcome at this stage).

Overall, we can summarize that ESD is currently a relatively well-developing field in our country. It can be developed from the strong tradition of environmental education that works also interdisciplinary and in the context of sustainability. The practice of inclusive education and class room management is also making a big progress. Weaknesses include in particular the persistent relative weakness of the academic community, the prevalence of some poorly effective models of practice and the outdated embedding of the field in national curriculum documents that are now under revision.

Support measures include a wide range of interventions such as the provision of teacher assistants, tutoring, class size reduction, the provision of educational aids and many others. The support measures are recommended for each individual child or student by school counselling centres, which have a long tradition in integrating children with special needs into schools and providing educational guidance to schools. The level of networking and work in this area is high, but regional differences remain. Inclusive education also involves changing the approach to educating all the children in the class by creating an inclusive classroom. Attitudes towards inclusion vary from school to school. The child may become a full member of the class, or they may just be physically present in the class. But there are many mainstream schools with a working inclusive approach. The process of change is still going on in schools as schools receive support from the Czech government in this area

HOW TO TEACH ABOUT CLIMATE CHANGE?

A new booklet has been released called **"The climate is changing - what about us?"** This publication - for the first time in the Czech Republic - presents scientifically based recommendations for the development of climate education, justifies its urgency, sets goals and outlines content. It is the result of a working group set up by the Czech Government's Council for Sustainable Development and is intended for teachers and head teachers, lecturers and other educators, authors of textbooks and educational materials, officials and politicians (source: OFDN-Klima_se_meni-17112021.pdf (mzp.cz), in Czech only).

ASSESSING ENVIRONMENTAL LITERACY

Doc. PhDr. Jan Činčera, Ph.D. and PhDr. Roman Kroufek, Ph.D. created a **methodology that provides a procedure for assessing the environmental literacy of children at secondary school level**. The methodology allows to compare the results of pupils and students at different age levels. (source: Environmentální

THE SECRETS OF THE SCHOOL BEHIND THE SCHOOL

The publication summarises and explains the wide range of benefits of outdoor learning for students and teachers, describes the current situation of outdoor learning in the Czech Republic and the world, analyses the barriers to greater use of outdoor learning, provides international examples of systemic support for outdoor learning, and formulates recommendations for the expansion and development of outdoor learning in the country.

Mapping Policies for Education for Sustainable Development (ESD)

January 2023

General information

Country information

Country	Finland
Number of Education institutions in the country	13 Universities, 24 Universities of Applied Sciences cannot easily get numbers of Vocational Education Institutions or early and primary education institutions (hundreds – and difficult say what is an independent institution as their administrative structures are often compleicated)
Number of teachers in the country	over 100 000
Education leve addressed in the review	xEarly childhood and primary xSecondary xVocational xUniversity

Part A –
The status of ESD within Education at the national level

This section aims at gathering a general view about the integration of ESD within the educational level addressed in the review for each EduSTA partner country, with an emphasis on the issue of professional development opportunities for educators to develop ESD competences.

1. **Are there any national (including regional jurisdictions such as cantons, states, provinces, etc.) strategies, policies or legislations, which recognise ESD in the addressed educational level?** *(If yes, please provide details. Max. 400 words.)*

The following policy documents are relevant

1) Strategy of the National Commission on Sustainable Development 2022–2030: A prosperous and globally responsible Finland that protects the carrying capacity of nature.

    The strategy is structured into 6 Areas of Change. The need for ESD and ESD policy is specifically articulated in the demand of Ensuring a competent workforce (as part of Economy and work promoting wellbeing and sustainable consumption) p.19) and in Education, competence and sustainable lifestyles (p. 20-27). P. 23 provides a visual presentation of the measures to effect change. The main pillars are Revising society's value base and mainstreaming sustainable lifestyles, Promoting cooperation between formal, non-formal and informal education, and Strengthening understanding and competence that support sustainable development.

2) Sustainable development policy of the Ministry of Education and Culture and its administrative branch (MoEC 2020)

    The Ministry is committed to promoting cultural diversity, communality and participation, gender equality, equity and sustainable development. The main objectives of the Ministry of Education and Culture's Future Review (2018) are similar to the goals of the 2030 Agenda. (MoEC p. 5). The Ministry promotes the implementation of the 2030 Agenda for Sustainable Development through legislative, financial and information steering. As a rule, the promotion of sustainable development has been included in the legislation and the steering documents concerning the Ministry's sectors. The Government Programme also requires that sustainable development and climate and gender equality education be taken into account as cross-cutting themes at different levels of education.

3) Web pages of the Finnish National Agency for Education (EDUFI) https://www.oph.fi/en/sustainable-future
    Provides a guide to the development of learning, school culture and everyday practices in the world of education. This page mainly sums up activities done and motivates schools to take action

4) The Rector's Conference of Finnish Universities of Applied Sciences and Rector's Council of Finnish Universities have published their own policy documents to show their commitment and to enchance ESD in higher education.
    The Universities state that: Studies in sustainable development are part of all degrees and the continuous learning offered, and that Universities promote the accessibility of higher education and a safe research and teaching environment. (UniFi 2020).
    The Universities of Applied Sciences have three commitments of ensuring the graduates' competence of promoting sustainable development, on providing lifelong learning on sustainable development and on accessibility followed by more detailed measures (Arene 2020 p. 6).

1.1. If yes, what ESD processes and approaches do these promote? (*Max. 200 words.)*
The main approaches are integrating and mainstreaming ESD to all education, professional competence (in VET and UAS frameworks), lifelong / continuous learning (including non-formal education), eco-social education, future, and taking into account ecological, social and economic sustainability.

Main documents are the Sustainable development policy of Ministry of Education and Culture (MoEC 2020 p 5 and p 9) and in the Strategy of the National Commission on sustainable Development.

Quality education as such is an investment to SD (MoEC2020, p. 5) enabling the development of diverse competences so that social, cultural and technological solutions can be found to the SD challenges. The key is that **everyone's capabilities and competence become stronger**. (MoEC 2020, p. 9)

The PMO 2022 (p. 24-30) emphasises shift in the education paradigm towards *eco-social education i.e. understanding that* safeguarding nature's wellbeing also improves human wellbeing. This insight can be strengthened through systemic thinking, which encourages us to examine interactions between nature, humans and society. The need for nationally defining the skills (and systems for assessing and developing competences) needed for SD is admitted and Green Comps is used as a reference.

Future is present in the forms of anticipating competence needs (p. 27), and in expressing hope – communicating a future worth striving towards (p. 30). The Forum for Anticipating Future Competences by EDUFI has deemed that competences related with sustainable development are the most important competences by 2035. https://www.oph.fi/fi/opettajat-ja-kasvattajat/uudistuvasta-oppimisesta-tulevaisuuden-osaamiseen

1.2. If yes, is ESD included in role descriptions? Are there specific responsabilites associated to ESD? (*Max. 200 words.)

Specific responsibilities of different educational institutions are described in MoEC 2020 p. 9. POLICIES box. General aim is to promote sustainable development activities, which with their links to continuous learning comprehensively extend to different areas of life, and enhances the transfer of knowledge to the activities and from plans to practice. The Government Programme also requires that sustainable development and climate and gender equality education be taken into account as cross-cutting themes at different levels of education.

There is responsibility for all sectors of the actions under the ministry from early childhood education to universities, public libraries, sports and culture. Continuous learning and personal guidance are emphasized as part of Education for all thinking. Mostly words like encourage, promote and emphasizes are used in the descriptions of responsibilities.

The responsibility of Teacher education is described as follows stresses the importance of addressing the sustainable development perspectives in teacher education and supports the strengthening of sustainable development in in-service training of teachers.

The universities of Applied sciences emphasise their role as educators of future professionals who are competent to promote sustainability at their work. This is manifested through a common competence of sustainable development described for all bachelor and master programmes of UASes as part of the share competences of UAS graduates (Arene 2021 – see 3.)

1.3 If yes, how is ESD recognised, rewarded or funded? (*Max. 200 words.)*

The clarest means of recognizing and funding ESD is the funding of further education for teachers by Finnish National Agency for Education. This is an instrument of funding further education activities orgnised by teacher education institutions and by NGOs that work closely with teachers (including WWF Finland and Finnish United Nation's Association)

Sustainability competences one of the nine main themes stated in the guidelines for applying funding. The definition of sustainability competence states specifically climate, loss of diversity of nature, planetary health and circular economy. Teacher training on sustainability competence can have elements of knowledge, skills and attitudes in leadership, teaching and councelling and as a part of practices and culture of the educational institution. There can be also education on applying Green comp or on how sustainability values and sustainable lifestyles are strengthened through teaching specific subjects or in specific vocations in VET. Also pedagogical approaches, using digitalization, science based education, close links to practices and new technologies can be accounted in the implementation. (Translation by Eveliina Asikainen)

Green Comps is linked to the text on the pages.

Link to the pages (in Finnish) https://www.oph.fi/fi/funding/opetustoimen-henkilostokoulutus-2023

A certification system "Sustainable development certification of educational establishments" is partly financed by the EDUFI partly by projects and OKKA foundation

ESD is not recognized in the funding system of Finnish educational institutions.

1.4. If yes, do these documents refer to ESD professional development for educators (such as asking for skills and capabilities)? *(If yes, please provide details. Max. 200 words.)*

The Ministry of Education stresses the importance of addressing the sustainable development perspectives in teacher education and supports the strengthening of sustainable development in in-service training of teachers. Futhermore the ministry guidelines emphasis the importance of increasing opportunities for continuous learning and personal guidance (OKM 2020 p. 9)

On the pages of National Board of Education (EDUFI), taking seriously the concerns of young people is given weight "we must not ignore the concerns young people have over climate and the prerequisites for life on the earth". There is emphasis for dialogue, discussing and re-evaluating values and renewing pedagogy, a development attitude of teachers is regarded essential. Discussion of values in an educational institution enables the creation of common goals to which the staff can commit. https://www.oph.fi/fi/opettajat-ja-kasvattajat/kestavyyden-ensiaskeleet -> Tunne, tahto, tieto, taito ja toiminta
Also, the important of discussing the complex interdependencies of world's sustainability challenges and providing students with means of influencing the developments is regarded important "Apart from knowledge and skills, we need values, attitudes and a will to carry out concrete sustainability actions. A sustainable future must be a task shared by the whole learning community". (https://www.oph.fi/en/education-and-qualifications/importance-education-achieving-sustainable-future -> heading towards future

2. **Are there any national (including regional jurisdictions such as cantons, states, provinces, etc.) initiatives (projects, programmes, etc.) on ESD professional development for educators?** *(If yes, please provide details. Max. 400 words.)*

There are no legal competence requirements on ESD which would cover all teachers. Still, ESD is somehow part of all teacher education programmes in Finland. But ways of implementing ESD do vary greatly (this is based more on our discussions with other teacher educators than an overview on curricula. That was out of scope).

The further education funded by EDUFI provides a tool for organizing and providing further education on ESD that is free of charge for the teachers (see 1.3).

There is a further Vocational Qualification for Environmental educator (180 competence credits). There are nationally agreed Qualification criteria for this qualification. This education is very practically oriented. Anyone who has an appropriate vocational qualification or any bachelor or master degree can apply to this training. (Opintopolku, Sykli)

As part of the Sustainability and Responsibility work of the Rector's conference of Finnish Universities of Applied Sciences there is a voluntary, enthusiasm-based working group for sustainable education. This group has organized webinars, written blogs and is writing a publication to support teachers. (Eveliina chairs this group).

3. **Do educational institutions have strategic plans or guidelines to promote ESD?**
   (Please tick the box regarding your estimation of the situation in your country and provide an overview, not specific details. Max. 400 words.)

   ☐ None
   ☐ Few
x Several
   ☐ Many
   ☐ All

On the highest level there is the Strategy of the National Commission on Sustainable Development 2022–2030 by the Prime Minister's Office. The strategy states the importance of institutional culture and learning environments in ESD

In VET there is a big initiative funded by EDUFI (altogether over 5 meuro) to develop sustainability in VET. This includes also development of teachers' work. Yet the greater focus is on the community culture and educational infrastructure of VET. The biggest project in this is VASKI. It is creating a roadmap for sustainable VET. Eveliina is in the advisory board of this project and can tell details as the pages are in Finnish and Swedish only https://vaski.info/

OKKA-foundation has developed a certification system "Sustainable development certification of educational establishments". The criteria, evaluation tools and supporting material enable educational institutions to self-evaluate and develop their management, teaching and operational culture from the perspective of sustainability. The system enables external audit and applying for the certificate from the OKKA Foundation. By March 2018, the foundation has awarded the sustainable development certificate to 100 educational institutions. The certification system has a permanent basic funding from the

Ministry of Education. Part of the operation is financed by the OKKA Foundation, and development of the system is based on project funding. The foundation has a large cooperation network and participates in the national and international projects developing sustainability in education. http://koulujaymparisto.fi/in-english/

The Rector's Conference of Finnish UASes has had a group for Sustainability and Responsibility since 2020. One result of this groups' work is the Recommendation on the Shared Competences of Universities of Applied Sciences and their Application (Arene 2021). This recommendation includes descriptions of Sustainable Development Competence for Bachelor's and Master's degrees. The recommendation is used as guiding document in the curriculum development of Finnish UASes.
Bachelor: The graduating student is familiar with the principles of sustainable development, promotes their implementation and acts responsibly as a professional and a member of society.
Master: The graduating student develops and manages sustainable and responsible operating methods in their work and promotes sustainable change in their work community and society.
The description of Master level competence applies to the professional teachers graduating from UASes.

4. **Are there official initiatives (projects, programmes, etc.) to support the professional development of educators in ESD?** *(Please tick the box regarding your estimation of the situation in your country and provide an overview, not specific details. Max. 400 words.)*

x None
- ☐ Few
- ☐ Several
- ☐ Many
- ☐ All

We don't recognise any official initiative s supporting the professional development of educators in ESD. The way the funding of further education of teachers is organized by EDUFI (see 1.4) leads to a situation where the providers of further education define contents of ESD education inside the quite broad definition of EDUFI. This results in great diversity of furthere education in ESD, which can be quite confusing for the teachers.

5. **Are there any networks, partnerships or main drivers (public, private, NGOs) that support the professional development of educators in ESD in your country?** *(If yes, please provide details. Please note that networks at the local but also global level might be relevant. Max. 400 words.)*

I mention her shortly all that feel useful – even if they have been mentioned before

OKKA-foundation - certifitation system "Sustainable development certification of educational establishments" and funding http://koulujaymparisto.fi/in-english/
SIRENE - Interdisciplinary Network of Environmental and Sustainability Education Research SIRENE https://www.sirene.fi/en/
FEE Suomi. Coordinates the Green Flag -programme in Finland and publishes a newsletter. https://feesuomi.fi/

Mappa Materials for Environmental and Sustainability Education https://mappa.fi/
Baltic University Programme, Finland hosts the Forum for SDGs in Finland. This is a loose network of HE staff interested in ESD https://bup.fi/forum-for-sdgs-in-finland/

Sustainability and Responsibility group of the Rector's conference of Finnish UASes (completely voluntary). Reflections of this work can be found here Friman, M., Asikainen, E., Kilpeläinen, T. (2022). Sustainable Development in Higher Education: Finnish Universities of Applied Sciences. In: Leal Filho, W., Dinis, M.A.P., Moggi, S., Price, E., Hope, A. (eds) SDGs in the European Region . Implementing the UN Sustainable Development Goals – Regional Perspectives. Springer, Cham. https://doi.org/10.1007/978-3-030-91261-1_40-1

VASKI – sustainability roadmap of VET in Finland (funded by EDUFI)

6. **Are there guidelines or initiatives addressing the relationship of educational centers with their social context on relation to ESD?** *(If yes, please provide details. Please note that networks at the local but also global level might be relevant. Max. 400 words.)*

No real guidelines… There are certainly local initiatives but we must admit that we don't know well enough about them.

In higher education the third mission of universities - the influence in society- is discussed quite a lot.

Part B – Data collection

1. What documents have you consulted to complete this template?

Arene 2020. Sustainable Responsible and Carbon-neutral Universities of Applied Sciences. The Rectors' Conference of Finnish Universities of Applied Sciences Arene. https://www.arene.fi/wp-content/uploads/Raportit/2020/Sustainable%252C%20responsible%20and%20carbon-neutral%20universities%20of%20applied%20sciences.pdf

Arene 2021. Recommendation on the Shared Competences of Universities of Applied Sciences and their Application. The Rectors' Conference of Finnish Universities of Applied Sciences Arene. https://www.arene.fi/wp-content/uploads/Raportit/2022/Kompetenssit/RECOMMENDATION%20ON%20THE%20SHARED%20COMPETENCES%20OF%20UNIVERSITIES%20OF%20APPLIED%20SCIENCES%20AND%20THEIR%20APPLICATION.pdf

EDUFI 2023. A Sustainable future / Kestävä tulevaisuus https://www.oph.fi/en/sustainable-future https://www.oph.fi/fi/kestava-tulevaisuus
(A guide to the development of learning, school culture and everyday practices in the world of education)

FNCSD 2022. Strategy of the National Commission on Sustainable Development 2022-2023. Finnish National Commission on Sustainable Development. https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/164157/VNK_2022_12.pdf
(just a not FNCSD is part of the Prime Minister's Office)

MoEC 2020. Sustainable development policy of the Ministry of Education and Culture and its administrative branch. https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/162185/OKM_2020_11.pdf

OKKA-foundation. Sustainable development certification of educational establishments. http://koulujaymparisto.fi/in-english/

OPH (EDUFI) 2023. Opetustoimen henkilöstökoulutus 2023 (Funding for further education of educational staff 2023) https://www.oph.fi/fi/funding/opetustoimen-henkilostokoulutus-2023

Opintopolku. Ympäristöalan erikoisammattitutkinto / ympäristökasvattaja Further Vocational Qualification in Environmental Education https://eperusteet.opintopolku.fi/#/fi/ammatillinen/515316/tutkinnonosat/764671
(qualifications description in Finnish)

Sykli. Ympäristökasvatus (Environmental Educator) https://sykli.fi/koulutusalat/ymparistokasvatus (web page describing practical arrangements of training for the Further Vocational Qualification of Environmental Educator)

UniFi 2020. Unifi's theses on sustainable development and responsibility. Rectors' Council of Finnish Universities. https://unifi.fi/viestit/theses-on-sustainable-development-and-responsibility/

VASKI. Vastuullinen ja kestävä ammatillinen koulutus (Responsible and Sustainable VET) https://vaski.info/ project web page.

References to the networks are found 5.

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Part C – Reflection

This section is seeking your own thoughts and reflections towards professional development of educators for ESD in your country.

1. **In the light of the information provided, what would you consider to be priority needs in professional development of educators related to ESD in your country?**

We would prioritize facilitating teachers' understanding of Green Comp (as it is referred to to by EDUFI) and developing the competences needed to walk the talk on Green Comp through educational practice and through the practices of educational institutions.

We would like to ensure that each teacher has a broad perscpective on his/her agency in for sustainability. We see eco-social education as an important systemic starting point for this.

More specified (at least a little more specified) skills would include Dealing with complexity and uncertainty, learning how to take learning from your students as a fluent part of once teachership (at least with teacher students), understanding the power of defining problems.

2. **Is there any further information that might be relevant and which you would like to share?** Please provide links, references, documents that can already be collected for the collection of resources on the common online portal. (Documents in all languages are welcome at this stage).

This page provided by the National Agency for Education (EDUFI) is a really useful resource for educational leadership and for developing ESD in educational institutions

https://www.oph.fi/fi/kestava-tulevaisuus

The contents of the English equivalent are not as broad, but still worth visiting

https://www.oph.fi/en/sustainable-future

Mapping Policies for Education for Sustainable Development (ESD)

January 2023

General information

Country information

Country	Netherlands
Number of Education institutions in the country	13 research universities 31 Universities of Applied Sciences (hbo) 648 Institutions for secondary vocational education (mbo)
Number of teachers in the country	
Education level addressed in the review	☐ Early childhood and primary ☐ Secondary ☐ <u>**Vocational**</u> ☐ <u>**University**</u>

This section aims at gathering a general view about the integration of ESD within the educational level addressed in the review for each EduSTA partner country, with an emphasis on the issue of professional development opportunities for educators to develop ESD competences.

1. Are there any national (including regional jurisdictions such as cantons, states, provinces, etc.) strategies, policies or legislations, which recognize ESD in the addressed educational level? *(If yes, please provide details. Max. 400 words.)*

To address ESD in the Netherlands, the Dutch government launched the national plan 'DuurzaamDoor.' This initiative on Education for Sustainable Development (ESD) applies to universities and universities of applied sciences (UAS) and supports formal, nonformal, and informal learning. It's underlying concepts are based on multi-stakeholder participation, cocreation, social innovation, and transformative learning. DuurzaamDoor acts as "National Focal Point ESD" (Education for Sustainable Development) for UNESCO (ESD for 2030) and UNECE (Strategy for ESD). Some recent publications entail UNESCO ESD for 2030 Roadmap, UNESCO ESD for 2030 Berlin Declaration, and UNICE Pre-draft Framework for ESD 2030 (Education for Sustainable Development in the Netherlands, 2023). It focuses on five thematic areas: 1. Biodiversity; 2. Foodsystem; 3. Circular Economy; 4. Energy & Climate; and 5. Water. In addition to this, three crosscutting areas are: Curriculum & Whole School Approach, Integral decision-making for SD ('Omgevingswet'), and Regional Cooperations for Sustainability ('Regionale duurzaamheidsnetwerken') (Education for Sustainable Development in the Netherlands, 2023) (https://www.duurzaamdoor.nl/education-sustainable-development-netherlands).

In 2021, the fifth Dutch National SDG Report (Sustainable Development in the Netherlands) was published to evaluate its implementation of SDG since 2016. Related to Education (SDG 8 and 4 Education) is " Lifelong Development Programme – SLIM (2023, p. 14). (https://www.duurzaamdoor.nl/education-sustainable-development-netherlands).

Efforts to embed ESD within Dutch higher education by educational programmes, can be granted a "special quality feature" for sustainable higher education by the NVAO (The Accreditation Organization of the Netherlands and Flanders) (NVAO, 2023). Voluntarily, the Dutch higher education programmes can choose to apply for this special feature. NVAO experts will review these programmes independently according to the SHE assessment framework (Hobéon,2021; NVAO, 2023)[1]. No records are kept by NVAO of the features granted, but features can be promoted by the programmes.

On September, 27, 2019, the Association of UAS (VH, Vereniging Hogescholen) and the Association of collaborating (research) universities (VSNU) published a position paper in which they declare to further develop the binary system and work together on how they can shape the future (equality).

References
Fifth Dutch National SDG Report (Sustainable Development in the Netherlands) (2021) (https://www.sdgnederland.nl/wp-content/uploads/2021/08/Dutch-National-SDG-Report-2021.pdf)

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[1] This assessment framework is entirely developed for educational institutions that want to implement sustainability using the SDG's and distinguishes five levels of development to describe the embedment of sustainability in the programme: 1. Ad hoc; 2. Coherent; 3. Systematic; 4. Partner-oriented; and 5. Impact on society. For the subtopic Personnel and organization the programme has to describe how their employees are encouraged to be part of ESD.

Lerenvoormorgen. (2023). Inspiratie voor het onderwijs van nu. Retrieved from
https://lerenvoormorgen.org/#:~:text=Van%2014%20tot%20en%20met,en%20toekomstbestendig%20economieonderwijs%20centraal%20staat

NVAO. (2023). Special feature sustainable higher education. Retrieved from
https://www.nvao.net/en/procedures/the-netherlands/special-feature-sustainable-higher-education

NVAO. (2023). General Info. Retrieved from https://www.nvao.net/en/procedures/the-netherlands/special-feature-sustainable-higher-education

Hobeon. (2021). Beoordelingskader duurzame ontwikkeling in het hoger onderwijs| SHE 2021.
https://www.nvao.net/en/procedures/the-netherlands/special-features-general

1.1. If yes, what ESD processes and approaches do these promote? (*Max. 200 words.*)

The strongest national advocate for ESD seems to be Leren voor Morgen (learning for tomorrow), a cooperative network of organizations that work together from shared core values to develop innovative solutions that drive systemic change for sustainable development in education. It's focus is on formal and non-formal education in the Netherlands. In terms of content, sustainable development is about achieving the UN Sustainable Development Goals (SDGs). Building on the work of Arjen Wals, they promote **Learning for Sustainable Development** (LvDO) e.g. by providing open access tools and fostering sustainability skills. Impact results are reported online.

Overall, Dutch Higher Education embed sustainability in their curricula through their focus on societal issues in multi-disciplinairy learning communities. Educational discourse is in these contexts focused on multi-stakeholder participation, cocreation, social innovation, and transformative learning.

Universities of Applied Sciences
The Dutch Universities of Applied Sciences as part of the European netwerk of UAS, UAS4EUROPE, has signed the convenant in which they declare to commit to the Sustainable Development Goals.

Dutch Research universities (13) are actively integrating the SDGs into their curricula and the academic institutions dashboard in the Netherlands in relation to SDGs and showcase their effort (Higher education and Research for Sustainable Development, 2023). Regarding teacher education, ESD is not mentioned explicitly in the VSNU 2018-2022 teachers action plan. However, one of its goals is to create more flexible, modular teacher-training programmes; for example, by creating 'stackable' routes to the teaching profession.

MBO (senior secondary education)
MBO: no explicit reference to ESD, but pedagogical competence always address moral development students, reflection and development mentions own values.

References

Education for Sustainable Development in the Netherlands, 2023, p. 26-28). Retrieved from (https://www.duurzaamdoor.nl/education-sustainable-development-netherlands)..

Ministerie van Onderwijs, Cultuur en Wetenschap. (December 16, 2020).[Kamer inzakebrief over kwalificalitiestructuur mbo]. Retrieved from https://open.overheid.nl/documenten/ronl-4b04c8fa-e9c2-4131-9ae0-10a559344719/pdf, (Referentie number 26354351, bijlage 1).

Fifth Dutch National SDG Report (Sustainable Development in the Netherlands). (2021). Retrieved from https://www.sdgnederland.nl/wp-content/uploads/2021/08/Dutch-National-SDG-Report-2021.pdf

Professionals voor morgen Strategische agenda between 2019-2023. Retrieved from https://www.vereniginghogescholen.nl/kennisbank/strategische-agenda-s-vereniging-hogescholen/artikelen/professionals-voor-morgen-strategische-agenda-vereniging-hogescholen-2019-2023

https://www.iau-hesd.net/news/4824-dutch-universities-contribute-actively-sustainable-development-goals.html

https://lerenvoormorgen.org/en/project/sustainability-skills/

Leren voor Morgen. (2023). Visie| Waarom en waartoe leren we?. Retrieved from https://lerenvoormorgen.org/wsa/visie/

Government of the Netherlands. (2023). Secondary vocational education (MBO) and tertiary (higher) education. Retrieved from https://www.government.nl/topics/secondary-vocational-education-mbo-and-tertiary-higher-education/tertiary-higher-education#:~:text=University%20education%20(WO)&text=The%20Netherlands%20has%2013%20universities%2C%20including%203%20universities%20of%20technology.

1.2. If yes, is ESD included in role descriptions? Are there specific responsibilities associated to ESD? (*Max. 200 words.*)

Finding in general: PE/SE/VET[2] have a shared teacher competence profile in which no explicit reference to ESD is made. The pedagogical competence however always address moral development students, the reflection and development competence mentions own norms and values. ESD is not (yet) explicitly mentioned in national formal role descriptions, but there are descriptions suggested in various documents.
- 'Leren voor morgen' describes teachers roles for ESD.
- At Avans Hogeschool, lecturer-researchers that embed SDG within their education are described to: - encourage students to broaden their questions in light of the SDGs.
  - encourage students to consider their research findings according to SDGs and

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[2] Primairy education Competence Profile: https://wij-leren.nl/SBL-competenties-leerkracht-primair-onderwijs.php
Secundairy education: http://www.leermiddelenvo.nl/files/sblcompetenties.pdf of https://zoek.officielebekendmakingen.nl/stb-2017-148.html

VET: https://wij-leren.nl/SBL-competenties-leraar-vo-mbo-onderwijs.php

further help them deepen those reflections.
- articulate issues, dilemmas, and consequences in terms of SDGs.

Frijters (2016) at AERES University of Applied Sciences also published guidelines for ESD, including role descriptions for teachers (see 1.4).

References

Avans Hogeschool. (2023). SDGs en duurzaam onderwijs. Retrieved from https://www.avans.nl/over-avans/nieuws-en-pers/nieuwsberichten/detail/2020/06/duurzaam-onderwijs.

Frijters, S. (2016). Leren voor Duurzame Ontwikkeling Gewoon Doen! Handreiking voor het ontwerpen van Leren voor Duurzame Ontwikkeling. AERES Hogeschool Wageningen https://lvdo.nl/wp-content/uploads/2019/02/Leren-voor-Duurzame-Ontwikkeling_-Gewoon-doen.pdf

1.3 If yes, how is ESD recognized, rewarded or funded? (*Max. 200 words.*)

Tracing back to the Annual Report 2021 (Jaarverslag, 2021), the Coöperatie Leren voor Morgen shares how they funded and invested in projects (Leren voor Morgen, 2023). Here is a list with several examples:
- Projects such as DuurzaamDoor and Circular Skills receive 10% of the total after final rapport approval(page 24).
  Other projects such as
  o Circular Skills I&II: developed a skills model in collaboration with a broad consortium; conducted a market consultation in the circular textile and furniture industries; supported executive construction companies on skill development in their transition to circular operations;... (p.19)
  o Homo Florens in Higher Economic Education: This project began in October 2021. With the Institute of Leadership and Social Ethics (part of the Evangelical Theological Faculty, Leuven), a new view of man is introduced within economics education in higher education. Goldschmeding Foundation funds this project.
  o SustainaBul MBO/VO: is funded from the LvM core funding (was the first translation of the SunstainaBul made for vo. For further rollout within vo and rollout and professionalization within mbo, funding has been requested and granted by Goldschmeding Foundation (page 20).

References

Leren voor Morgen. (2023). Visie| Waarom en waartoe leren we?. Retrieved from https://lerenvoormorgen.org/wsa/visie/

1.4. If yes, do these documents refer to ESD professional development for educators (such as asking for skills and capabilities)? (*If yes, please provide details. Max. 200 words.*)

Leren voor morgen published a rapport "Verkenning inclusief onderwijs' (De Jonge, 2021). https://lerenvoormorgen.org/en/artikelen/inclusief-onderwijs-wat-waarom-en-hoe/

In page 7, it promotes how teachers can be more inclusive in their classroom. Topics such as inclusivity and sustainability land on the teacher's plate. Here are a few examples of how teachers can incorporate lessons on inclusivity into the curriculum:

- Design for all:
- Include LGBT+ diversity in your lessons.
- Course for teachers on racism
- Tips for training teachers on racism
- Games, films, and other interactive tools
- Dealing with racism at school
- Scaffolding for racism and diversity in the classroom
- Read more about inclusive education.

For the Senior secondary vocational education (MBO), schools that wish to provide a recognition to their teachers, can join the SustainaBul MBO. SustainaBul is organized by the Cooperatie Leren voor Morgen SustainaBul MBO. (2023); (Education for Sustainable Development in the Netherlands, 2023). (https://www.duurzaamdoor.nl/education-sustainable-development-netherlands).

Other initiatives promoting SDG teacher training

Coöperatie leren voor morgen, for the MBO & HO they promote "sustainability skills" and for the PO, VO, MBO & HO they promote "Duurzame Docent" (Leren voor Morgen, 2023).

The Sustainability Skills project teachers, school leaders, trainers, researchers and consultants are exploring together how to train young people for a circular, inclusive society.

By connecting vmbo, mbo and hbo with local, and circular pioneers, they emphasize on different transitions. First, they map out the transition in their region; second, they study the consequences for the labor market and education; third, they get to work on practical projects to promote learning for the circular economy in the region. For more please refer to
https://lerenvoormorgen.org/en/project/sustainability-skills/.

An integral approach has been developed called 'The Whole School Approach'.

Whole School Approach vision is about the responsibility as a school towards the young people and their development as human beings, citizens and professionals. The second vision is about the responsibility that we as a school want to take for each other and for the earth and to find a connection with the social context of our time.

AERES University of Applied Sciences published a guidebook for developing ESD (Frijters, 2016) including role descriptions for teachers.

The website 'A rounder sense of purpose intends' to support (HE?) educators as well:
https://aroundersenseofpurpose.eu/

References
A rounder sense of purpose https://aroundersenseofpurpose.eu/

Frijters, S. (2016). Leren voor Duurzame Ontwikkeling Gewoon Doen! Handreiking voor het ontwerpen van Leren voor Duurzame Ontwikkeling. AERES Hogeschool Wageningen https://lvdo.nl/wp-content/uploads/2019/02/Leren-voor-Duurzame-Ontwikkeling_-Gewoon-doen.pdf

SustainaBul MBO. (2023). Introductie. https://mbo.sustainabul.com/over-ons
(Education for Sustainable Development in the Netherlands, 2023).
(https://www.duurzaamdoor.nl/education-sustainable-development-netherlands).

Overheid wettenbank. (2023). Wet voortgezet onderwijs 2020.Retrieved from
(https://wetten.overheid.nl/BWBR0044212/2022-08-01/#Hoofdstuk7_Paragraaf2_Artikel7.11)

Leren voor Morgen. (2023). Visie| Waarom en waartoe leren we?. Retrieved from
https://lerenvoormorgen.org/wsa/visie/

NVAO. (2023). Special feature sustainable higher education. Retrieved from
https://www.nvao.net/en/procedures/the-netherlands/special-feature-sustainable-higher-education

NVAO. (2023). General Info. Retrieved from https://www.nvao.net/en/procedures/the-netherlands/special-feature-sustainable-higher-education

Hobeon. (2021). Beoordelingskader duurzame ontwikkeling in het hoger onderwijs| SHE 2021.
https://www.nvao.net/en/procedures/the-netherlands/special-features-general

2. Are there any national (including regional jurisdictions such as cantons, states, provinces, etc.) initiatives (projects, programmes, etc.) on ESD professional development for educators? *(If yes, please provide details. Max. 400 words.)*

Most of the projects and initiatives have been mentioned under 1.

3. Do educational institutions have strategic plans or guidelines to promote ESD?
(Please tick the box regarding your estimation of the situation in your country and provide an overview, not specific details. Max. 400 words.)

☐ None
☐ Few
☐ Several
☐ <u>Many</u>
☐ <u>All</u>

We don't know all the universities' strategic plans, but most, if not all, seem to have some strategic plans or guidelines to promote ESD. Universities of applied sciences by definition strive for making a positive impact on society so ESD almost inevitably is a vehicle for this to happen. Lots of examples can be found on the specific SDG's educational programmes and institutions focus on in f.e. mission statements and visions, explicit examples of active promotion of TC for ESD however are still scarce.

4. **Are there official initiatives (projects, programmes, etc.) to support the professional development of educators in ESD?** *(Please tick the box regarding your estimation of the situation in your country and provide an overview, not specific details. Max. 400 words.)*

☐ <u>None</u>
☐ <u>Few</u>
☐ Several
☐ Many
☐ All

We don't know of any official training programmes for ESD or to what extent ESD is an obligatory part of teacher training. In addition, teachers at universities (of applied sciences) are not required to have a teaching degree awarded by an official programme. Most university teachers are trained and awarded a teaching certificate by their employer.

5. **Are there any networks, partnerships or main drivers (public, private, NGOs) that support the professional development of educators in ESD in your country?** *(If yes, please provide details. Please note that networks at the local but also global level might be relevant. Max. 400 words.)*

There are many initiatives, networks, courses, and research groups that aim to support professional development for ESD. Important for the context of Applied Universities in the Netherlands is the SDG-coalition , that works with the national Vereniging Hogescholen to embed ESD in UAS.

Two other examples are:
- the Regenerative Education Podcast by Bas van den Berg, Research Centre Mission Zero of the The Hague University of Applied Sciences.
https://podcasts.google.com/feed/aHR0cHM6Ly9mZWVkcy5idXp6c3Byb3V0LmNvbS8xODAyNDAwwLnJzcw==
- Radboud University Nijmegen is awarded the Comenius-grant for the project *'You have a part to play'*. This project will develop and implement tools for students to be able to connect their disciplinary skills and knowledge to the SDGs and play their part in our common goal to engage with the challenges the 17 SDGs present us with. The results of the project (2022-2025) will be a concrete set of didactical tools for learning and teaching for Sustainable Development, as well as an accessible summary of our insights in the attitudes, culture, and context necessary for successfully implementing the SDGs in Higher Education.
https://www.nro.nl/onderzoeksprojecten/you-have-part-play-higher-education-sustainability

6. **Are there guidelines or initiatives addressing the relationship of educational centers/institutions with their social context in relation to ESD?** *(If yes, please provide details. Please note that networks at the local but also global level might be relevant. Max. 400 words.)*

Almost all initiatives on ESD at universities of applied sciences are embedded in society in some way or another (e.g. Living Labs). Students work on societal challenges while teachers facilitate their learning. More and more scientific research is aimed at investigating this type of education,

often accompanied by practical guidebooks or materials for teachers who design or implement ESD. See for instance Cremers, 2016, https://research.hanze.nl/ws/files/16392522/Cremers_designing_hybrid_learning_configurations.pdf with the Guidebook Living Labs https://research.hanze.nl/ws/files/15946927/Guidebook_Living_Labs_21_1_2016.pdf , recent publications by van den Berg https://www.mdpi.com/2071-1050/14/15/9138 and Wessels https://dspace.library.uu.nl/handle/1874/420531 and the book on living labs by Overdiek: https://www.managementboek.nl/boek/9789083078083/innoveren-met-labs-2-0-anja-overdiek).

Part B – Data collection

1. What documents have you consulted to complete this template?

References

Fifth Dutch National SDG Report (Sustainable Development in the Netherlands) (2021) (https://www.sdgnederland.nl/wp-content/uploads/2021/08/Dutch-National-SDG-Report-2021.pdf)

Lerenvoormorgen. (2023). Inspiratie voor het onderwijs van nu. Retrived from https://lerenvoormorgen.org/#:~:text=Van%2014%20tot%20en%20met,en%20toekomstbestendig%20economieonderwijs%20centraal%20staat.

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Research group Art & Sustainability. (2023). Retrieved from
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society/professorships/professorships/popular-culture-sustainability--innovation

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Erasmus University. (2023). Dynamics of Inclusive Prosperity. Retrieved from
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prosperity

University of Amsterdam. (2023). Retrieved from
https://www.uva.nl/en/faculties/faculteit-der-maatschappij-en-
gedragswetenschappen/disciplines/child-development-and-education/child-development-and-
education.html?origin=1cnbpyIQQACPTlEmA0qX3g

Avans Hogeschool. (2023). SDGs en duurzaam onderwijs. Retrieved from https://www.avans.nl/over-
avans/nieuws-en-pers/nieuwsberichten/detail/2020/06/duurzaam-onderwijs

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https://lerenvoormorgen.org/wsa/visie/

SustainaBul MBO. (2023). Introductie. https://mbo.sustainabul.com/over-ons
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Overheid wettenbank. (2023). Wet voortgezet onderwijs 2020.Retrieved from
(https://wetten.overheid.nl/BWBR0044212/2022-08-01/#Hoofdstuk7_Paragraaf2_Artikel7.11)

Part C – Reflection

This section is seeking your own thoughts and reflections towards professional development of educators for ESD in your country.

1. **In light of the information provided, what would you consider to be priority needs in professional development of educators related to ESD in your country?**

We think that a better alignment of all efforts and initiatives for teacher professional development in the Netherlands and abroad would be needed so we can learn from each other and do not reinvent the wheel. As stated in the workshops by one of the participants – so much is happening, we now need to connect the dots and collaborate.

2. **Is there any further information that might be relevant and which you would like to share?** Please provide links, references, documents that can already be collected for the collection of resources on the common online portal. (Documents in all languages are welcome at this stage).

The system of Education in The Netherlands might be an outlier: we have freedom of Education. This means that requirements for the quality and the outcomes of education are described and inspected by the government, but schools can decide for themselves how they give shape to their education.

Appendix 1

Table 1

SDG	Universities	Theme	Activities	Other documents
1 poverty	Erasmus University Rotterdam	Dynamic of Inclusive Prosperity (DoIP): The Erasmus Initiative "Dynamics of Inclusive Prosperity" revolves around the question of how as many people as possible can benefit from prosperity growth while minimizing negative consequences.	1. Working for Inclusive Cities 2. Sustainability and Ecological Inclusion 3. Inclusive Financial Systems	The Erasmus initiative for the Dynamic of Inclsuive Prosperity (DOIP), its first year of operation started in 2018. This initiative was established by the Erasmus School of Law (ESL), Rotterdam School of Management (RSM), the Erasmus School of Philosophy and the Executive Board of Erasmus University Rotterdam. For the purpose of increasing academic and societal relevance. Two other Annual Report follows: Annual Report 2019 and Annual Report 2020. Erasmus University Rotterdam .(2018). Dynamics of Inclusive Prosperity| Annual Report 2018). Retrieved from https://www.eur.nl/media/2019-12-annualreport2018-finalversion
	Radboud University I	Through Dr. L.A.C.M van Kempen (Luuk), assistant Professor in Cultural Anthropology and Development Studies and Assistant Professor- Radboud Social Cultural Research. Dr. van Kempen is a development economist specializing in behavioral aspects of poverty.	Only projects concerning the impact of COVID-19 on Dutch charitable organizations were found. Teaching courses: Gifts, debts and reciprocity. Introduction CAOS1	I could not find any documents relating to the societal impact within the Universities besides Dr. van Kempen's research and teachings in the Universities. https://www.ru.nl/en/people/kempen-l-van
	Radboud University II	Nothing was found on this page		
	Radboud University III	Junior Researcher, R.A. Schilpzand (Rutger) focus on Economics growth		When I further deepen myself into the Radboud site. I found the "Radboud Centre for Sustainability Challenges (RCSC) is a hub for all sustainability-related research and education and the UN SDGs. They work on

				interdisciplinary activities in this area. Besides the center on Sustainability, the University is dedicated to organizing, for instance, Conference on Earth System Governance (coming up in October 2023), vacancies looking for student assistants for the Centre for Sustainability Challenges, Ph.D. programme on sustainability Challenges, Sustainability as a mandatory component in re-education and lastly research on Sustainability. Radboud Universiteit. (2023). Radboud Centre for Sustainability Challenges. Retrieved from https://www.ru.nl/duurzaamheid /onderzoek/radboud-centre-for-sustainability-challenges/
	Tilburg University I	Interaction between science, practice, and care demand. Tilburg University introduces "Tranzo," a scientific center for care and well-being of the Tilburg School of Social and Behavioral Sciences of Tilburg University. The objective is to promote an evidence-based approach by collaborating with practitioners to develop and exchange knowledge.	We found on the website other Academic Collaborative Centers such as; Mental Health Care, Addiction, ACC Living with an Intellectual Disability, Quality of healthcare providers and systems, Public Health, Academic Collaborative Center Work and Health, Social Work, Care for older Adults, Youth, Health Economics and Technological and Social Innovation for Mental Health.	When connecting to the dashboard link, it shows the previous information. However, when looking further in the Tilburg Homepage following the search tab about Sustainability, the "Tilburg Sustainability Center (TSC)" shows up. A suggestion is that the dashboard needs some updates. Thus the hyperlinks need to be updated. Sustainability Center (TSC) focuses its research on Climate Action & Resource Efficiency, Corporate Social Responsibility, Social Innovation, and Sustainability & Governance (Tilburg University, 2023). Currently, they have 24 completed projects, some of which focus on (Green Lifestyles, Alternatives Models and Up-scaling Regional Sustainability (GLAMURS), Energy Literacy phase 1&2, among others, and there Is one current project on CREE: Center for Research on Environmentally friendly Energy.

				Some of the completed projects, for instance, 'Green Lifestyles', took four years for complete between 2014-2017; one of the Sponsor involved the "European Commission FP7, and several international partners such as the University of Corona, University of Bach, and others) (Tilburg University, 2023, Project Tilburg Sustainability Center. Tilburg University. (2023). Project Tilburg Sustainability Center. Retrieved from https://www.tilburguniversity.edu/research/institutes-and-research-groups/tsc/projects Tilburg University. (2023). Sustainability Center. https://www.tilburguniversity.edu/research/institutes-and-research-groups/tsc
	Tilburg University II	UNIVERS (The Independent news Source of Tilburg University. Grosfeld, T., (2017). UNIVERS| The Independent news source of Tilburg University. TiU-studenten maken documentaire over armoede. Retrieved from https://universonline.nl/nieuws/2017/12/05/tiu-studenten-maken-documentaire-armoede/	Regarding SDG1, in 2017, the TiU students published a documentary about silent poverty in Tilburg to create awareness about the problem.	
	TU Delft I	Nothing found on the dashboard site		
	TU Delft II	Nothing was found when clicked on the dashboard.	I found the following when I looked further on the TU delft page about Sustainability. Between 2020 and 2022, the GreenTU published several reports regarding Sustainability efforts at and around TU Delft. Reports can be found on this page, and it contains reviews and strategies from 2020-2022. From 2023 onwards, GreenTU has shifted its efforts to collaborate with TU Delfts' other sustainability teams in	Other projects found: 1. Taking the heat campaign: focus on climate discussions; everyone can participate. 2. The Hive: a spot on campus that functions as a sustainability hub, housing the GreenTU office, a café, an exposition space, a library, and a sustainable concept store. Sustainable projects and research are showcased. 3. Day of Sustainability: together with partners such as LDE Centre for Sustainability-

			an effort to report and work together towards a more sustainable TU Delft Tudelft. (2023). Tudelft. (2023). Vision on Sustainability. Retrieved from https://www.tudelft.nl/greentu/projecten/vision-on-sustainability	Students, Students4Sustainability, Studium Generale, and IESA Shift. In 2022, the theme of sustainability was "rethink our Routines" on 29th November. TUDelft. (2023). Projecten| Taking the Heat campaign. Retrieved from https://www.tudelft.nl/greentu/projecten/taking-the-heat-campaign
	University of Amsterdam	Governance and Inclusive Development (GID) | Geography, Planning, and International Development Studies GID hosts the Centre for Sustainable Development Studies (CDS) and chairs the social-science center for Maritime Research; each stimulates the intellectual exchange of knowledge through its biennial conferences and associated academic journals, newsletters, and publications series. The CDS center is estimated to be active since 2015 (UVA. (2023). Governance and Inclusive Development (GID) | Geography, Planning and International Development Studies, p.3). UVA. (2023). Governance and Inclusive Development (GID) | Geography, Planning, and International Development Studies. Retrieved from https://aissr.uva.nl/content/research-groups/governance-and-inclusive-development/governance-and-inclusive-development.html?origin=uEwG4afWS6WJgzVHflpImA	The following projects are highlighted on the UVA website. - Putting Heads together: knowledge brokering and co-creation in multi-stakeholder partnerships - Small Fish Food - Development of a municipal wellbeing index for Amsterdam - Beyond the blue water basin: governing green and atmospheric water - CLIFF- Climate Change & Fossil Fuels	A publication regarding the GID Strategy titled 'Governance and Inclusive Development: Vision, themes, and Approaches. In this document, the GID envisioned themselves as an evolving collective scholarship that engages critically and constructively with prevailing development patterns and injustice to realize a fairer and more sustainable world. This vision aligns with the Agenda 2030 and its SDGs that address poverty and inequality of access to food, water, energy, and other resources, inequality between and within states, while also attending to ecological challenges. UVA. (2023). Governance and Inclusive Development: Vision, themes, and Approaches. Retrieved from (https://aissr.uva.nl/content/research-groups/governance-and-inclusive-development/governance-and-inclusive-development.html?origin=uEwG4afWS6WJgzVHflpImA

when it comes to SDG and how Dutch universities are working to achieve it; Here are a couple of examples per universities

SDG 1: poverty: Erasmus University Rotterdam runs the initiative 'Dynamics of Inclusive Prosperity DoIP),' which revolves around how many people can benefit from prosperity growth while minimizing negative impacts (Erasmus University, 2023).

SDG 4: Quality education: the University of Amsterdam appears on the list to be working on this SDG, but unfortunately, nothing was found on the page (University of Amsterdam, 2023).
On the other hand, TU Delft promotes SDG 4 through the initiative 'Education & Entrepreneurship.' This entrepreneurship is a research and training programme in low-resource countries with Innovation & Impact Centre Delft Centre for Entrepreneurship (TUDelft, 2023). Their mission integrates Delft Global into TU Delft education programmes and intensifies "maker space" education, digital learning, and capacity building in target countries.

Some other examples on how universities of applied sciences are promoting SDG are the following;

    a. Han University of Applied Sciences in Arnhem and Nijmegen carried SDG certification Project. Han promotes "Sustainable Energy & Environment (SEE) through the HAN Green Office. The Green Office is run by and for the students (Fifth Dutch National SDG Report (Sustainable Development in the Netherlands) 2021; De progressieve Duurzaamheid van Han Green Office, 2023).

    b. Hanze University of Applied Sciences adopted the 'Research group Art & Sustainability.' This project aims to investigate how the transition to a sustainable society can be shaped by actively involving the domain of art. The main focus when thinking about sustainability also involves the economy, ecology, and society (Fifth Dutch National SDG Report (Sustainable Development in the Netherlands) 2021; Research group Art & Sustainability. (2023). However, this year a new development has occurred for the Instituut voor Bedrijfskunde (SIBK). In 2023, a new year meeting took place to emphasize the new vision and mission at Hanze 2030, with a new fresh start vision different from 2016. Within this new SIBK vision, the following is stated in Dutch:

SIBK
Complementing the HG vision, we are working as a learning community from SDGs* on education and research to strengthen the region's new economy.
To these SDGs, we commit to Good health and well-being; Quality education; Affordable and sustainable energy; Responsible consumption and production; Partnership to achieve goals; Diversity, and inclusion.
 (information from Elles Kazemier via email Februari, 19, 2023).
https://www.hanze.nl/nld/onderwijs/economie/instituut-voor-bedrijfskunde
We shared one of the Hanze Hogeschool sustainable vision programmes (SIBK) and we assume that there are more examples from other faculties. The Hanzehogeschool offers 54 bachelor's programmes, 19 master's programmes, and 8 associate degrees (Hanze, 2023) |Facts & Figures.

    c. Windesheim University of Applied Sciences in Zwolle and Almere launches its Windesheim SDG-challenge, they aim to inspire and mobilize students and organizations to work together on the SDG's (17) Windesheim SDG-Challenge. 2023); Fifth Dutch National SDG Report (Sustainable Development in the Netherlands) (2021).

Other Universities of Applied Sciences that follow the same step is Avans Hogeschool and HU Universities of Applied Sciences Fifth Dutch National SDG Report (Sustainable Development in the Netherlands) (2021).

De progressieve Duurzaamheid van Han Green Office. (2023). Duurzaamheid. Retrieved from
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Research group Art & Sustainability. (2023). Retrieved from
https://www.hanze.nl/eng/research/centre-for-applied-research/art-and-
society/professorships/professorships/popular-culture-sustainability--innovation

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development-and-education/child-development-and-education.html?origin=1cnbpyIQQACPTlEmA0qX3g

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Introduction

In the Swedish Education Act (2010:800), it is stated that education within the school system aims to enable all students to acquire and develop knowledge and values while promoting students' development and learning as well as a lifelong desire to learn. Education should convey and anchor respect for human rights and the fundamental democratic values on which Swedish society rests. Education should be based on scientific foundations and proven experience. Everyone who operates within adult education (individuals over 18 years) should also promote respect for the intrinsic value of every person and respect for our shared environment.

Sustainable development (SD) has been on the Swedish Higher Education Institutions' agenda since 2006 (Gough and Scott, 2007), and is in line with the Brundtland Commission (1987).

> …higher education institutions shall promote sustainable development to assure present and future generations of a sound and healthy environment, economic and social welfare, and justice (Swedish Council for Higher Education, 2015).

In Sweden, it is mandatory for teachers to incorporate ESD into all subjects in compulsory schooling however, what is less known is whether ESD is similarly incorporated into all subjects and programs in Higher Education Institutions (HEIs).

In Sweden, while there is no specific teacher education program or courses for ESD (Education for Sustainable Development). ESD is included in the curriculum and is thus built into **all** teacher education courses including those offered in vocational education. Knowledge about the concept of sustainable development is examined in courses to reach the course or program objectives/goals. The graduation goals include links to scientific foundations, society, and ethical aspects that concern social, ecological, and economic perspectives, this means the teacher is to:

> "demonstrate the ability to make assessments in educational work based on relevant scientific, social, and ethical aspects with particular consideration for human rights, especially the rights of the child according to the Convention on the Rights of the Child, as well as sustainable development." Higher Education Ordinance (1993:100) Swedish Code of Statutes 1993:1993:100 up to SFS 2022:1609 - Parliament Annex 2.

The student teacher makes observations during VFU (Verksamhetsförlagd utbildning or Workplace-based training) and actively participates in teaching that in one way, or another relates to ESD.

The concept of sustainability is about achieving a long-term objective and is distinct from sustainable development, which focuses on facilitating processes that lead to sustainable progress. Similarly, sustainability education should not be confused with education for sustainable development, which seeks to educate students on how to enact sustainable progress or growth.

Swedish HEIs and Sustainable Development

To investigate to what extent SD has been implemented in Sweden's 47 HEIs, Finnveden et al. (2020) note that most of the HEIs investigated offer courses or degree programs in which SD has been integrated, but that the quality of work varies. The study found that about half of the HEIs do not

have overall targets for SD in place and that even fewer followed-up these targets or implemented professional development for their teachers (Finnveden et al. 2020, p.687). Further, only about a quarter of the HEIs were considered to have established "a well-developed process for their work on SD in education. This suggests that the HEIs' efforts to promote SD need to be developed further to be clearer. Higher education Institutions have the responsibility and are key in transforming the world and thus need to be in line with Agenda 2030 and the Paris agreement on climate change (Finnveden, 2020).

Higher Education System

The responsibility for Swedish higher education, research, and funding rests with the Swedish Parliament (*Riksdag*) and the Government. Laws that apply to the sector are set out in the Higher Education Act (SFS 1992:1434) and the Higher Education Ordinance (SFS 1993:100). Swedish Higher Education Authority (UKÄ) (2020).

The distinction between the Swedish higher education system and the Swedish Higher vocational education is that Higher vocational education is a separate system, and there is no progression between the systems (Kahlroth, 2020).

Swedish Higher vocational education is embedded within the framework of vocational education and interpreter programs. The role of vocational education is to meet the needs of the labour market which is achieved through the provision of combining theoretical studies with workplace training. The length of higher vocational programs varies between one and three years and is equal to just over 10 percent of tertiary education. (UKÄ, 2020)

Curricula for upper secondary school and adult education

Environmental education and learning for sustainable development are included in curricula, subject plans, and course plans. Environmental and sustainability perspectives, together with historical, international, and ethical perspectives, should permeate all teaching regardless of education/subject (reference). Students should develop knowledge so that they can actively prevent harmful environmental impact and develop a "personal approach to the overall and global environmental issues." ( ) "Teaching should highlight how society's functions and our way of life and work can be adapted to create sustainable development."

> "The environmental perspective in education should provide students with insights so that they can both contribute to preventing harmful environmental impact themselves, and develop a personal approach to the overarching and global environmental issues. Education should illuminate how society's functions and our way of life and work can be adapted to create sustainable development." (Läroplan för gymnasieskolan (Gymnasieskolan) - Skolverket

> "Education shall, in accordance with the ethics upheld by Christian tradition and Western humanism, embody the inviolability of human life, the freedom, and integrity of the individual, the equal value of all human beings, gender equality, and solidarity among people. The teaching shall be non-denominational." Läroplan (Lvux12) för vuxenutbildningen – Skolverket

Examples of additional statements in the curriculum for upper secondary school.

> Values

> "The education system is based on the foundation of democracy. The Education Act (2010:800) states that education within the school system aims to enable students to acquire and develop knowledge and values. It should promote the students' development and learning, as well as a lifelong desire to learn. Education should convey and anchor respect for human rights and the basic democratic values on which Swedish society is based. Teaching should be based on scientific evidence and proven experience. Everyone working within the school should also promote respect for the inherent value of every human being and respect for our common environment (Curriculum for Upper Secondary School - Swedish National Agency for Education)."

Understanding and compassion

> "The school should promote understanding of other people and empathy. Education should be characterized by openness and respect for people's differences. No one in school should be subjected to discrimination related to gender, ethnic origin, religion or other belief, gender identity or expression, sexual orientation, age, disability, or other abusive treatment. All tendencies towards discrimination or abusive treatment should be actively counteracted. Intolerance, oppression, and violence, such as racism, sexism, and honor-related violence and oppression, should be prevented and addressed with knowledge and active measures.

The internationalization of Swedish society and the growing mobility across national borders place high demands on people's ability to live with and understand the values inherent in cultural diversity. The school is a social and cultural meeting place, which has both an opportunity and a responsibility to strengthen this ability among all those who work there. Familiarity with Swedish culture and history as well as the Swedish language should be reinforced through teaching many of the school's subjects. Secure identity and awareness of one's own and participation in the common cultural heritage strengthen the ability to understand and empathize with others' conditions and value systems. The school should contribute to students having an identity that can be related not only to specifically Swedish but also Nordic, European, and ultimately global. International contacts and educational exchange with other countries should be encouraged (Curriculum for Upper Secondary School - Swedish National Agency for Education)."

Upper Secondary Schooling

The mission of the upper secondary school is primarily to convey knowledge and create conditions for students to acquire and develop knowledge. Education should promote students' development into responsible individuals who actively participate in and contribute to working life and society. It should also contribute to students' multifaceted development.

The school has the task of conveying and anchoring basic values, promoting students' learning, and preparing them to work and operate in society. The school should convey more enduring knowledge that constitutes the common frame of reference in society, based on basic democratic values and human rights that everyone is covered by. Students should also be able to orient themselves and act in a complex reality with a large flow of information, increased digitalization, and a rapid pace of change. Therefore, their ability to find, acquire, and use new knowledge becomes important. Students should practice critical thinking,

examine information and situations, and understand the consequences of different alternatives. In this way, students approach a scientific way of thinking and working. (Curriculum for the upper secondary school (Gymnasieskolan) - Swedish National Agency for Education)

The subject of natural science is by nature interdisciplinary, with a foundation in biology, physics, earth science, and chemistry. The subject covers areas such as health, energy, and sustainable development, which have emerged as areas where natural science meets social science. The subject of natural science is one example of the knowledge that all students should encounter and develop in high school.

The purpose of the subject

The teaching of the subject natural science should aim to develop students' knowledge of natural science as well as their ability to critically evaluate and take a stance on issues with a natural science content. It should lead to students developing an understanding of how scientific knowledge can be used in both professional and everyday situations, and to make personal choices and decisions.

The teaching in the subject of natural science should enable students to develop knowledge in natural science and the ability to critically evaluate and take a stand on issues with a natural science content. It should lead to students gaining an understanding of how natural science knowledge can be used in both professional and everyday situations and to make personal choices and decisions.

Based on current questions and phenomena, the teaching should give students the opportunity to use natural science knowledge and methods, both with and without digital tools. This means that while the teaching should cover various topics such as environmental and climate issues, the distribution of the earth's resources, cycles, health, or genetic modification, it should also demonstrate how these issues can be handled from a natural science perspective.

By discussing and exploring issues with societal relevance, students should be given the opportunity to reinforce, deepen, and develop natural science knowledge to be able to meet, understand, and influence their present. The teaching should provide students with the opportunity to use digital and other tools and to carry out simulations to seek and achieve knowledge in natural science.

The subject of natural science should provide students with the ability to develop:

1. The ability to use knowledge of natural science to discuss, make decisions, and formulate various courses of action.
2. Knowledge of the role of natural science in current social issues and in relation to sustainable development.
3. Knowledge of the consequences of different lifestyles, both for personal health and for public health and the environment.
4. Knowledge of the structure and function of the human body and its interaction with the environment.
5. Knowledge of how natural science is organized and how it can be critically examined and used for critical scrutiny.

Knowledge of the significance of natural science theories for the development of society and for human worldview (Subject - Natural Science (Upper Secondary School) - Swedish National Agency for Education).

In summary, Swedish upper secondary schools and adult education have a clear focus on Education for Sustainable Development (ESD) in several different aspects. There are both goals and requirements for the content of education and for the so-called "educational mission," which concerns both work life and social life, citizenship in a broad sense.

Swedish Higher Vocational Teacher Education - Qualification Descriptor (first-cycle qualification)

All courses, programs, and qualifications are placed in one of three cycles: first, second, or third, with each cycle being based on the one before.

The formal requirements that distinguish these cycles are specified in the Higher Education Act.

Based on the Bologna framework 1999, the Swedish National Agency for Higher Vocational Teacher Education is the national coordination point for the EQF since 2009 and is responsible for the implementation of the SeQF. The framework is implemented in cooperation with labour market organizations, public authorities, education providers, and students.

Requirements are determined by each higher education institution itself within the parameters of the requirements laid down in the qualification descriptor.

For the award of a Higher Education Diploma in Vocational Teacher Education studies in the following areas are required: courses in core education subjects for 60 credits, and placement for 30 credits in a relevant position and subject.

Courses in core education subjects shall be linked to future professional practice and comprise the following:

- history of the school system, its organization, and conditions as well as its core values, including fundamental democratic values and human rights
- syllabus theory and subject didactics
- theory of knowledge and research methodology
- development, learning, and special needs education
- social relationships, conflict management, and leadership
- assessment and grading, and
- evaluation and development processes

Goals/Objectives

For a Higher Education Diploma in Vocational Teacher Education, the student shall demonstrate the knowledge and skills required to work autonomously as a vocational teacher in the specialization for which the qualification is awarded. The student shall also demonstrate knowledge and skills for other forms of teaching for which the degree, pursuant to the applicable regulations, qualifies him or her.

Knowledge and understanding

For a Higher Education Diploma in Vocational Education, the student shall

• demonstrate the knowledge of didactics and subject didactics including methodology required for educational practice in the subject specialization or specializations for which the qualification is awarded as well as demonstrate knowledge of adult learning

• demonstrate awareness of scientific theory and qualitative and quantitative research methods as well as the relationship between the disciplinary foundation and proven experience and its significance for professional practice

• demonstrate the knowledge about the development, learning, needs, and circumstances of children and young people required for professional practice

• demonstrate knowledge and understanding of social relationships, conflict management, and leadership

• demonstrate knowledge of the organization of the school system, relevant regulatory documents, syllabus theory, and different educational and didactical perspectives as well as knowledge of the history of the school system, and

• demonstrate specialized knowledge of assessment and grading.

Competence and skills

For a Higher Education Diploma in Vocational Education, the student shall

• demonstrate a specialized capacity to create conditions in which all pupils can learn and develop

• display the capacity to benefit from, systematize and reflect critically and autonomously on personal experience, the experience of others, and relevant research findings and thereby contribute to his or her own professional development and the formation of knowledge in the field of professional practice

• demonstrate the capacity to apply the didactics and subject didactics including methodology required for teaching and learning in the subject specialization or specializations for which the qualification is awarded as well as for professional practice in other respects

• demonstrate the capacity to take advantage of pupils´ knowledge and experiences to stimulate the learning and development of every pupil

• demonstrate the capacity to plan, implement, evaluate, and develop teaching and educational processes individually and together with others in order to stimulate the learning and development of every pupil in the best way possible

• demonstrate the capacity to identify and, in cooperation with others, meet pupils' special educational needs, including special educational measures for pupils with neuropsychiatric disorders

• demonstrate the capacity to observe, document, and analyze pupils´ development and learning in relation to educational objectives and to inform and cooperate with pupils and their caregivers

• demonstrate the capacity to communicate and infuse core educational values, including human rights and the fundamental democratic values

• demonstrate the capacity to prevent and restrain discrimination and other forms of harassment of pupils

• demonstrate the capacity to respect, communicate and infuse a gender-equal and equal rights perspective in educational processes

• demonstrate the capacity to communicate and reflect on issues relating to identity, sexuality, and relationships

• demonstrate communicative capacity in listening, speaking, and writing to support educational processes

• demonstrate the capacity to use digital aids assuredly and critically in educational processes and to consider the significance of the role of different media and digital environments in this respect, and

• demonstrate the capacity to acquire during educational processes skills that are valuable for professional practice.

Judgment and approach

For a Higher Education Diploma in Vocational Education, the student shall

• demonstrate self-awareness and the capacity for empathy

• demonstrate the capacity to adopt a professional approach to pupils and their caregivers

• demonstrate the capacity to make assessments in educational processes based on relevant scientific, social, and ethical aspects with respect for human rights, especially children´s rights according to the Convention on the Rights of the Child, and sustainable development

• demonstrate the capacity to identify the need for further knowledge and to develop his or her own skills in both the vocational subject and pedagogical practice.

ESD in Higher Vocational Education (*Yrkeslärare)* **- University of Gothenburg, SE.**

As already mentioned, environmental education and learning for sustainable development are goals in the Swedish national curricula, subjects, and course plans. ESD is, therefore an integral part of vocational education in Swedish upper secondary school and adult education. The content is both general through the curriculum and subject-specific tied to the specific vocational education. A common focus in all program's education should address:

- Sustainability in relation to the student's and staff's management of school resources (sustainable school), and
- Sustainability in the profession that the student is being educated for (sustainable education).

The vocational teacher education program at the University of Gothenburg currently has three sustainability-related courses (according to the university's local assessment of sustainability-related education), which means that the learning objectives and content address the sustainability goals. These courses are,

1. Steering, Organisation, and Assessment for Vocational Teachers, 7.5 credits (course 2, semester 1).
2. Social Relations, Conflict Management, and Leadership for Vocational Teachers, 7.5 credits (course 6, semester 3).

3. Development and Action Research for Vocational Teachers, 7.5 credits (course 10, semester 5/6). In this latter course, sustainable development is explicitly mentioned in the learning objectives.

After completing the course, to receive a pass the student should be able to:

- Investigate and reflect on the concept of sustainable development and its use in education and society.
- Plan an educational/teaching activity on the theme of sustainable development related to vocational education.

The course deals with the concept of sustainable development in education and society, as well as current relevant research.

In higher education, there are laws and regulations that regulate ESD (Education for Sustainable Development). This concerns the responsibility and rights of students and employees to an adequate and sustainable study/work environment. Furthermore, there are requirements for sustainable systems, procurement, and contacts/communication.

Example of courses on Vocational Teacher Education (*Yrkeslärare* programmet) University of Gothenburg

A closer look at teaching and learning within the vocational subject area involves a variety of activities, and lectures are organized into themes involving several weeks. Students' practical tasks are closely linked to subject plans and courses. The teaching also includes students investigating workplaces, where they deepen their knowledge for instance, by seeking information with the goal of contributing their knowledge in class or at their workplace (work-integrated learning).

Sustainability and sustainable development are essential areas of knowledge in all upper-secondary vocational education programs. Regardless of the field, it is a requirement to develop competencies in *sustainable processes*, tools, and products.

In the course "Development work and action research for vocational teachers," which is applicable in upper secondary vocational programs and/or adult vocational education in Komvux.

Students' assignment includes designing lesson plans on the theme of sustainable development and the purpose of the assignment is for students to reflect on the concept of *sustainable development*. The students are required to integrate ecological, social, and economic sustainability into their planning. This is to ensure the lesson plan will reflect how teaching relates to current vocational education, specific vocational subjects, and curriculum goals.

Teachers from the Department of Biology and Environmental Science are responsible for the course module.

During the spring semester of 2022, the students were presented with the following ideas to address sustainable development:

• Self-Care for Sustainable Work Life. (This relates to occupational health and safety).

• Sustainable Food. (This is a program-wide project that addresses both production and consumption of foods).

• Reuse of materials in electrical engineering (This subject is part of the electrical and energy program).

• Field study and analysis of sustainable use/handling of medications in healthcare.

• Person-centred care and approaches in healthcare.

• Material handling, recycling, and waste minimization at construction sites.

• Marketing of recycled materials in the sales and service program.

• Interior design companies planning marketing for a sustainable Christmas.

Findings and examples from the Vocational Teacher Education courses

In this pilot, an overview of 70 vocational teachers' assignments, written reflections, group discussions, and individual discussions is presented beginning with three examples of courses offered in semester One, 1. Healthcare and social care, 2. Restaurants and Food, and 3. Technology and Industrial Technology program.

Findings are presented after the *description of the course and the course outcome* and are linked to teaching, and group discussions, which then are linked to social, ecological, and economic sustainability.

Example 1.

Course relating to **healthcare and social care**: 1) Materials used in healthcare/hospital and 2) Use of medication from a national and global perspective.

Outcome: Develop students' awareness of material selection, resource use, and the well-being of patients/users.

Teaching: The students reached out to organizations that work globally and relate to living conditions and health, the role was to investigate how these organizations work with social and economic, as well as ecological sustainability.

Discussion: The students/vocational teachers discussed how access to vaccines and antibiotics differs between countries, but also how some countries overconsume. Further, the discussion also covered how different types of healthcare materials impact the environment.

Social sustainability – This links to people's sense of well-being and reasonable living conditions and provides possibilities of participation as a patient/user.

Ecological sustainability - Production, type of raw materials, handling of residual products, waste.

Economic sustainability **–** Relate to financing at different levels to be able to meet everyone's rights and to make conscious choices when procuring and purchasing the aids, medication products, etc. used in healthcare and social care.

Example 2.

Course within the **Restaurant and Food Program** "From Farm to Table"

Outcome: The students develop the ability to discuss issues related to food and ethical aspects in relation to sustainable development in a global context as well is in relation to the local production of produce. Central content: different stages in the handling of raw materials and food, as well as ethical and environmental aspects of raw material and food management.

Teaching: the students worked with different foods to deepen their knowledge of the process from "farm to table" from a sustainability perspective. The students visited restaurants (workplace training) and mapped out the work based on sustainability perspectives. The students developed the ability to formulate questions.

Discussion: The ability to work in groups, take initiative, and work independently are also highlighted as part of the learning conditions for the development of students' professional knowledge.

Social perspective: - human health and well-being

Ecological perspective: - production of food

*Economic perspective***: -** everyone's ability to have a nutritious diet based on environmental requirements.

Example 3.

The **Technology and Industrial Technology program** has an active focus on sustainable development through its specializations.

Outcomes: Students' knowledge of technology development and the use of relevant technology.

Teaching: Integration of different subjects through environmental tasks. There is also an idea of creating a cohesive work environment within, as well as between programs in high school, both in the short and long term. Working with a sustainability focus can contribute to the process of UF companies (Young Enterprise) in the school.

Discussion: Collaborating and networking

Social sustainability - Human well-being in everyday life

Ecological sustainability - Resources regarding material in production & Processes in product development

Economic sustainability **-** The global economy

A brief discussion regarding the findings (Susanne Gustavsson)

The above three courses are mere samples of the way the 70 vocational education students/teachers were introduced to the courses and the process that guided the teaching and learning. Each course provides clear student learning outcomes, and provide opportunities to present a lesson design, that they discuss and reflect on with their peers, they need to show a clear link between the course to Social, Ecological, and Economic sustainability.

 These are aspects that I as the course examiner of the vocational students' and teachers' assignments on teaching about sustainable development/ESD expect to find and have found in student/teacher assignments. The reason for the success of the courses relates to not only that expectations are clearly outlined in the course documentation but students are provided with a process that embeds ESD clearly in the curriculum.

All students were informed that their assignments, presentations, and discussions were to be used in an overview for the EduSTA project. Their anonymity was assured as the written information was based on the examiner's critical reflections.

In Swedish upper secondary vocational education, reform work is currently underway which means that program structures and vocational subjects will change as of autumn 2025. However, this does not affect the basic teaching approach regarding ESD in vocational education.

Connecting Vocational Teacher Education of IPS to their surroundings/communities

There are several certified ESD courses and programs offered both at Gymnasium and Komvux for example, Almås Gymnasium is a certified Green-Flag (Grön-Flagg) secondary school.

The Green Flag is a component of the international Eco-Schools program, established by the Foundation for Environmental Education (FEE), an environmental education organization. Around 50 nations worldwide are engaged in this endeavor. A school can attain the distinction of being a Green Flag School of the Year in three education levels: Preschool, Primary school, and Highschool/Upper Secondary school. Almås Gymnasiet has been nominated three times since 2015 and was awarded the title in 2017.

The connection between academic institutions and their social contexts is facilitated by ESD. While changes in the classroom are a crucial aspect of ESD, it is also important to go beyond the classroom and school environment to address actual problems, develop practical solutions, and establish real networks. Understanding the existing situation is essential for developing workable proposals.

Since 2015, Almås gymnasiet has been involved in the Green Flag program, and each year marks the start of a new "journey" toward sustainability. A Green Flag council is appointed, consisting of students, teachers, and staff, and together they brainstorm ideas and decide on the development areas to focus on for the year.

Each educational program sets its own task(s) to work on, which are linked to curriculum goals, school goals, and national Sustainable Development Goals (SDGs). All student tasks are aligned with these objectives.

Teacher and ESD

The teachers at Almås gymnasiet are not formally trained in sustainable development. Instead, the school relies on a volunteer-based approach, where teachers with an interest in the field develop their knowledge and skills through their participation in the Green Flag project. *Keep Sweden Clean* or *Håll Sverige Rent*, provides ample information and resources for everyone to access. Over time, most teachers at Almås gymnasiet have increased their commitment to environmental sustainability. In addition, Borås City has organized environmental training for all staff at the school. Almås gymnasiet, has appointed an environmental coordinator to oversee the project and report to Keep Sweden Clean (Håll Sverige Rent). The coordinator also attends certain environmental training sessions throughout the academic year.

The challenge

One of the biggest challenges is to encourage students and teachers to think beyond their immediate surroundings and expand their horizons. Often, the tasks proposed are small in scope or confined to their own classrooms or courses. For instance, many students believe that collecting bottles and cans, redeeming them, and donating the proceeds to charity is an effective way to address environmental issues.

However, to create truly impactful tasks that are relevant to the educational program and foster a deep understanding of the importance of sustainable development, the participation of teachers is

crucial. They can help structure and connect the curriculum goals, while also providing inspiration and concrete examples of how to work on sustainable development.

Several professional industries have developed environmental concepts that educational programs can easily use and engage with. For example, the tourism industry has introduced a concept called "Schysst resande" (Fair Travel) with complete assignments and tasks that students in the Hotel and Tourism program can choose from.

Support

The Green flag council receives both support and participation from the school management, and the environmental work of all schools in Borås Stad is supported by the organization.

Keep Sweden Clean or Håll Sverige Rent offers schools ideas, tips, and assistance. The materials from *Keep Sweden Clean* or *Håll Sverige Rent* are primarily designed for preschools and primary schools and are not appropriate for high school students. High school students often create their own educational material while utilizing the structure of the Green flag program.

Continuity of the program

At Almås gymnasiet, Green flag has become an integral part of the academic year, and everyone is aware of its significance. It is incorporated into most of the school's educational programs, and everyone is given the freedom to choose a task that suits their class, course, or program. The task is selected by both students and teachers, which enhances their motivation and increases the likelihood of positive outcomes.

The school operates independently and does not have any collaborations with other high schools. However, all local high schools in Borås share a common goal of implementing environmental initiatives within the framework of the Green flag concept as part of their political mission.

The podcast & expertise

The podcast highlights the expertise of Swedish experts such as Isabella Lövin former Deputy Prime Minister (2016-2021) and Chair of Stockholm Environment Institute, and Co-chair of Friends of Ocean Action, Professor Bethany Carney Almroth from the Department of Biological & Environmental Sciences, and teacher in Vocational Teacher Education.

Other podcast highlights include the expertise in Digital Badges by Sanna Ruhalahti and Hanna Teräs with expertise in micro-credentials both members of TAMPK, from Tampere University of Applied Sciences.

Please follow link: https://luusimaki.podbean.com/

Concluding comments

It is crucial that there is a recognition by all education stakeholders worldwide about the importance of sustainable education. We must equip all students at all levels of education with the knowledge, skills, attitudes, and values needed to become agents of change, promote a socially, environmentally, and economically sustainable future, and build a resilient society.

Instilling sustainability-related values, and behavior means that sustainability education will enable opportunities to live in harmony with communities, the environment, and the planet while at the same time embracing the concept of sustainability in future work.

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WP2. Topics for data collection

The following is a list of topics to be addressed during the WP2 data collection. They are areas of inquiry rather than questions. The wording of exact questions will be decided by each team according to the specific characteristics of the interview and of the interviewee. Topics are presented with a certain degree of context considering that WP2 has the aim of informing WP3 and WP4, however, more general questions can be posed when that is considered appropriate as long as the required information is gathered.

Each team will gather information on relation to the educational level that is more relevant to its context and expertise. Therefore we have used "academic institution" instead of school, college or university in the rest of the document. Each team will adapt this to the relevant context.

The order in which topics are presented in the list is not necessarily the order in which they would be covered during interviews.

1. **Characteristics of an academic institution that is working on ESD.**
We would like to know how informants see ESD in practice in terms of how the institutions taking this perspective/approach work (or will work). This information will help us imagine how are the institutions teachers for SD should be ready to work in and, hence, will help us to define the competences they would require to work in that way, and to design the badge driven training pathways to achieve those competences.

2. **ESD teachers: competences, knowledge and praxis**
This is one of the key topics. On top of what the literature review, and the expertise of the EduSTA consortium, will tell us, we will use WP2 data collection to collect data on what ESD teachers should know/be able to do to make ESD possible at all education levels.

3. **Teacher education for ESD**

This is also a key topic. Our badge driven pathway and training proposals must address relevant competences for ESD and they must do so in a way that fit teachers' expectations, policy makers' proposals and experts' knowledge. We need to know what is being already offered and the empty spaces we might want to address. We also need to consider if our proposals should be part of pre-service or in-service training.

4. **Situation of ESD in each country (and internationally, in Europe and the World).**
To correctly pitch our WP3 and WP4 proposals we need information about how ESD is addressed in policy and implemented in practice. Here we will gather information about ESD in general terms, in terms of policy, organisation, aims, etc.

5. **ESD taking place in academic institutions**
Closely connected to topic 4, we are interested in how ESD is taking place in concrete terms at the academic institutions.

6. **Connecting academic institutions to their surroundings/communities**
This topic is closely related to topic 5. In this case we want to focus on how ESD is connecting academic institutions to their social contexts. ESD implies changes in the classrooms, but it requires going outside of the classroom and the school to ground itself in real problems, real solutions and real networks. Knowing what is already taking place will help us design feasible proposals.

7. **ESD in the context of educational change**
ESD does not happen in an educational vacuum. For better or for worst, ESD is part of a milieu of elements connected to how education should evolve to meet the needs of society in the future. These elements pull teachers in different directions through policy, training, and public and professional discussion. To what extend these elements fit with ESD, fostering, hindering, or just helping to define it in practice, is an important issue when designing WP3 and WP4.

8. **ESD policy**

Policy concerning ESD is a key element to consider when making our proposals. Interviews to policymakers and experts can throw light on how to interpret existing policy and on how policy might evolve in the future.

Question	Expert	Teacher	Policy maker	Lit Review
1	X	X	X	X
2	X		X	X
3	X	X	X	
4	X		X	
5	X	X	X	X
6	X	X	X	X
7	X	X	X	
8	X		X	X

Fig. 1. Questions coverage in each data collection exercise. In the case of experts and policy makers items to be covered will depend on the profile of the interviewee.

Operationalising Teacher's Sustainability Competences - Preliminary Results of EduSTA Project

Eveliina Asikainen, *Tampere University of Applied Sciences*

Jaume Ametller, *University of Girona*

Sanna Ruhalahti, *Tampere University of Applied Sciences*

EduSTA

Academy for Sustainable Future Educators

What will we do today?

- What is EduSTA?
- Teachers' competences for ESD frameworks (TCESD): a review
- Comparing TCESD frameworks
- What do teachers and experts has told us about TCESD?
- Co-creating operationalised TCESD competences

EduSTA – Academy for Sustainable Future Educators

Our goal and vision: Teachers are active change makers in the green transition

- Erasmus+ Teacher Academies project (2022-2025)

- Making teacher's sustainability competences concrete

- Using Digital Open Badges as a vehicle for recognition and documentation of competences

- Designing and gathering learning resources for learning, piloting educational designs.

The EduSTA Consortium

EduSTA
Academy for Sustainable Future
Educators

Key words:
*Teachers, teacher education,
sustainability, VET teachers and trainers*

Project lead: Tampere University of Applied Scineces (Finland)

Partners:

University of Girona (Spain),

University of Gothenburg (Sweden),

Hanzehogeschool Groningen (the Netherlands),

The Czech University of Life Sciences Prague (Czech Republic)

Associate partners: Association for Teacher Education in Europe (ATEE)

Tampere Vocational College (Tredu)

Teachers' competences for ESD frameworks (TCESD): a review

We will present our work with three significant frameworks:
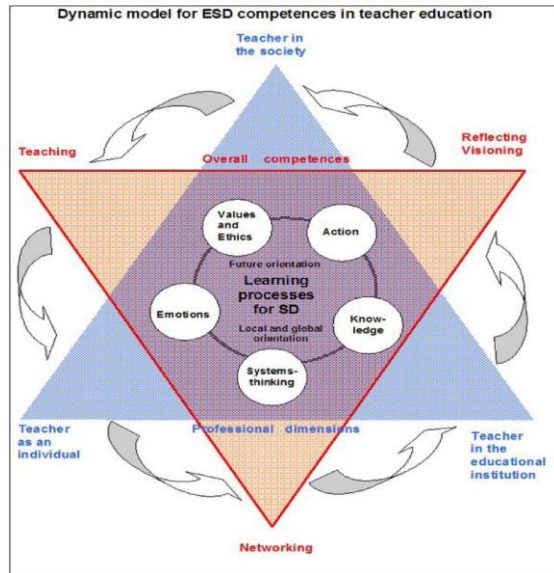
CSCT (2008)
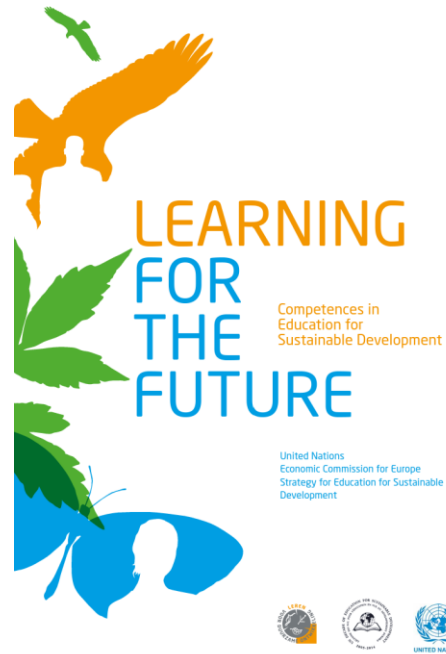
UNECE (2011)
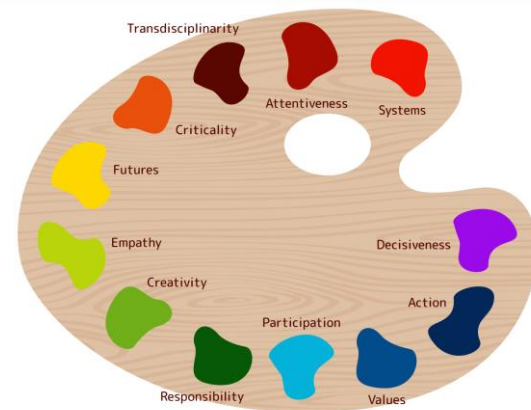
A Rounder Sense of Purpose (2019)

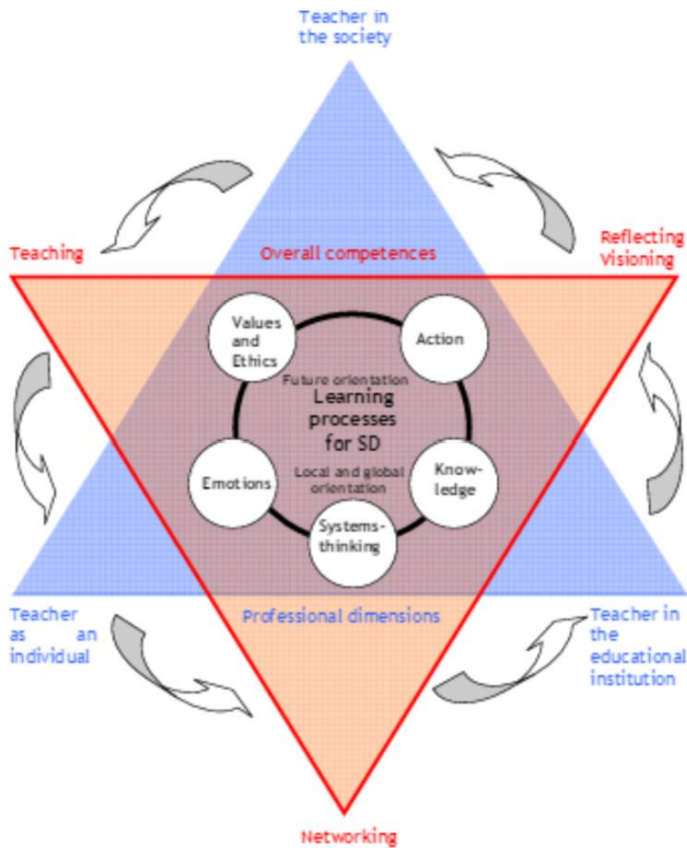# Teachers' competences for ESD frameworks (TCESD): CSCT

Dynamic model for ESD competences in teacher education
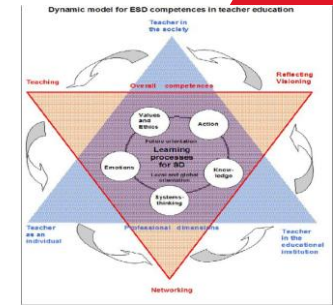
CSCT (2008)

General competences

Teaching

Reflecting/ visioning

Networking

Dimensions of competences

Action

Knowledge

Systems- thinking

Values and ethics

Emotions
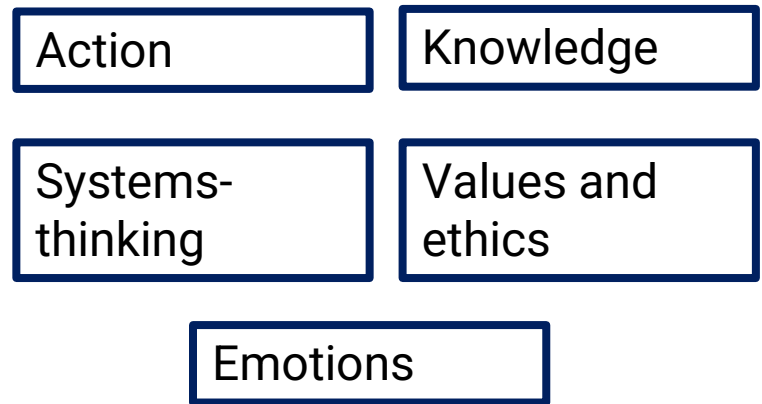
Dimensions of teacher's work
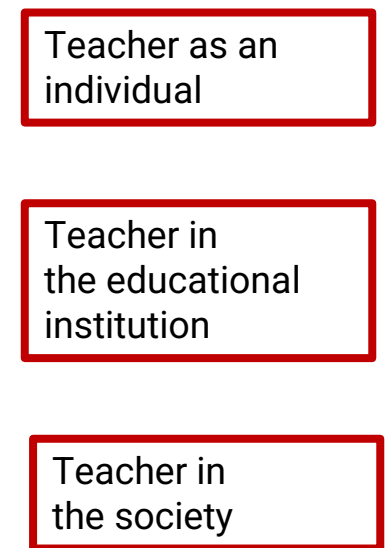
Teacher as an individual

Teacher in the educational institution

Teacher in the society

Teachers' competences for ESD frameworks (TCESD): UNECE

LEARNING FOR THE FUTURE

UNECE (2011)

Thinking Holistically

Achieving transformation

Envisioning change

Learning to know

Learning to do

Learning to be

Learning to live with others

The Competences for educators in education for sustainable development
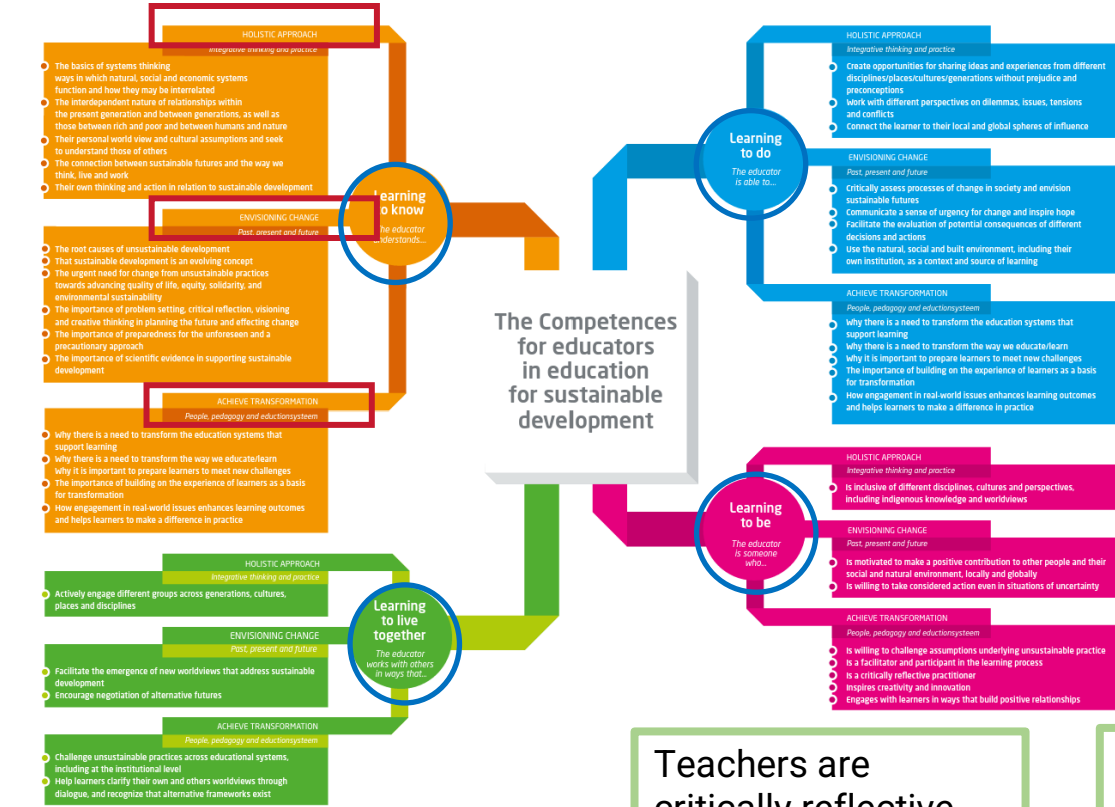
The basis of Systems thinking

Sustainability development is an evolving concept

The importance of building from the experiences of learnrs

Encourage negotiation of alternative futures

Teachers are critically reflective practitioner

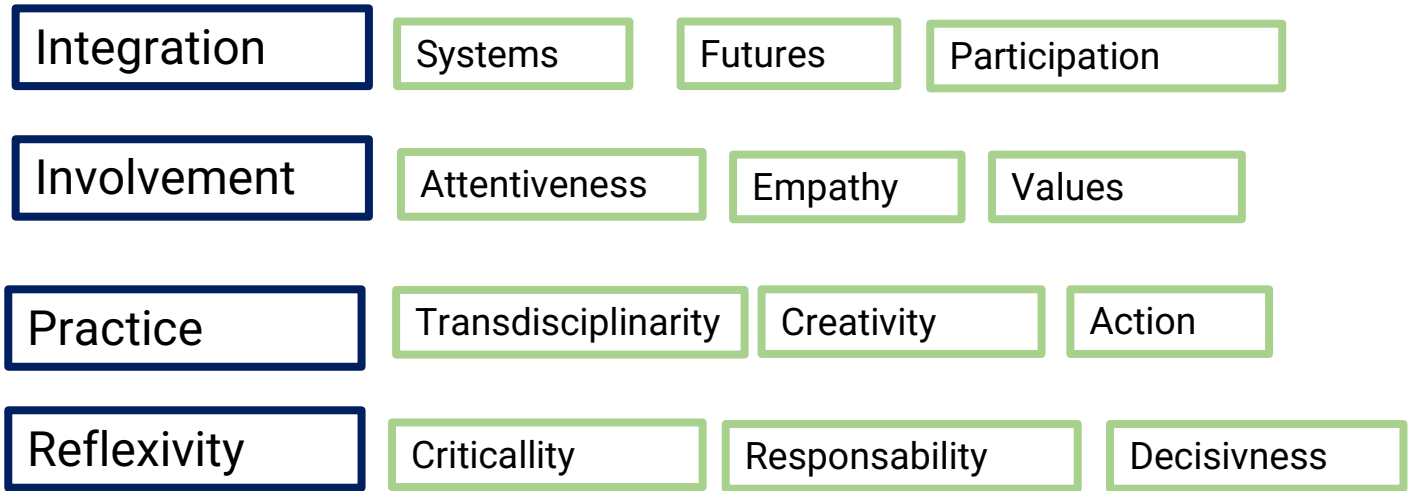Challenge unsustainable practices across educational systems

Teachers' competences for ESD frameworks (TCESD): ARSP
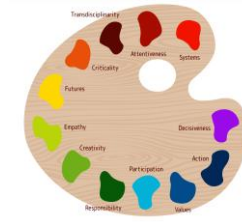
A Rounder Sense of Purpose (2019)

Thinking Holistically	Envisioning Change	Achieving Transformation
Integration:		
Systems The educator helps learners to develop an understanding of the world as an interconnected whole and to look for connections across our social and natural environment and consider the consequences of actions.	**Futures** The educator helps learners to explore alternative possibilities for the future and to use these to consider how behaviours might need to change.	**Participation** The educator helps learners to contribute to changes that will support sustainable development.
Involvement:		
Attentiveness The educator helps learners to understand fundamentally unsustainable aspects of our society and the way it is developing and increases their awareness of the urgent need for change.	**Empathy** The educator helps learners to respond to their feelings and emotions and those of others as well as developing an emotional connection to the natural world.	**Values** The educator develops an awareness among learners of how beliefs and values underpin actions and how values need to be negotiated and reconciled.
Practice:		
Transdisciplinarity The educator helps learners to act collaboratively both within and outside of their own discipline, role, perspectives and values.	**Creativity** The educator encourages creative thinking and flexibility within their learners.	**Action** The educator helps the learners to take action in a proactive and considered manner.
Reflexivity:		
Criticality The educator helps learners to evaluate critically the relevance and reliability of assertions, sources, models and theories.	**Responsibility** The educator helps learners to reflect on their own actions, act transparently and to accept personal responsibility for their work.	**Decisiveness** The educator helps the learners to act in a cautious and timely manner even in situations of uncertainty.

Thinking Holistically

Achieving transformation

Envisioning change

Integration — Systems — Futures — Participation

Involvement — Attentiveness — Empathy — Values

Practice — Transdisciplinarity — Creativity — Action

Reflexivity — Criticallity — Responsability — Decisivness

Comparing TCESD frameworks

UNECE   ARSP

(E)SD characteristics

| Thinking Holistically | Thinking Holistically |

| Envisioning change | Envisioning change |

| Achieving transformation | Achieving transformation |

Competence dimensions

Learning to live with others	
	Involvement
Learning to be	Reflexivity
Learning to do	Practice
Learning to know	Integration

Comparing TCESD frameworks

UNECE

ARSP

(E)SD characteristics

UNECE	ARSP
Thinking Holistically	Thinking Holistically
Envisioning change	Envisioning change
Achieving transformation	Achieving transformation

Learning to live with others -cooperation-

Learning to live with others –respect-

Involvement

Competence dimensions

UNECE	ARSP
Learning to be	Reflexivity
Learning to do	Practice
Learning to know	Integration

Comparing ESD Teacher Comp. & Student Comp. frameworks

UNECE

- Thinking Holistically
- Envisioning change
- Achieving transformation/ Learning to live with others-cooperation-

ARSP

- Thinking Holistically
- Envisioning change
- Achieving transformation

CSCT

- Systems-thinking
- visioning
- Teacher in the educational institution/Teacher in the society/ Networking

GreenComps

- Emrbacing complexity
- Envisioning futures
- Acting for sustainability

(E)SD characteristics

Competence dimensions

UNECE

- Learning to be/ Learning to live with others – respect-
- Learning to do
- Learning to know

ARSP

- Reflexivity/ Involvement
- Practice
- Integration

CSCT

- Teacher as an individual/ Values and ethics/ Reflecting
- Action
- Knowledge

GreenComps

- Embodying vàlues and attitudes
- Skills
- Knowledge

Questions to discuss (1)

In your group:

• Propose 3 teacher competences for ESD you think should be in the framework. This competences can use and combine the elements of the existing frameworks.

Questions to discuss (2)

In your group:

- Chose any of the competences we have selected and thing how do you think it could be "taught", how it could be presented to teachers to help them develop that competence.

 Be as specific as possible and as creative as you like.

What have teachers and experts told us about TCESD? Data collection

In order to ground our proposal in the contextual reality of the educators to whom it will be addressed we have collected the following data:

1. Review of the policy documents about ESD and teacher education for ESD in all the EduSTA partner countries,

2. Interviews to policy makers, experts and experiences teachers, in each country

3. Workshops and group interviews with teachers and/or students

Here we present the preliminary results on the workshops and the interviews to teachers and experts.

What have teachers and experts told us about TCESD?

Which competences should teachers have for ESD?

- Teachers should be able to lead the school comunity, to be an example of ESD in the school.

- They must be able to work in teams in a collaborative and assertive way, both in school and with other agents of the school's environment community.

- They must be passionate, willing to take part in ESD and open to innovation.

- They have to take into account diversity/equity questions (culture and gender)

- They have to propose teaching/learning activites where students are the protagonists: project based activities with an impact on the community, and inquiry and experimental activites.

- They must be able to use systems thinking, critical thinking and creativity.

What have teachers and experts told us about TCESD?

ESD in teachers' praxis

- Some teachers consider ESD as not part of their work

- Many teachers address ESD in their teaching as an *add-on* toei their usual   praxis and often associated with isolated projects.

- At the same time, many teachers are involved with ESD proposals

Situation of teacher education and professional development on (TC)ESD

- Lack of necessary professional development has different reasons, including lack of specific resources and not being a policy priority.

- Frustration wih the lack of coherence of ESD implementation

What have teachers and experts told us about TCESD?

Teachers' views on the education and professional development on (TC)ESD they need

- Many teachers feel they do not know enough about what is SD and ESD.

- Most teachers would like to have more training on "knowledge", mostly connected to the sciences: biology, geology, ecology and health.

- Teacher training should be aligned with policy and, particularly, with the curriculum

- Digital learning is seen as essential,
both technologies to support learning and technologies to
foster sustainable development.

- They would like to know what is happening in other schools and work with other teachers to reflect together and to learn from succesfull proposals.

Questions to discuss (3)

- Taking together our choice of competences and the teachers' answers, do you think there are any mismatches we should be addressing?

Competence-based digital open badges

- Digital badging is a form of competence-based assessment that offers recognition of formal, informal, and experiential learning
- The badge criteria explain
  - the competence by **learning objectives**
  - **assessment criteria**
  - as well as instructions for competence or skills demonstration
- Detailed badge assessment criteria help applicants demonstrate their skills and competences;
- Criteria help applicants conduct a self-assessment of their own performance
- Also, works well for recognising prior skills and knowledge

Questions to discuss (4)

Go back to the competences you have proposed and think about what kind of evidences do you think would be useful to assess those competences. If you were teaching that competence, how would you assess your students?

Final Discussion

Questions

Your take aways

Your messages to the project

Thank you!

Follow us
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Appendix 8.

Teacher training for Education for Sustainable Development: five national cases

Jaume Ametller, Eveliina Asikainen Marta Gual Oliva (Eds)

Manuscript 28.4.2023

Contents

Introduction - the project EduSTA

Eveliina Asikainen & Jaume Ametller

The starting point of Erasmus+ Teacher Academies project EduSTA – Academy for Sustainable Future Educators is that there is a need to operationalise teacher's sustainability competences: to describe the direct links with the everyday tasks such as curriculum development, pedagogical design and assessment. EduSTA does this through building a community "Academy of Sustainable Future Educators" and creating digital open badge-driven learning pathways on teachers' sustainability competences supported with multimodal learning modules.

EduSTA starts by mapping the contextual possibilities and restrictions for transformative learning on sustainability, and by operationalising skills. The development of competence-based learning modules and open digital badge-driven pathways proceed hand in hand and is realised as learning modules in the partnering HEIs and badge applications open for all teachers in Europe.

Teachers' capabilities to act as active change makers in the ecological transition and to educate citizens and workforce to meet the future challenges is key to a profound transformation in green transition. Teachers' sustainability competences have been researched widely but a gap remains between research and the actual work of teachers. EduSTA aims to address this gap. To do so we have collected data from educators, ESD experts and policy makers to better understand what is expected from educators in terms of ESD, which challenges they face and which training they would like to have to overcome these challenges. Insights coming from these data will provide the background information for the development of education and digital open badges.

In this publication we present the first results of the analysis of the data collected in each of the participant country. The data has been collected by:

- surveying the politico-legislative frameworks
- conducting workshops in co-operation with the training schools
- interviewing to key stakeholders connected to education and teacher training programmes.

Through these actions the WP provides the background framework for the identification of competences and development of educational proposals in WPs 3-5. This framework articulates the information from theory, empirical research results, policy literature and professional knowledge necessary to underpin the formulation of the pedagogical principles, learning content and assessment strategy that will be developed into specific proposals in WPs3 and 4. This framework will acknowledge and tackle criticism about Eurocentric biases of ESD competence frameworks to make it more relevant to both internal diversity and global outreach.

This publication describes the general methodology applied according to the local context and to the main interest area of each partner. The results are presented as case studies, which give an insight to the situation of each country. By presenting the five case studies based on the analyses carried out by the national team we want to respect the multiplicity of voices and the work of all partners. We close the publication with a summarising chapter.

Methodology and design

The politico-legislative (and curricular) frameworks provide and define the context in which teachers and teacher educators enhance sustainability in their work. These have been surveyed nationally through literature searches and interviews of key actors as they form important background

conditions for the development of the proposals in this project. Each project partner has interviewed key stakeholders of ESD policy development and implementation in January-February 2023. The stakeholders have been chosen independently in each country to provide information on the situation regarding KSC and FL in the partners' educational systems and in higher education institutions, particularly on relation to teacher training institutions and programmes. University of Girona developed the structure of thematic interview and reporting templates for interviews.

The voice of teachers was researched by organising workshops to teachers and teacher students. Each project partner has organised at least one workshop in cooperation with teachers or teacher students in January – March 2023. In addition to providing important information, the workshops have served both as a consultation mechanism and as a first step to engage schools in this project and as a capacity building platform for teachers.

The workshops discussed what teachers should know to identify themselves as professionals who are actively constructing a more sustainable world and be able to educate students to be change makers. Different ESD competence models for educators (UNECE competence framework for ESD and the Rounder Sense of Purpose competence framework), knowledge on sustainable development competences (KSC) and futures literacy (FL) to explore how these competences were used to inform the organisation of the workshops. The project team of the University of Girona provided templates for the workshops and for reporting and organised the analysis of the results.

Five National Cases

Finnish VET – Empowering of teachers needed to fulfil the great opportunities of educating sustainable workforce

Eveliina Asikainen, Jenni Majuri, Liisa Marttila, Outi Rantanen, Hanna Teräs

Introduction

On policy level, the highest document guiding ESD is the Strategy of the National Commission on Sustainable Development 2022–2030 by the Prime Minister's Office. The strategy states the importance of institutional culture and learning environments in ESD. (FNCSD 2023.)

In its Sustainable Development Policy, the Ministry of Education stresses the importance of addressing the sustainable development perspectives in teacher education and supports the strengthening of sustainable development in in-service training of teachers. Furthermore, the ministry guidelines emphasise the importance of increasing opportunities for continuous learning and personal guidance (OKM 2020 p. 9)

Ministry of Education and Culture states the will of strengthening ESD in teacher education. Still, there are no legal competence requirements on ESD competences, which would cover all teachers. On the other hand, ESD part of all National Curricula and National Qualifications of VET. Thus, it is somehow part of all teacher education programmes in Finland. But ways of implementing ESD do vary greatly (this is based more on our discussions with other teacher educators than an overview on curricula). The most straightforward means of recognizing and funding ESD is the funding of further education for teachers by Finnish National Agency for Education. This is an instrument of funding further education activities orgnised by teacher education institutions and by NGOs that work closely with teachers (including WWF Finland and Finnish United Nation's Association). Sustainability competences is one of the nine main themes stated in the guidelines for applying funding (OPH 2023). The definition of sustainability competence states specifically climate, loss of diversity of nature, planetary health, and circular economy. Teacher training on sustainability competence can have elements of knowledge, skills and attitudes in leadership, teaching and counselling and as a part of practices and culture of the educational institution. There can be also education on applying Green comp or on how sustainability values and sustainable lifestyles are strengthened through teaching specific subjects or in specific vocations in VET (OPH 2023).

The Finnish case of EduSTA presents findings mainly in the context of Vocational Education and Training (VET). The results are based on two workshops with VET teachers and one with VET teacher students. Secondarily, we use knowledge drawn from expert interviews and analysis of Finnish ESD policy documents.

Materials and methods

The Finnish context of ESD is described through a document analysis of policy documents describing the context and principles of ESD (FNCSD 2022, MoEC2020), documents guiding the implementation of ESD in Finnish schools, VET and HEIs (EduFi 2023, Arene 2022, UniFi 2020) and documents that provide examples of how the policy is implemented (e.g. a call for grant applications by the National Board of Education, eRequirements and Opintopolku describing the qualifications of vocational education). Also, GreenComps (Bianchi et al 2022) was used as a European framework for the document analysis. The analysis was performed and reported for further analysis using the guiding questions and template provided by UdG.

Expert views were brought to the analysis by interviewing six experts in February – March 2023. These experts represented national educational governance, leadership and expertise in higher education, ESD expertise in VET, and ESD research. The interviews were based and reported using a shared structure provided by UdG and reported ac.

Practitioners' voices were constructed through three workshops with altogether 43 participants. One of the workshops was arranged on-site at a vocational school. The student workshop and workshop arranged for participants of a development project were organised online. The two in-service VET teacher groups differed in background knowledge in ESD or SD. The other group included VET teachers from different fields, and they had less background knowledge about ESD even though this group was formed by the VET institution itself. The other group included VET teachers who had a strong background in ESD and SD, and they were also enthusiastic and passionate about including ESD into their teaching. The workshops were organised according to the gudelines provided by UdG and reported using the reporting templates provided by UdG.

ESD in the Finnish VET

Specific responsibilities of different educational institutions are described in MoEC (2020 p. 9. POLICIES box). General aim is to promote sustainable development activities, which with their links to continuous learning comprehensively extend to different areas of life and enhance the transfer of knowledge to the activities and from plans to practice. The Government Programme also requires that sustainable development and climate and gender equality education will be taken into account as cross-cutting themes at different levels of education.

In the Finnish VET, an approach of holistic institutional development of SD is quite strong. This is supported by a certification system created and run by an educational foundation and supported by the Ministry of Education and Culture (OKKA-foundation). Furthermore, the National Board of Education is financing a project developing a road map for sustainable development in VET (VASKI project). This project has also an institutional approach. This holistic approach was also emphasized by our interviewees.

The VET is based on national qualification requirements and competence-based curricula based on these requirements. ESD is also embedded in the qualification requirements of VET. A course of one competence credit on sustainable development is nationally compulsory for all students. Themes are applied in the vocational studies depending on the field of education and on the teachers' interests. The national qualification requirements include also an optional qualification unit on "Working with Climate responsibility (15 competence points). The providers of education have the power to decide whether they offer this unit and to apply it to a specific qualification. The example in the list of references demonstrates an example of turning the qualification requirements into assessment criteria in Natural and Environmental Protection (eRequirements).

Experts' and teachers' opinions on possibilities and challenges of promoting ESD in VET

The Finnish VET teachers and the interviewed experts express the need for professional and vocational emphasis also in ESD. The focus should be on the student's future profession and professional identity. On the other hand, this can be a source of discomfort or hesitation for teachers, if they don't feel professionally competent enough to discuss sustainability in a professional context with their students.

Our interviewees emphasized that teachers need some understanding of the broad framework of sustainable development, but not all need to be professionals on all specific topics. According to their understanding it is fine to focus on one or two topics and promote them in one's work. Teachers need knowledge of the key concepts of SD. The understanding of key concepts and a positive attitude towards sustainable development were mentioned as the most important factors for a teacher to be able to develop knowledge-based specialisation on ESD and find concrete pedagogical solutions. Harnessing students' skills and enthusiasm for the theme requires that a teacher has an open attitude and is humble, especially in situations where students know more about the subject.

In the workshops, the teachers stressed that it is important to harness students with an example of positive attitude towards SD and demonstrating it through actions is important as teaching ecologically sustainable skills has a big role in the work of VET teachers. Positivity, faith in (better future), thinking openly about own possibilities to choose, critical thinking and assessments of sources of information, experiential learning, demonstration, active learning, discussions presenting new perspectives, teasing out ideas were mentioned as practices that describe ESD teacher's attitude and practices to teaching and learning and her/his pedagocical tools. The VET teachers emphasized the co-operation with working life as an important part of successful ESD. Site visits, guest teachers form working life, internships and different kinds of projects were mentioned as examples, and also the possibility to use these more and in more innovative ways was acknowledged.

Concerning their needs, the VET teachers mentioned the importance of knowledge - access to checked, reliable knowledge (databases), knowledge of new innovations –staying updated in the SD developments of one's own profession. Regarding to knowledge, teachers expressed an understanding that knowledge is changing and the need to some how know that they are using reliable knowledge. This reflects a feeling of inadequacy with different sources and formats of information.

 Teachers feel that there is a need to the following skills/competences: using digital tools in the sustainability context, specifically using carbon footprint calculus (and to teach it to their students), information searching, courage to learn together with and even from the students. The teachers also feel that they need more ideas for active learning methods and competence of making different perspectives to sustainability (ecological, social, cultural, economic) visible in their teaching. Tools for making sustainable practices visible - videos, games, visits, tests, documentaries, recycling diary, examples of companies. They also expressed a need for guidance or instructions to make abstract topics and concepts more concrete.

As we had in our workshops teachers with different experience of working with ESD we could also observe some differences, which describe professional growth or development of expertise in ESD. The more experienced teachers were able to name much more sources of information and pedagogical ideas or tools. All teachers mentioned that resources to actual development of ESD tend to be scarce and teacher's space for action is often limited. Yet, the more experienced teachers had a more systemic idea of the educational institution, and stronger capacity of influencing practices of the institution. The less experienced teachers were concentrating on how take ESD as part of their teaching and didn't discuss their role in influencing the educational community. Also, the connection to nature was some how distant for the beginners. The more experienced teachers could describe ways to a bring nature and ecological sustainability into teaching holistically and to go beyond recycling, which tended to be the first interpretation of ESD.

Summary

In Finland ESD is already a quite coherent part of the educational policy in all levels of education. It is embedded into national curricula and qualification requirements of VET. Also, it is one of the main focuses of further education of teachers. Still commitment, practices, and resources (as time, money, support) vary greatly in individual educational institutions.

One of the main findings is that vocational teachers' understanding of their role in promoting sustainable development varies greatly. Some see that the role is limited to what happens with the students. As such they feel that they can influence the future through this role, but they don't necessarily see how to influence the practices of the educational institution. On the other hand, teachers who are more experienced with ESD, do have the systemic knowledge of the institutions and of the educational system, and are able to use also these opportunities of change making.

The Finnish VET teachers express the need for professional and vocational emphasis also in ESD. This should support students' future profession and professional identity. On the other hand, this can be a source of discomfort or hesitation for teachers, if they don't feel professionally competent enough to discuss sustainability in a professional context with their students.

Possible solutions to this can be found in strengthening co-operation with working life through internship, authentic learning, visits and projects, and through developing teacher's competences of dealing with uncertainty and change. Parallel to this VET teachers need help in finding trustworthy learning resources and examples of successful pedagogical approaches in the context of VET.

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Education for Sustainable Development in Sweden

Liisa Uusimäki and Susanne Gustavsson

Introduction

The responsibility for Swedish higher education, research, and funding rests with the Swedish Parliament (Riksdag) and the Government. Laws that apply to the sector are set out in the Higher Education Act (SFS 1992:1434) and the Higher Education Ordinance (SFS 1993:100). Swedish Higher Education Authority (UKÄ) (2020).

Sustainable development (SD) has been on the Swedish Higher Education Institutions' agenda since 2006 (Gough and Scott, 2007), and is in line with the Brundtland Commission's (1987) definition of sustainability as "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations 1987). This definition is reflected in the following statement by Swedish Council for Higher Education, (2015),

… Higher education institutions shall promote sustainable development to assure present and future generations of a sound and healthy environment, economic and social welfare, and justice.

Sustainability refers to achieving a long-term objective and is distinct from sustainable development, which focuses on facilitating processes that lead to sustainable progress. Similarly, sustainability education should not be confused with education for sustainable development, which seeks to educate students on how to enact sustainable progress or growth.

In Sweden, sustainability is built into all teacher education courses including vocational teacher education. It is mandatory for teachers to incorporate ESD into all subjects in compulsory schooling, as knowledge about the concept of sustainable development is examined in courses. The objectives include links to scientific foundations, society, and ethical aspects that concern social, ecological, and economic perspectives. Teachers are to:

demonstrate the ability to make assessments in educational work based on relevant scientific, social, and ethical aspects with consideration for human rights, especially the rights of the child according to the Convention on the Rights of the Child, as well as sustainable development. Higher Education Ordinance (1993:100) Swedish Code of Statutes 1993:1993:100 up to SFS 2022:1609 - Parliament Annex 2.

Swedish HEIs and Sustainable Development

In their study, Finnveden et al. (2020) note that most of the 47 HEIs investigated offer courses or degree programs in which SD has been integrated, but that the quality of work varies. The study found that about half of the HEIs do not have overall targets for SD in place and that even fewer followed-up these targets or implemented professional development for their teachers (Finnveden et al. 2020, p.687). Further, only about a quarter of the HEIs were considered to have established "a well-developed process for their work on SD in education". This suggests that the Swedish HEIs' efforts to promote SD need to be developed further to become more apparent and take responsibility to ensure SD is in line with Agenda 2030 and the Paris Agreement on climate change.

There is a distinction between the Swedish higher education system and the Swedish Higher vocational education in that Higher vocational education is a separate system, and there is no progression between the systems (Kahlroth, 2020).

Swedish Higher vocational education is embedded within the framework of vocational education and interpreter programs. The role of vocational education is to meet the needs of the labour market which is achieved through the provision of combining theoretical studies with workplace training. The length of higher vocational programs varies between one and three years and is equal to just over 10 percent of tertiary education. (UKÄ, 2020) Swedish Vocational Teacher Education

The Swedish vocational teacher program leads to a vocational teacher degree for work in the vocational programs of upper secondary school, upper secondary school's vocational special education programs, vocational introduction, and vocational education within municipal adult education. There are over 250 vocational subjects in upper secondary vocational education. Prior to admission, the student's vocational skills are assessed through validation in one or more vocational subjects. The studies consist of 90 credits, of which 30 credits are work-based training. The courses cover pedagogical and didactic areas, as well as other areas such as school development. The objective of the vocational teacher degree is "to demonstrate the ability to make assessments in the pedagogical work based on relevant scientific, societal, and ethical aspects, with particular consideration for human rights, especially children's rights according to the Convention on the Rights of the Child, as well as sustainable development." Higher Education Ordinance (1993:100) Swedish Code of Statutes 1993:1993:100 up to and including SFS 2022:1609 – Parliament

University of Gothenburg – Vocational Teacher Education Program

The Vocational Teacher Education Program at the University of Gothenburg is carried out remotely with one or two campus meetings per semester. The studies are conducted individually and in groups through the institution's learning platform. During the work-based part of the education, the education takes place at a school near the student's place of residence.

Several courses in the vocational teacher education program contain elements that are directly related to ESD. For example, in one course, the learning objectives are:

- Investigate and reflect on the concept of sustainable development and its use in schools and society.
- Plan an educational/teaching activity on the theme of sustainable development related to vocational education.

The examination consists of 1. A group project in which they plan for teaching about ESD (Education for Sustainable Development), and 2. An individual reflection on how ESD can be expressed in

vocational education. The above learning objectives are graded on a three-point scale (Fail-Pass-High Pass).

The individual reflections are categorized into three challenges:

Preconditions for a sustainable society:

This involves a critical consideration of what is possible regarding a sustainable lifestyle and working life. There is a focus is on the global situation, people's conditions, and opportunities. For example, what economic conditions are required for both businesses and individuals to act sustainably? Students reason about reciprocity, credibility, trust, resource preservation, creating equality, and gender equality.

Preconditions for students:

Young students (16-19 years old) may resist or show disinterest in sustainability requirements and ESD. The challenge for vocational teachers is to activate motivation for learning among these disengaged students. Students who are provided with real-life learning opportunities such as, for example, comparing working conditions in other countries to Sweden where ESD form a central part of courses and may help students re-evaluate their values. This relates especially to students in so-called "vulnerable" areas in Sweden whom no fault of their own cannot prioritize sustainability in their private lives. The conflict they experience often arises between normative education and everyday life. The main purpose of vocational education is to support the development or updating of the student's skills, in their area of work.

The benefits of quality workplace learning can more concretely show the consequences of sustainability perspectives. This is demonstrated by workplaces having more developed strategies, tools, and routines. In contrast, there are workplaces that may not meet sustainability requirements and can create confusion for a student.

In adult education, vocational teachers need to manage linguistic and cultural differences in their teaching since they encounter a diversity of nationalities. This provides an opportunity for vocational teachers to learn about the diverse experiences of their students while having opportunities to disrupt habits and routines that may differ from their previous workplaces in their countries and to learn about the Swedish workplace culture, democratic values, laws, equality, and so on.

Conditions for sustainable education:

There is a call for vocational education and vocational teachers to become more attentive to ESDs. Unfortunately, one of the problems that have been identified relates to workplaces that are not always the role models that schools/vocational education have hoped for and require active dialogue both with students and with workplaces. Creating projects or teaching about, for example, to students who are interested in the work of a florist requires specific skills in sorting, choice of materials, and sustainable processes. Processes, that may be perceived and experienced by students as too simplistic or narrow. Questions, such as, what effect do sustainable processes have on the environment? The challenge here is to link the work of a florist to ESD explaining the importance of making bouquets with locally produced plants and understanding the use of ecologically degradable material and integrating this with a global perspective, to develop a deep understanding and an awareness of sustainable processes.

Teaching is not about transmitting knowledge, rather it is about personal change, the development of new understanding, and awareness. Individual interests, needs, and opinions of students exist

that should not always be influenced or are not possible to influence. The question of right or wrong when it comes to sustainability is not always simple and it is important to consider, ethical dilemmas, engagement, and action. For example, there is a risk that the conversation in education can lead to political discussions and lead to conflicts between students. Here, the school's policy documents, and research cannot be seen as neutral, since the policy documents are fundamentally a political stance where students differ in their interpretation.

Subject integration is an excellent way to create a context where teachers with different competencies can contribute to courses and programs. Vocational subjects can be integrated with mathematics, social studies, and natural science. For example, students in building and construction programs are taught by engineers using mathematics to calculate heat losses through different materials. Students give presentations in English and Swedish, and examiners are from the building and construction field to ensure that students can demonstrate their understanding, skills, and the purpose of how the task relates to their future profession and their personal position.

Competencies

The challenge in Sweden is a lack of national initiatives supporting the development of vocational teachers' competencies. The development of professional competencies in ESD lies with each educational institution/school/authority responsible for the professional development of its teachers.

Examples of competencies that need to be strengthened are:

1. Knowledge of the ESD goals, and the competence to illustrate and use these goals in their work. The reference to the ESDs is in the curriculum and is the responsibility of every teacher, regardless of the subject(s) they teach.
2. Current professional competence and subject didactic competence. Teaching should support students to develop the necessary knowledge applicable to their place of employment.
3. The ability to stay up to date with research, and proven experience.
4. Social competencies including the ability to handle conflicts.
5. Ethical and norm-critical competence.
6. Economic competence in connection with the selection and purchase of teaching materials.

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Education for Sustainable Development and the Dutch educational system

Petra Cremers, Corine Seelen, Elles Kazemier, Lauren Verheijen, Jitske Gulmans

In the Netherlands, there are two kinds of educational institutions that prepare students for specific professions: institutions for senior secondary vocational education (these are called 'MBO' in Dutch) and Universities of Applied Sfciences (UAS; 'HBO' in Dutch). Students can enter the MBO programme after four or five years of secondary education. They have access to universities of applied sciences after five or six years of secondary education or after having completed an MBO-programme. Research universities require completion of six years of secondary education (Figure 1).
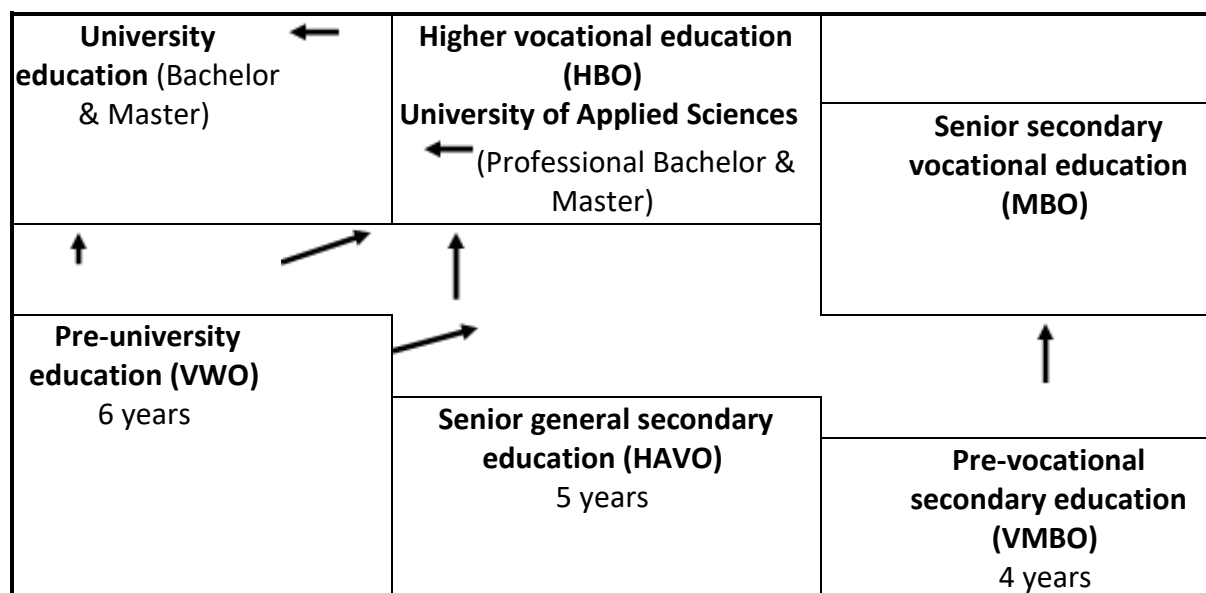

Figure 1. The Dutch educational system

Within the EduSTA project, Hanze UAS targets mainly (student)teachers of UAS (HBO) and senior secondary vocational education (MBO). The analysis is based on three workshops, one interview and the results of nine cases interviews.

Interview and workshop participants were predominantly UAS teachers (some of whom are working on or have completed (PhD-) research into ESD-related subjects), some MBO-teachers and one teacher at a research university. While MBO clearly focuses on vocational training, the distinction between UAS and research universities is smaller. The difference lies in the balance between education and research: at UAS education has been the primary goal for a long time, research groups at UAS have only been established in 1993 and government funding for research is relatively modest. UAS also have an obligation to make an impactful contribution to society. Research universities' primary commitment is to research, as they are mainly funded and rewarded for research, and less for education. Both UAS and research universities perform practice-based research that aims to have an impact on society; research universities also perform more fundamental research.

National policy on ESD
ESD in the Netherlands has been addressed by the Dutch government in a national plan 'DuurzaamDoor', applicable to both research universities and UAS, and supports formal, nonformal, and informal learning. Its underlying concepts are based on multi-stakeholder participation, cocreation, social innovation, and transformative learning.

Institutional policies on ESD and TC for ESD
Most, if not all, of the research universities have some strategic plans or guidelines to promote ESD. As UAS strive to make a positive impact on society, ESD almost inevitably forms a vehicle through which this impact can be made. Research and education are increasingly interwoven in regional collaborations with government, small and medium enterprises (SME) and other educational institutes to create impact for societal challenges. Many examples can be found on the specific educational programmes focusing on sustainability and the SDGs (most notably in minors, electives, and master programmes) and institutional focus in e.g. mission statements and visions. Explicit examples of active promotion of TC for ESD however are still scarce, as well as the integration of ESD into core curricula.

fRegarding teacher-training on ESD, some training programmes are available and have been executed, but incidentally and fragmented, addressing the intrinsically motivated teachers/frontrunners. They have not been integrated as a formal part of teacher training yet. The importance of ESD is being recognized in theory; action in practice still proceeds slowly and fragmented, mainly by the frontrunners, evolving through experimentation as they go.

Teacher competence profiles in the Netherlands
In general, primary education, secondary education and vocational education have a shared teacher competence profile in which no explicit reference to ESD is made. The pedagogical competence however always addresses the support of moral development in students and the reflection and development competence concerning norms and values. ESD is not (yet) explicitly mentioned in national formal role descriptions, but descriptions are suggested in various documents.

Reflections of teachers on ESD
When asked which competences or skills are required for ESD, the teachers seem to focus on soft skills such as: communication skills in leading discussions within a diverse group in a normative context; asking the right questions, evoking reflective thinking, creating a safe, equally experienced atmosphere. Another requirement which is stressed is an attitude of empathy, open mind,

vulnerability, equality and awareness of one's own values, assumptions and perspective. Reported required knowledge for ESD teachers in Dutch UAS steers towards knowledge that is needed to foster transformative learning, systems thinking, futures literacy, collaborative caring and transformative design.

When asked if Dutch UAS teachers are prepared to perform ESD, one of the teachers answered that "not everyone is ready for this" and that training, commitment and passion is required. The rich case interviews reveal that teachers emphasize the need for didactic competence:

- Pedagogies highlighted from the cases of educational practise are along the lines of: design-based, challenge-based, case-based learning. Emphasis lies on students working towards a 'solution' to a specifically formulated problem.
- Relationship between the student(s) and educator was emphasized as everyone is a learner, relationship built on trust, coaching/interviews (minimal lecturing) or community/group based learning.
- Format embraces uncertainty, chaos and friction in the learning process.

Conditions for implementing ESD
Two kinds of conditions are mentioned by the teachers: systemic and educational.

In interviews and workshops criteria and necessities mentioned for better implementation of ESD focus on institutional or systemic conditions such as:

- Providing a space for experimenting freely together with students so teachers can follow and strengthen the contribution they want to make to ESD.
- The possibility to leave existing structures behind, e.g. by collaboration among all study programmes, and to connect new initiatives and collaborations to their own.
- Additionally, a whole school approach of ESD within the whole educational system would be essential. Buildings, classrooms, facilities should all live and breathe sustainability, to set examples and bring inspiration.
- Often the linear and concrete nature of the 'professional profiles' (and corresponding regulations for (final) assessment for each education programme) guiding the Dutch UAS were seen as especially limiting. The assessment system should allow for holistic assessment, for varying learning outcomes (each student and each SD-project is different), and for graduating in interdisciplinary groups, while working and learning in transition or innovation communities.

Regarding the ways teachers would like to learn and practice ESD, several options are mentioned:

- Time and space for teachers to collaborate on evolving ESD ("we should always teach as a team or a couple instead of alone");
- Time and space to learn from initiatives and role models in other programmes or institutions (this is also systemic: it is still unclear who is doing what with respect to ESD, it is very fragmented);
- Learn together in teacher learning communities or teacher development teams.
- Embedding TESD to the trajectory of didactic teacher professionalization;
- Flexible learning (smaller chunks rather than entire curriculum, masterclasses, lunch meetings) and hybrid/online learning.

Some recommendations for the EduSTA badges are:

- Use the badges as support for educators to engage in transitions;
- Work in small teams to stimulate innovation;
- Microcredentials can only be acquired in a team/ given as a bigger piece of the puzzle;
- Tap into experiments that are already being done;
- Stimulate a community of practise / professional learning community;

- Focus on how do I (teacher) do this transition? Not just using the microcredential to show 'what could be'.

Teacher Training for Education for Sustainable Development in the Czech Republic

Jiřina Sněhotová, Janette Kovaříková

Introduction

The strategies on education for sustainable development (ESD) are part of a larger concept: *the Strategy 2020 - 2030+*. This is a key document for the development of the education system in the Czech Republic in the decade 2020–2030+. The two main strategic objectives are:

1. To focus education more on the acquisition of competences needed for an active civic, professional, and personal life, and

2. To reduce inequalities in access to quality education and pave the way for the maximum development of the potential of children, pupils, and students (Czech Ministry of Education, Youth and Sports, 2020).

As in other European countries, education in the Czech Republic is based on equal access to learning for all Czech citizens and citizens of other EU member states, without discrimination based on race, colour, sex, language, religion, nationality, ethnic or social origin, property, health, or other factors. It considers the educational needs of individuals. It aims at mutual respect, tolerance of opinions, solidarity, and dignity of all participants. In the Czech Republic, ESD is described in six areas or so-called the cross-curricular themes for basic education: *Personal and social education, Education of a democratic citizen, Education to think in European and global contexts, Multicultural education, Environmental education, and Media Education,* and in four themes for secondary education: *Environment and Sustainability, Labour Market, Inclusive Education & Equal Opportunities, and Global Development Education*. The cross-curricular themes are part of the *Framework Educational Programs* which form a generally binding framework for the creation of *School Educational Programs* of all fields of education in preschool, elementary, elementary art, language, and secondary education. They were introduced into education in the Czech Republic by Act No. 561/2004 Coll., on pre-school, primary, secondary, higher vocational and other education (Education Act).

Situation of ESD and its effect on teacher training for ESD

The positions of ESD teachers does not exist by itself in Czech schools. They are not mandatory and are not anchored by law. It's just a voluntary activity of the school to have ESD, Environmental Education and Awareness (EVVO) or ICT coordinator. EVVO coordinator is needed to receive the title of the Sustainable Development School, but most of the school principals do not see additional value of this position. Each school must have counselling centre with an educational counsellor and a prevention methodologist. Schools focus on primary prevention and current topics are cyberspace, fake news, hoax, or frugality. Recently, just some Czech secondary vocational schools has employed a school psychologist or special educator, except for the apprenticeship for pupils with special needs, where the school principal replaces the role of special educator.

Teachers and school principals see the main pitfalls in teacher training in general pedagogical education because pedagogical faculties produce theorists without practical experience. According one interviewed school principal, new teachers are missing practice of model crisis situations which is important both in relation to pupils and parents. Thus, they are demotivated quickly, they gain experience and leave educational sector after 2 years. Furthermore, teaching professions are at risk of burn-out syndrome.

The basic training is teacher education, however specifically for ESD most of the teachers do not have any systematic education. There are a lot of webinars or seminars for free, unfortunately the quality is low. The trainings are rather just an introduction to what is done, rather than what should be explained in secondary schools regarding ESD. The teachers often must pay for quality trainings themselves. There are a lot of high-quality paid trainings however the school principal understandably supports teachers in professional seminars related to their field of teaching. Thus, ESD trainings would rather concern teachers of ecology and similar subjects. It's more on the subject team leaders how they influence their members to include ESD, when, for example, they create school education programmes to incorporate it there or to create whole new subject.

The education of ESD teachers usually takes place in the form of certified trainings offered by universities and higher education institutions, the Ministry of Education, Youth and Sports, the Ministry of Agriculture, or the National Institute of Education (many offers come from the Institute). There are also profit or non-profit organizations such as People in Need with its program Active Citizen or the FORUM publishing house that offer trainings and quality documents on ESD. One secondary school has organized ESD training for mayors and representatives in the region and organizes a so-called Rural development school. However, the situation has changed after Covid, and the training focus is less on ESD according to one interviewed school principal. In general, it is extremely important that the school management supports ESD activities and trainings of teachers. The lack of professional staff in schools makes school principals doing some of the ESD activities.

In Czech education, ESD training and activities are about volunteering, motivation of teachers and their desire to further their education. According to one interviewed school principal: *"There is no point in forcing teachers who don't want to. It misses the point and makes everyone uncomfortable*." And another school principal said: *"The way to develop a teacher is through self-awareness. Any development must be promoted non-violently."* Widely, trainings are voluntary and are usually chosen by the teachers themselves (mostly within their expertise). School principals emphasizes pedagogical skills such is education in teaching methods, formative assessment etc., and professional trainings for specific fields. All teachers and school principals see very little time to actively search for new trainings and courses as there are no comprehensive documents available on the professional development of ESD teachers. School principal should be passionate about ESD and make trainings and activities a priority overall.

Teacher training for ESD is included in the Regional Action Plan and each region offers many workshops and courses for teachers to be able to deal with the pupils. Technology courses or craft activities require teacher´s participation in the project, otherwise they must search on their own and such trainings are usually expensive. The Regional Centre of Further Education also offers courses, mainly for general education subjects or ICT. Vocational courses are limited, especially in agriculture because secondary and higher agricultural schools were financed by the Ministry of Agriculture in the past. School principals and teachers praised these times for a higher professional level of vocational

trainings than when the founder is the region. Thus, they mostly attend vocational trainings organized by professional associations, for example, the Associations of Florists, Gardeners, Chefs and Confectioners, the Establishment and maintenance of Greenery, or the Fishing Association.

The competences of ESD teachers are partially mentioned in the laws on pedagogical workers. A short paragraph is also provided in the educational strategies. Sometimes the teachers themselves do not know what is realistically expected of them, and what also belongs to education. ESD teachers should be educated in the area so that they know what is expected of them, what are the goals of the sustainable education, and they should have some internship where they have seen how it works elsewhere. They are open to other areas of teaching and are so-called multifunctional. They must be able to process documents and should be at a very good level of rhetoric. They should have an overview, familiar colleagues, and gain experience in a variety of ways. Because they must promote ESD, they should be considered as experts among colleagues and among pupils.

Teachers should be leaders with interest in pupils and should behave decently, especially to students. They should be role models and should spring the interest in pupils, i.e., to lead them to recycle papers, to clean the working place, to consider materials like plastic, or recyclable materials, as well money and energy that goes into a production. The teachers who support and include ESD generally lead the children in a slightly different way, they don't use very often frontal teaching, but that they are more open to a discussion with the pupils and are much more willing to listen to their arguments. According to all educators in the survey sample, great teachers are from practice, they are experts who can engage pupils although they are often missing pedagogical competences, they also value the job at the school. For ESD teachers, respectively for teachers of the cross-curricular themes is the best practice using teachers' lounge for sharing information on students, teaching methods and results. Therefore, there must be open and friendly relations among educators to promote ESD.

Analysis and results

Some conclusions emerged from the analysis of the interview content. School principals and teachers at secondary vocational schools are aware of the importance of ESD and are actively implementing the information and principles into the curriculum. However, these activities are voluntary unless they are part of vocational subjects (e.g., in agricultural and forestry schools) or the so-called cross-cutting themes defined in the Framework Education Programmes. Cross-cutting themes can usually be implemented by integrating them into subjects, by introducing a separate subject or by project-based learning. The areas of ESD are mentioned in the short- and long-term strategic objectives and in a school's concept or action plan, are part of School education programmes. However, there is no model concept to lean on. Schools apply different areas of ESD in general subjects such as Health Education, World of Work, Civic Education, Global World and Natural Science etc., and education for sustainable development should have more consistency.

One of the main obstacles is the lack of comprehensive documents and methodology available on ESD (at one place). One school principal call for a coordinator from the region or the ministry to make recommendations. The sustainable development includes except environmental protection, also safety, care for pupils, employees, fair communication, inclusion, equal opportunities, and career development. In this context, it is compulsory for schools to set up a counselling centre with a prevention methodologist. In addition, depending on their capacities, schools shall select an

educational and/or career counsellor from among the teachers. Headteachers have over the years tried to recruit and retain school psychologists or special educators, but the labour market situation for these positions is critical, as there is a long-standing shortage and systematic work on a solution how to educate more experts has not even begun.

ESD training is part of postgraduate and lifelong learning. Certified trainings are offered by universities, the Ministry of Education, Youth and Sports or the National Institute of Education which is most active in promoting trainings. ESD teachers must have pedagogical master's degree or so-called pedagogic minimum. However, new teachers generally lack either expertise or pedagogical competences (when they come from practice) and are not prepared for the demanding school environment, where they must master not only pedagogical activities but also communication with pupils and their parents. Schools and teachers of vocational subjects place emphasis on connections with companies and vocational training centres because they have new technologies, and it is usually not sustainable for schools to buy and maintain new technology every 2 years.

There is no specific regulation on how to report ESD activities, but they appear in the annual report and in the evaluation of the school principals once every two years. Teachers report ESD activities within the registration of subject committees. All those activities are rewarded, some by personal reward or reducing teaching hours or other ways. The coordinators have a direct specialization bonus. Then they have a personal reward, and in addition they also receive higher rewards for activity. Rewards are paid either on an ongoing basis or on a one-off basis. The number of teaching hours has been reduced for the ICT coordinator and the educational counsellor (one teaching hour per week), but not for the prevention methodologist and the EVVO coordinator – there is just the additional bonus. However, education for counsellors is limited and the universities should pay more attention to their education.

Defining and developing Teachers for Education for Sustainable Development: some notes on the context of Catalan primary and secondary education.

Marta Gual and Jaume Ametller

The Catalan case presents mainly findings in the context of undergraduate programmes and in-service courses regarding primary school and compulsory secondary school education.

ESD Policy in Catalonia

ESD is considered a transversal element of public policies in Catalonia and that therefore Government technicians explain that they try to work from a global point of view, not only as another subject or issue to cover. This transversality is reflected in different areas in the policy agenda, such as: water waste, energy saving, curriculum (curriculum greening), building management (materials, resources, etc.), participation and involvement of the entire educational community and relationship with the school environment (social, cultural, natural, non-formal organisations, other stakeholders). In the region of Girona, for example, the Provincial Council of Girona encourages contact with non-formal institutions (nature schools, natural parks) and promotes sense of belonging through granted activities, and also provides support to the schools with lots of programmes and resources.

ESD is also conceived as a transversal element of the curriculum, so there aren't much specific guidelines for educators on how to develop ESD principles in the educational context. Although the new curriculum is an opportunity to integrate ESD in school curricula, the new policy related to teacher education study plans is lacking a scientific foundation which would provide rigour to ESD. Experts emphasise that as a result of this situation, sustainability might be now in curricular frameworks (in a superficial way) but it might not be practiced genuinely at school levels: ESD is not embedded in education structures and it relies on school champions. Even in schools that actually develop ESD oriented programs (*Green Schools*), the projects currently taking place are mostly about recycling and do not have an impact in teaching and learning.

Despite low impacting cases, data collection has provided good examples of ESD practices currently taking place in Catalan schools: ESD actions are developed through projects rather than through everyday teaching and learning, mostly connected to science. Most of the projects which are currently being implemented promote a student-centred approach and promote experiential and inquiry-based learning, so that children and youth can do research about the environmental conditions in their communities, carry out school sustainability audits, support climate assemblies to propose concrete actions, etc.

Continuing with the idea of illustrating good practices, policy makers and experts have provided several examples of governmental support for ESD actions, but all the participants agree that the Green Schools Program (*Programa Escoles Verdes*, in catalan) is key to ensure in-service teacher education in this area: Green Schools Program is identified as a benchmark for good school practices, is identified as a good example of governmental support and teachers also highlight the role of its trainers, which is key for them as they seem to be the closest figure that a teacher has as a reference in education for sustainability in the school context.

Despite government support, the need for more resources and time to implement ESD policies and/or actions is evident, teachers and experts agree. The results draw attention to this mismatch between policy guidelines and teachers' day-to-day reality: while the policy puts the ESD on the spot, there isn't a clear path on how to implement those policies neither in pre-service nor ongoing training. In the next section we present a brief description of the state of the art about teacher ESD competences followed by the characteristics that the training should consider to be able to respond that mismatch.

Teacher Competences in ESD

The following are the most common responses from our informants to what would be the competences required from teachers in ESD:

    I.   Teamwork:

Teachers who are willing to work towards ESD in the school need to be able to work in interdisciplinary teams and in collaboration with others. This means that teachers are willing to create synergies between other teachers, work in a team, and know how to establish relationships with other entities and/or people, and participate in dissemination (talks, conferences, workshops) activities.

    II.   Disciplinary and curricular knowledge

Teachers need specific sustainability knowledge in order to be empowered to lead change in this area. Due to the nature of environmental issues, this specific knowledge has usually been related to scientific knowledge, but experts say that a key professional development challenge is how to work

in a transdisciplinary approach without losing the need for disciplinary knowledge. On the other hand, as ESD has traditionally been related to environmental aspects, it is considered by teachers an important skill to get to know the immediate environment of the school and be able to see the opportunities that the environment offers you to work on curricular knowledge (imagination, creativity). Finally, a competent ESD teacher must also know the curriculum and be able to bring OSDs into different aspects of the curriculum.

III.   Pose actions with an impact on the community

In-service teachers consider that being able to organise projects that enhance sustainability conscience and allow students to affect real changes is key for the professional development towards ESD. Two examples of this approach, pointed out by the teachers could be: a) service-learning or cooperative-learning projects that support the active engagement of learners, promoting relationships with the community, creating networks of schools and projects with social actors; b) real projects in collaboration with students, teachers, families and community stakeholders.

IV.   Transformative education

Both experts and teachers agree on the need for a change in the vision of education in order to become an ESD-oriented teacher. For this change to happen, teachers would know the available resources and would be opened to on-going training. This change means, among others, embracing inclusive education, having strong values, being a critical thinker committed to social change or practicing what they teach. In relation to this skill, policy makers state that teaching with examples or transformations in the school would allow the school community to realise that changes are possible and the school being a model or a part of this change.

Characteristics of actual teacher training in ESD

The present context in Catalunya brings to light the fact that there aren't specific courses related to ESD competences during pre-service teacher training. This means that the only certified training that teachers will receive related to ESD teaching competences will be once they start developing as professionals, and it will be voluntary: there isn't a specific policy that provide specific courses for teacher development but support schools from the non-formal education arena, with environmental educators and a wide range of programmes, games, publications, and other resources to encourage ESD at schools. To address the situation, the easiest strategy has been, so far, adding an optional module on sustainability in some teacher education programmes, although this is not ideal in an imaginary world where sustainability is embedded everywhere, experts say.

Experts have identified that at university level, implementation of ESD across Catalonia is unequal: those universities with a stronger commitment at higher levels and which have identified sustainability as cross-cutting competences, seem to be doing more work in this area. So, there is a need to work more closely between faculties to move this agenda forward together as well as the need to address a key challenge involving the training of teacher educators and university educators.

If we move into the specifics of teacher training, informants in the project pointed out that this training should consider emotional management and well-being aspects. For example, teachers say that it should bring elements of surprise, while experts express the need to address eco-anxiety, which is a big issue, so training is needed for teachers to be able to manage new type of emotions (anxiety, stress...) and transform them into more positive and hopeful ones.

Teachers, experts and policy makers note that there is a need for more networking opportunities during the training, with the aim to fulfil the need to develop the capacity of teamworking but also

networking. Policy makers also identify technologies as a booster with the networking and the interchange of resources and initiatives.

As experts point out the importance of transdisciplinary knowledge, teachers claim that the training must enable them to work more transdisciplinary through using project-based learning and must be connected to good and authentic teaching examples and/or materials rooted in the reality of each school. This is important because it should help understand the big concepts, how they appear in the curriculum and how they connect to real praxis, starting with what is already happening in schools.

Challenges

To summarize the highlights of the study we want to point out two challenges that have been identified by all the informants. Firstly, there is the need for recognition and reward of ESD knowledge. Teachers are willing to access a certification process in order to continue their role as ESD leaders in schools. At this moment there are not incentives for teacher educators to innovate in this area, so without incentives or recognition, academics and teachers lose interest in working towards these issues. And secondly, the need for exchange spaces on ESD practices and reflections. For teachers this would be the evidence that other teachers are currently working in ESD and point out that they would feel less alone in this journey. On the other hand, experts point out the need to establish relationship spaces between professionals dedicated to ESD, at all levels (school, university, administration, associations, etc.) to encourage school networks and increase the student's engagement in ESD activities. We would like to pose a final question: how do these challenges meet the actual structure of the teacher education study plans, where ESD training is not clearly founded, is voluntary, and is not recognised nor rewarded? Could ESD training be mandatory? Wouldn't that contradict ESD principles? Those for sure are some important ideas we will have to address sooner or later.

CONCLUSIONS

Marta Gual Oliva

What do we expect from a competent teacher regarding ESD?

Interviews and workshops with teachers provided valuable information on the expectations of what an ESD expert teacher should know, should know how to do and should be as a teacher.

The most common expectations referred to pedagogical skills including a big diversity of examples depending on the context: from project-based learning to problem-solving designing, most of which can be placed under the umbrella of active learning and transformative learning.

Other significant role descriptions regarding an ESD expert teacher refer to the relation with students, particularly about being a role model for them through their actions, decisions or even the way they relate to others or the environment.

What is the situation around teacher training for ESD in the EduSTA partners' countries?

There is a wide agreement among teachers and experts on the training on ESD they identify teachers need. Data from all the national studies point at the importance of specific knowledge regarding ESD issues as a key element to be included in teacher training, precisely to address the hesitation that some teachers manifest: they do not feel confident enough on science related issues. The need for training on knowledge is more often mentioned by primary school and VET teachers than by university teachers. Transdisciplinary approaches, as well as other approaches like systems thinking, critical thinking or futures literacy, are seen as relevant to teacher training.

A common understanding of the diversity

The main goal of this work package (WP) was to provide a common framework for the badge design on teacher ESD competences. Through the development of this WP we have also built a common understanding of the different contexts that we are considering in this project. Their commonalities and differences are as much a challenge as a potential for more significant results.

A comparison of the results in each country suggests that elements connected to national strategies, education level, and institutional interest and commitment are usually relevant in how ESD is implemented in an educational institution. Most contexts do not have an ESD expert figure and lack a description of the professional roles of ESD teachers. In most contexts. ESD strategic plans include specific teacher training, but this is often not mandatory, it appears as a recommendation, or as a criterion to be able to apply for funding.

The role of ESD in policy documents varies considerably from country to country. In countries where ESD it's not identified as a national priority, ESD is mentioned as a transversal issue, cross-curricular agenda or as means to achieve SDGs. However, whatever the presence of ESD in national priorities we have found that there are valuable initiatives which can be used to advance ESD in all countries.

When looking at national policies, in most cases there are no legal requirements on ESD competences, nor comprehensive documents available on the professional development of ESD teachers. Although we find ESD mentioned in all the policy documents reviewed there is not a clear path on how to implement those policies neither in pre-service nor in in-service training.

1. References

To be added.