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Education for Sustainable Development:

A case study of curricular documents from Cuba, France, and Romania

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Abstract

In the global agenda for sustainable development, quality education is a defined priority. Therefore, it is significant to assess how topics of sustainable development are taught in mandatory school. The present thesis purposes to analyse the written curricula for Education for Sustainable Development (ESD) of Cuba, France, and Romania – the three countries top-ranked by the United Nations in 2020 at effectively incorporating that form of education in their national curricula.

The theoretical lens chosen looks at the Sustainable Development Goals as an instrument of global governance, in which international institutions establish voluntary objectives that national authorities can commit to, accounting for local and contextual adaptation. The expectation is that through goals that consider local diversity, global development can be pursued in a way that better accommodates critical development theories.

An in-depth thematic qualitative text analysis is led through the curricular documents that each country reported for the international ranking and is presented through case summaries. Experts in ESD were consulted for a discussion on the contrast between cases. The results show that, in lower secondary school curricula, Cuba has deeply integrated the content and competencies associated with ESD, while France demonstrates a strong holistic approach dedicated to sustainable development, and Romania has at some level incorporated multiple concepts, although with a smaller concentration of terms from the chosen sustainable development framework.

Keywords: Education for Sustainable Development, Sustainable Development Goals, global governance, qualitative text analysis, curriculum.
Words: 17366

Acknowledgments

First, there is a song I once randomly discovered on YouTube which inspired me to stand up for a better education. I highly advise any reader to search for it and pay attention to its lyrics, it is called Don't Stay in School, from Boyinaband.

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Table of Abbreviations

ESD	Education for Sustainable Development
GDPR	General Data Protection Regulation
MECCE	Monitoring and Evaluating Climate Communication and Education
NGO	Non-Governmental Organisation
SDG	Sustainable Development Goal
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation
USA	United States of America
USSR	Union of Soviet Socialist Republics

1 Introduction

Education plays a crucial role in preparing future citizens for the current and upcoming economic, social, and environmental challenges. In the words of Nórden and Avery (2021, p.10), "Global learning per se cannot serve to create a better world but encourages self-determination in a global context.". In the increasingly globalised society, Education for Sustainable Development (ESD) aims therefore to steer such self-determination into shared values of sustainability, prosperity, and equity.

Sustainable development, or the intention "to secure a sustainable, peaceful, prosperous and equitable life on earth for everyone now and in the future" (UNESCO, 2017, p.6), has recently been at the centre of the international agenda, as we face dangerous consequences of climate change while economic and social problems deepen with the demographic transition. Therefore, it can be inferred that ESD proposes the preparation of present and future generations for such achievement, the second concept deriving from the first. Of course, if the central objective of the international agenda is currently to prepare better living conditions for the future citizens of the world, it is essential that they as well are prepared to contribute and maintain such conditions, and that is what makes education so important nowadays.

Formally, ESD is defined by the United Nations (UN) as an educational approach that aims at empowering individuals over their impact in the local and global communities, attributing them transformational competencies (UNESCO, 2017, pp.7–8). At its core, it intends to give learners the tools they need to develop in a way that is sustainable for future generations. This set of beliefs and values has led me to consider ESD as essential to long-lasting sustainable change, and so worth researching and developing.

1.1   Purpose and Research Question

The present thesis aims to look at how curricula reflect efforts of nationally incorporating ESD as an international goal set by the UN. Specifically, it focuses on target 4.7 of Sustainable Development Goal (SDG) 4, named Quality Education, which englobes 10 targets and 12 indicators, the latter often having their own ramifications (UN Department of Economic and Social Affairs, 2021). The research intends to identify trends in a positive direction, using as case studies the three countries the UN have deemed most successful at mainstreaming ESD through curricula in 2020: Cuba, France, and Romania (UNESCO Institute of Statistics, 2023).

It also aspires to look at positive change – change that acknowledges previous criticism to development work, international institutions with Global North origins (from European and North American countries who have historically concentrated global power and influence), and aid dynamics –, proposing a structure that respects cultural diversity and local contexts. Through ESD, I hope to find that the post-2015 agenda globally set by the UN can be a positive response to critical development studies by establishing objectives that can be achieved through different means in diverse contextual and cultural settings. Thus, I use the theoretical lens of global governance, which emphasises the role of the SDGs as an instrument of global goal-setting that promotes national public policy in the direction of sustainability (Biermann et al., 2017, pp.26–27).

Hence the selection of the three top-ranked countries on the curricular indicator for SDG 4.7.1: "Extent to which (…) (ii) education for sustainable development are mainstreamed in (…) (b) curricula (…)" (UNESCO Institute of Statistics, 2023). I aspire to look at illustrative cases of strategies that appear to have achieved a strong integration of ESD in curricula and pinpoint similarities and differences between them. Localising similarities in different curricula could indicate a trend in successful strategies towards development, while differences would precisely represent approaches that can be context-specific and still reach

the same global goal. At first glance, Cuba, France, and Romania are countries with relatively different backgrounds and histories, which makes their shared accomplishment at this level intriguing and worth exploring, as they are the three countries rated as the closest to fully mainstream ESD in curricula.

Since countries' reports for the target SDG 4.7 are voluntary, and can easily be tempered by parallel political interests, it is of interest to consider the opinion of experts in ESD, as they can best comment on the space between curriculum design and implementation, as well as expand on the motives for similarities, differences, achievements, and gaps. As such, some of these individuals were consulted in order to construct hypotheses on the material collected.

For these purposes, in my research problem I expect to understand how curriculum design serves as an instrument of national policy-making which aims to incorporate goals established and agreed upon by the international community, therefore forging a connection between global and national levels. Through the theoretical approach of global governance by goal-setting, as well as drawing some ideas from new institutionalism and a reflection on critical development theories, I have conducted a qualitative text analysis of the lower secondary school curricula for each of the three illustrative cases, in order to pinpoint national strategies that have become close to achieving SDG 4.7.1. While global governance serves as my guiding theory when looking at the purpose of the SDGs and why it is worth assessing their achievement, I take on a methodological focus through an in-depth study of three curricula under the United Nations Educational, Scientific and Cultural Organisation's (UNESCO) framework. With this in mind, I have constructed the following research question:

How is ESD as outlined in SDG 4 integrated in mandatory lower secondary school curricula from Cuba, France, and Romania?

This research presents itself useful by identifying strategies in ESD that can be followed by a wider set of educational authorities in order to globally achieve SDG 4.7 and expand quality education, which corresponds to the main goal of SDG 4 (UN Department of Economic and Social Affairs, 2021). Ideally, the study would show that there are current national public policies that are locally adequate

and inclusive and achieve global goals that represent widespread positive change and a new direction of development more comprehensive of critical theories.

1.2   Thesis Outline

After this brief introduction, I start by setting the stage: the context of the issue among the SDGs, the concept of ESD itself, UN's effort to institutionalise it, UNESCO's structure and associated educational concepts, followed by a literature review on the matter. The third chapter defines the theoretical lens I have chosen for analysing my research problem. The methodological chapter that follows explains the methods used to collect and analyse data, using as the main source the national curricula of the three countries, as well as the ethical considerations and limitations of this research. Then, I describe the findings of the empirical analysis through case summaries, and later discuss each case, connecting them to each other and to the wider UN structure. Lastly, I display my conclusions. After the reference list, a group of appendixes supports the reader and offers additional information.

2 Setting the Stage

For setting the stage of the research, I first explain the evolution of the concept of ESD and its institutionalisation within the UN agencies. Next, I look at the framework created by UNESCO for ESD, also considering some concepts of education that are not explicit in political science or development theories, but that are important for the analysis of each case. Finally, I reflect on previous academic work on the topic with a thorough literature review.

2.1 The ESD Concept and Institutionalisation

In this section, I describe how ESD has evolved into the concept it is today, with its corresponding indicators, within the broader context of the SDGs and the UN as an international institution.

Since the end of the Second World War, the boost of the mass-consumer society has led to a process of globalisation which inevitably implied the need for strengthening coercive international institutions (Keohane, 2001, pp.1–2). Such institutions started to have influence over national decision-making processes, stimulating new relations between each state and its society, but also between states themselves and between states and new actors (Bevir and Hall, 2011, p.361; Sellers, 2011, p.136). Nonetheless, states still owned, and own, sovereignty over their public policy and most decisions, but international institutions increased their persuasion over said policies and decisions through their own value systems and discourses (Peters, 2016, pp.61, 64–65). Moreover, they acquired the role of mediators in tension situations, through means of accountability, participation and persuasion (Keohane, 2001, p.3).

The UN has become the most influential international institution, expanding and diversifying its power more and more until the current day. Founded in 1945, it now counts 193 member-states, and 24 agencies, entities and bodies, including UNICEF and UNESCO, that have respectively addressed children and education issues for decades (United Nations, n.d.). The beginning of the present century faced new economic, social, and environmental challenges, such as international terrorism or speeding climate change (Escobar, 2012, p.ix). Facing such events, the UN launched a set of global goals in 2000, the Millennium Development Goals, which were, however, quickly scrutinised for targeting only developing countries, leaving out important topics, and embodying serious ethical issues (Pashby and Sund, 2019, p.99). As a response, the UN decided to introduce the SDGs in 2015: 17 goals to be achieved globally, with broader objectives and respecting cultural and contextual diversity, by including multiple national, regional and local stakeholders in their planning (UN Department of Economic and Social Affairs, 2021).

ESD is a concept that has been discussed throughout the second half of last century, and greatly institutionalised since 2005, with the launch of the Decade of ESD, managed by UNESCO. Ultimately, consistent advocacy resulted in its integration in the SDGs, also referenced as 2030 Agenda, under the goal of Quality Education. SDG 4.7 calls for ensuring "that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development" (UNESCO, 2017, p.8). Even more specific is the first target of the goal (SDG 4.7.1), which envisions the mainstreaming of ESD in national education policies, curricula, teacher education and student assessment (UN Department of Economic and Social Affairs, 2021). It is here important to disclaim that when transforming the goal into quantifiable indicators, UNESCO has made a clear distinction between ESD and Global Citizenship Education (UNESCO Institute of Statistics, 2023), which in

themselves are two distinctive fields of study (Edwards Jr. et al., 2020, p.2). It should be clear that the present research focuses only on ESD.

2.2   UNESCO's Framework and Educational Concepts

In 2017, UNESCO published a set of learning objectives for achieving the SDGs. They include 15 points of knowledge that learners should acquire for each of the 17 SDGs. This amounts to a total of 255 learning objectives. Out of this large sample, there are three elements in the objectives that are of particular importance when defining ESD.

First, content in curricula is expected to encompass three dimensions of development: economic, social, and environmental; while accounting for cultural awareness (UNESCO, 2017, p.7). Since their definitions are left quite open by UNESCO, several authors have attempted to develop conceptualisations. They are seen as three independent dimensions that, when coordinated, can reach sustainability (Ohlsson et al., 2022, pp.15–16). Economic development relates to the human consumption of resources and to growth that does not create barriers to the other two dimensions; social development connects to the goal of global equity and eroding of social, cultural and political injustices; and environmental development aims for a balanced relation between humans and the natural environment, through strategies of resilience, mitigation and adaptation (Andersson, 2017, p.441; Ohlsson et al., 2022, p.17).

Second, the objectives establish eight "key competencies for sustainability": system thinking, anticipatory, normative, strategic, collaborative, critical thinking, self-awareness, and integrated problem-solving (UNESCO, 2017, p.10). A good ESD curriculum is expected to equip learners with all these competencies, and that is why literature has shown negative effects on curricula that are not sufficiently dedicated to this approach.

Finally, knowledge is defined with a learner-centred approach, where participatory pedagogies are the preferred teaching method to ensure that learners develop their own capacities on each subject (UNESCO, 2017, pp.7–8). This aspect connects also to a holistic approach, meaning a strategy that englobes the entire school system and is not specific to a few carrier subjects, but is transversal to all courses and to the school environment and relations (Willats et al., 2018, p.67; Ohlsson et al., 2022, p.20).

Contextualising and conceptualising ESD under the UN's framework is relevant because it can effectively function as a guideline for ESD curriculum design and implementation for educational actors from many countries, and as an international standard and point of agreement (Biermann and Kanie, 2017, p.115). In addition, multiple researchers have used it for their own projects, as a basis for categories in their methods (Tomas et al., 2020; for example, Nguyen et al., 2022; Ohlsson et al., 2022).

Yet, in order to properly assess the work of the national educational actors on integrating this framework when designing curricula, it is necessary to further explore the educational concepts surrounding such design.

Formal education presupposes learners' assessment, certification, and levels (Nordén and Avery, 2021, p.3). It is the education that happens inside school grounds under official written guidelines: a structured curriculum (Decara et al., 2021, p.10). Basic education is a mandatory part of it, but states may require a different number of mandatory years in their school systems. Despite leaving aside informal and social settings where knowledge is also shared, it is in formal education that information can be collected on how knowledge is transmitted to and acquired by a wide range of learners (Nordén and Avery, 2021, p.3). It is critical that ESD is institutionally integrated in formal education in order to assure implementation (Kosta, 2018, pp.79–80). Students in the traditional mandatory years of formal education (approximately from five to 18 years old) are the prioritised audience for ESD (Ardoin et al., 2018, p.2).

There is a special interest in studying ESD at the lower secondary level, as there is a large concentration of school programs for people in the corresponding

age group (Ardoin et al., 2018, p.7; Edwards Jr. et al., 2020, p.5) and it is a school level under a process of universalisation and expansion, by now mandatory in most countries (Benavot, 2006, p.20). More, all three studied countries have reported to teach ESD in formal mandatory schooling at lower secondary levels (Kennedy, 2022). Lower secondary school concerns the school grades for children between 11 or 12 and 14 or 15 years old (Ardoin et al., 2018, p.7; McGarr and Lynch, 2021, p.993). This stage in life is characterised by a personal exploration of interests and the development of long-term competencies (Benavot, 2006, p.21), while schools offer alternatives for further studies or professional choices (Benavot, 2006, p.7; McGarr and Lynch, 2021, p.994). The fact that it is a transformational age supports the belief that ESD in this phase of life can extend its long-lasting societal effects.

Each school level is defined by a curriculum, and possibly complemented by other national or local policy directives. A curriculum is constituted by systematic and intentional descriptions of the content planned to be taught and the teaching techniques planned to be used, often under the influence of communal, national, and international values (International Bureau of Education, 2016). In formal education, it is usually based on either outcomes or content, though the first can encompass both content and competencies (Decara et al., 2021, p.13). There is also a very important distinction between intended, implemented, and learned curriculum. Intended curriculum corresponds to the written expectations of what is to be taught, whereas implemented is the part that is in fact taught, and learned is the knowledge that is actually acquired from those teachings (Tibbitts, 2015, p.12).

Curriculum design is hence the construction of a curriculum, and implementation is its practical application. Together, they are directed by decisions of curriculum policy, which is the responsibility of educational authorities in government, and usually recorded in official documents that guarantee accountability (International Bureau of Education, 2016). Yet, many are the stakeholders who can, and ideally do, have a say on these decisions, such as practitioners, communal organisations, and experts (International Bureau of

Education, 2016). The present research stays focused on the governments' role on writing curriculum.

In ESD, teachers act as the local implementers of national education policy and written curricula, the ones that are ultimately responsible for empowering lower secondary students with knowledge on sustainable development and the competencies to act on it, through participatory pedagogies. However, teachers' work is limited by access to resources, timeframes, professional training, and local stigmas on modes of educating (Willats et al., 2018, pp.70, 72; Edwards Jr. et al., 2020, pp.7–10). Often, this results in other actors providing ESD instead, such as researchers or Non-Governmental Organisations (NGOs), which becomes more difficult to measure and can widen the gap between written and implemented curricula (Edwards Jr. et al., 2020, p.7).

2.3   Literature Review

Research on the issue of ESD is currently expanding at a fast rhythm and has proven useful for the current study, as theories and methods have inspired my own approach, while their findings provided expectations for my discoveries and established knowledge used here to construct upon.

While some authors keep a post-developmental position over global educational goals (Pashby and Sund, 2019, pp.99–101; Pirbhai-Illich and Martin, 2019, pp.53–54), many have acknowledged the benefits of using UNESCO's structure. In fact, multiple studies have determined that ESD, as conceptualised by the UN agencies, has real positive impacts over sustainability issues (Edwards Jr. et al., 2020, p.7), which indicates a relevance of the international institution on positive local change. Nevertheless, the political science lens is not strong on this specific issue and reflections on the political implications of curriculum are not usually the main focus of research, which may indicate space for new research, including this thesis.

The methods for analysing ESD in curricula have, after 2015, mostly concerned either the content of syllabi, or the development of the eight competencies, albeit some work has been done that harmonises both. To analyse the presence of ESD content, methodology is often to conduct keyword searches in curricular documents, where their frequency is measured and they are then put into categories or ideal types (McGarr and Lynch, 2021; Nguyen et al., 2022), which may leave space for comparison or interpretation (Barthes, 2018; Evans et al., 2021; Ohlsson et al., 2022). A consistent and simple categorisation is the three dimensions of development (Nguyen et al., 2022; Ohlsson et al., 2022): social, economic, and environmental.

When it comes to competencies, methods are more diverse. Keyword search centres itself around the eight competencies defined by UNESCO referenced in curricula (Trad, 2019). More frequent are surveys (Kaya, 2013; Olsson and Gericke, 2017) and interviews (Al-Kuwari et al., 2021) to teachers and students on sustainability perceptions and behaviours, gaps between them, and also on teaching techniques, in order to understand the process of curriculum implementation. Other case studies involve tests distributed to students (Remington-Doucette and Musgrove, 2015) and class observations (Clark et al., 2020).

A few studies have tackled both content and competencies, mainly using mixed methods. In addition, there have been some attempts at more practical studies, namely by testing the application of training and resource programs (Willats et al., 2018; Pashby and Sund, 2019).

Overall, content analysis addresses intended curriculum, while surveys and interviews tend to evaluate implementation, and student assessments or class observations allow for the study of learned curriculum.

Some of the findings on the research cited throughout this work are important, as it is possible that they also apply to my own choice of cases. Firstly, the three dimensions of sustainable development can frequently be found in the content of different curricula, although they sometimes lack connections between them, and one can easily overpower the others (Svalfors, 2017, pp.118–122; Barthes, 2018,

pp.8–9). Secondly, the dimensions tend to take a holistic form, being transversal to subjects and courses (Willats et al., 2018, p.67; Ohlsson et al., 2022, p.20). This whole-school format has shown to spread sustainable development knowledge throughout institutions beyond mandatory classes (Nguyen et al., 2022, pp.8–9). Courses with ESD content are increasing, but it is common that teachings of sustainable development are a small part of a specific subject and not its main priority (Tomas et al., 2020, pp.53–55; McGarr and Lynch, 2021, pp.999–1003).

Conversely, competencies tend to be neglected in written curricula and have a less holistic presence than ESD content, which creates a gap with implementation (Trad, 2019, p.365; Al-Kuwari et al., 2021, p.11). Curricular documents tend to prioritise the memorising of content instead of the acquisition of skills, in such heavy amounts that leave teachers "little opportunity (…) to engage in exploratory and transformative approaches to teaching and learning" (Tomas et al., 2020, p.58). Nevertheless, when they are mentioned in curricula, the most frequent competencies are critical thinking (Pashby and Sund, 2019, p.103), problem-solving (Nguyen et al., 2022, p.8), system thinking (Remington-Doucette and Musgrove, 2015, p.556), self-awareness and collaboration (Clark et al., 2020, p.16). Of course, it is worth noting that normative competencies are inherently present in ESD content, as knowledge acquired inevitably transmits norms and values. When the competencies are identifiable, studies found that they promote a sense of community by exemplifying how the exchange of individual ideas contributes to collective values and deeper thoughts (ibid). In fact, student achievement and engagement can rise with the introduction of alternatives to memorising techniques (Kaya, 2013, p.1137; Pashby and Sund, 2019, p.105).

Studies also emphasise the importance of learner-centred empowering pedagogies for developing a wider set of skills (Lai and Peng, 2020, p.23; Tomas et al., 2020, p.56), but they tend to be absent in actual syllabi or learning outcomes as well (Tomas et al., 2020, pp.57–58).

Lastly, although local implementation is not the main focus of my research, it is still important to understand that studies have found that national directives tend to rely on local implementation and teachers' initiative (Willats et al., 2018, p.70;

Evans et al., 2021, 1361,1364). Others have noted that content that is not explicit or central in written curricula can still have a relevant influence in practice (Kaya, 2013, p.1137; Pashby and Sund, 2019, p.105; Clark et al., 2020, p.16).

When reflecting over the previous findings presented here, I have created a consistent belief that a curriculum that aims at teaching ESD, through a learner-centred pedagogy that empowers students with the competencies to tackle current global issues, has an overall positive impact over children's development as future citizens and generally over society. These studies have also encouraged me to look into the matter through the UN framework, which in this case presents itself as comprehensive, widespread and inclusive, thus promoting what I have come to consider a clear and suitable structure for ESD. Nonetheless, I do aspire to have some new contributions for the field, namely a political science lens and a specific engagement with UNESCO's qualification for SDG 4.7. In the same sense, I consider the methodological framework that I have created for curricular text analysis to be broad and harmonise the three pillars designed by UNESCO explained above. This has been an identified difficulty for previous researchers and so I expect it to be a valuable tool. On a last note, studies are still mostly concentrated on ESD for higher education (for example, Kosta, 2018; Willats et al., 2018; Nguyen et al., 2022) and so developing further research at the lower secondary school level is of general interest for the research field.

3 Theory

This chapter exposes the theoretical framework within which I have inserted the present thesis. It explores the role of educational goals in responding to critical development studies and how educational policies can be inspired by an international goal agenda, while still being developed by national authorities under the consideration of local contexts and diversity.

Global initiatives for education gained impetus with Amartya Sen's capabilities approach, which signifies a "two-way relationship" where public policy sponsors the development of capabilities in civil society, who in turn will use those capabilities to steer public policy (Sen, 2001, p.18). Sen's idea was adapted by liberal theories of social investment, which aim at funding education as a strategy for investing in future technological production and innovation, and therefore, economic growth (Hemerijck, 2017, p.350). In addition, there was a recent trend in privatisation of public policy, and so of education, coincident with the globalisation process (Bevir, 2012, pp.59–60).

In this context, critical development theories emerged to denounce how this form of trusteeship could become an imposition of Global North's values over the rest of the world, as a dominance technique (Cowen and Shenton, 1996, chap. 8). Not only the investment in capabilities was gaining a neoliberal character, but the sustainable development discourse also owned a neocolonial trait when announcing a common solution with equally shared responsibility but unequal participation in its definition (Escobar, 2012, pp.193–194). Similarly, shared global principles of pedagogy risked perpetuating neocolonial patterns such as ethnocentrism or *white saviour* behaviours (Pashby and Sund, 2019, pp.99–101; Pirbhai-Illich and Martin, 2019, pp.53–54).

A revolutionary author that laid grounds for a critical approach to education was Paulo Freire. Freire (1974, p.160) argued that altering our impact in the world

necessarily had to go through giving the future generations the educational tools to alter such impact. For the author, didactic approaches that simply transfer knowledge can contribute to maintaining models of oppression (Freire, 1974, pp.178–196), and so pedagogy that leads to democracy, freedom, and social equality should be built along *with* the learner instead of *for* the learner (ibid, pp.32, 60).

SDG 4, Quality Education, is a cross-national target and is intended to have a heavy influence on current national curriculum policies. That is why it is important to consider the critical perspective while designing curriculum in alignment with the UN's orientations. One can question, for example, the legitimacy of the ranking for the goal in question (4.7.1 – curricula), which relies solely on countries' reports and the supporting documents they are willing to submit (UN Department of Economic and Social Affairs, 2022), risking being conditioned by political interests and power dynamics. Indeed, lack of information and transparency on a ranking as the one in question can seriously undermine accountability mechanisms, creating a gap between what is said to be achieved and what is in fact achieved. Moreover, the value system that is reflected on ESD, as projected by UNESCO, has multiple elements that have repeatedly been challenged by many states, such as gender equality or stopping deforestation. Another example is how little capitalism is questioned in the framework, since economic growth is still very much at the centre of the idea of development, which leads to the neglect of other important values in the framework presented, such as labour rights or decolonisation.

Critical theories are very valid and valuable, but present a paradox: they are "not enough to generate alternatives" (Gudynas, 2021, p.51). In some cases, they provide suggestions such as solidarity (Mohanty, 2003, p.259; Veltmeyer, 2021, p.388), critical thinking and activism (Veltmeyer, 2021, p.388), as well as shifting the international discourse towards local change and cultural differences (Gudynas, 2021, pp.50–51). As it will soon be explained, the SDGs and in particular SDG 4.7 address all the above within the existing system. To the

problem of lack of information in the ranking, my thesis proposes to contribute to this gap.

At this point, the concept of global governance presents itself as a response. Global governance refers to the process of governing in the current setting in international relations where multiple types of actors, such as civil society, networks and NGOs, contribute to order without a necessary superior sovereign power (Bevir, 2012, pp.80–83; Biermann and Kanie, 2017, p.5). The UN not only acts as one of the actors in itself, through goal-setting (Biermann et al., 2017, p.26; Biermann, Hickmann and Sénit, 2022, p.1), but also voices other agencies such as the Third World network or anti-corruption concerns (Bevir, 2012, pp.86, 88). These new agendas and interactions seem to be necessary for coordinating sustainable development (Meadowcroft, 2011, pp.536–537; Biermann and Kanie, 2017, p.91). Governance is expected to reinforce Sen's relation between policy and capabilities, as well as global empathy (Keohane, 2001, pp.2, 6).

"Institutions do change" (Peters, 2016, p.66), and facing the harsh criticism, the UN agencies have shown serious efforts in changing (Biermann et al., 2017, p.28). Initiatives such as the 255 learning objectives for the SDGs (UNESCO, 2017) represent an attempt at including different contexts and cultures. Such an extensive proposition indicates that the purpose is not to establish one dominant common path anymore, but rather to account for methods that can be customised to each experience, with a conscious and diversity-aware implementation. There is a clear intention to address development in a way that reinforces the connections between global, national, and local levels. The institutionalisation of ESD has also emphasised the speech about empowering learners (ibid, p.7). In fact, part of acknowledging such differences is acknowledging different priorities. For instance, a country struggling with high levels of extreme poverty and inequality may need to prioritise economic and social teachings over environmental knowledge, which may become a secondary concern (Svalfors, 2017, p.119). Moreover, there is a clear intention to incorporate Freire's theorisation, which materialises the learner-centred approach and the ambition for diffusing critical and democratic competencies (UNESCO, 2017, pp.7–10).

This is not, however, to question the important and powerful role nation-states still have. While global governance mechanisms appear to be essential in the present stage of globalisation, states still own regulatory and redistributive functions (Meadowcroft, 2011, p.538). They take on a new task of meta-governance, regulating the freshly introduced actors and their relations with the civil society, while continuously assuring the distribution of resources needed for public policy (Bevir, 2012, pp.75–76), which includes education. No matter the global goals established, it still falls on states to properly incorporate them in legislation and implement them (Biermann et al., 2017, pp.28–29). This policy system also reinforces capacity building by empowering civil societies' role in global governance and so in its own development (Ku and Yuen-Tsang, 2011, p.473). In sum, global goal-setting at the current stage requires national implementation.

The argument here is that global goals define quantifiable, measurable achievements that can guide policy decisions without enforcing binds on said policy, which allows for different levels and forms of implementation. The UN-set goals are of voluntary character for every member-state, but they also represent targets and indicators within a specific timeframe (Fukuda-Parr, 2014, p.119; Pradhan et al., 2022, p.173). This means that national authorities can design policy as they see fit, but the goals can guide them through social objectives, self-regulation, definitions, and implementation (Fukuda-Parr, 2014, pp.120, 128). National policy-makers can then receive the SDGs as a policy tool to be adapted to the specifications of their own country (ibid, pp.118, 121). In this sense, the UN sets global goals in order to steer political decisions in direction of international, but locally sensitive, social objectives that indicate positive change. In other words, through the SDGs, the international institution creates the conditions for different states to go towards an harmonised direction, but without cultural impositions (Biermann, Hickmann, Sénit, et al., 2022, p.205). That is the global governance setting I am here asserting as my theoretical approach.

Based on the dynamics described above, three stages of the policy cycle appear to be represented (McNabb and Baker, 2021, p.26). First, the agenda

setting, in which the UN and UNESCO are protagonists. Later on, implementation relies on each school and teacher. The main emphasis of this research is the middle stage of decision-making, formalised by the publishing of curricula by governmental authorities. Once again, this process reflects an idea strongly enforced by the SDGs, that of producing change at global, regional, national and local levels (UN Department of Economic and Social Affairs, 2021). Global adoption of the goals implies a collective ambition, while governmental action translates a commitment to achieve them (Biermann and Kanie, 2017, p.5). The persistent relevance of national actors is precisely the reason why it is worth looking at ESD through a national lens and being aware of the political concepts that surround the process of curriculum design.

Albeit not being the theoretical centre of my study, it is also worth noting that there is an underlying constructivist idea, since I assume that education will contribute for the construction of future social realities under certain ideologies (Bridges, 2020, p.139), in this case a reality that follows the values exposed on the SDGs.

In sum, my theoretical approach looks at the international goal defined through global governance, SDG 4.7, as an objective in national decision-making of curriculum design. I assume that the UN goals set in a global governance scenario can represent at least a partial response to critical development studies, orienting national policies with non-binding aspirations that are comprehensive of the local context. By analysing each case under a framework inspired by UNESCO's standard, I use the lens of global governance by goal-setting through the belief that an international system where goals are determined at global level but executed at national level can lead to a less neocolonial, ethnocentric development process. Since research measuring the impact of current global goals over national policies is still insufficient (Pradhan et al., 2022, p.175), I see this thesis as an attempt to study the policy-making process in alignment with the SDGs, and as a contribution to the theory of global governance by global goal-setting.

The argument that I aim to explore is whether SDG 4.7, under the framework defined by the UN in a global governance structure, can be perceived as a national policy tool that guides national education towards an international standard for sustainable development, and that integrates the considerations of critical development theories. Simply put, I question whether the better ranked countries on SDG 4.7.1 represent an example of global governance by goal-setting being at least a partial solution to the problems denounced by critical studies.

4 Methodology

As explained during the introduction, the focus of the thesis is an in-depth text analysis of the national curriculum of each of the three countries selected, which is taken as a reflection of the national decision-making process to achieve a global goal of education. Throughout the methodology chapter, I first explain the logic behind measuring an indicator of the SDGs and the methodological abductive approach. Then, I describe my processes of sampling and collecting information. The main emphasis of this chapter comes on the third section, where I go through my instruments and methods for analysis. Finally, I reflect on the ethics and limitations of the present research.

4.1   The Purpose of Measuring SDG 4.7 and Abductive Approach

Assessing or measuring policies of curriculum design can be useful in multiple ways. Monitoring international institutions is crucial to assure the continuity of collaboration under fair conditions (Keohane, 2001, p.5). A consistent measurement can inform future policies and processes of decision-making, opening opportunities for countries with difficulties to change courses and to solve governing problems (Peters, 2011, p.83; Biermann, Hickmann and Sénit, 2022, p.4). Indeed, the SDGs rely on aspirations to "measure genuine progress" (Biermann et al., 2017, p.29), through customised indicators and academic research (ibid, pp.27, 29). UNESCO itself recognises the importance of assessing the implementation of ESD for identifying successes and guiding decisions (UNESCO, 2017, p.57), and the ranking I propose to analyse is a consequence of that (UNESCO Institute of Statistics, 2023). In this sense, I believe looking at the

three best qualified countries can illustrate how governments considered successful have integrated UNESCO's guidelines into their national curriculum, where they can be identified, and if any, what gaps remain. The interest lies also in their different cultural contexts and historical backgrounds, with possibilities of resulting in very different policies, as an effect of path dependency, or similar strategies in a process of homogenisation under the UN's influence.

As such, I consider curricula to represent a strong indicator of educational policy, since they are constituted by formal written documents which express the intended objectives and teaching techniques for all education at the national level. This is why I have chosen to use curricular documents to measure a national written commitment to international goals.

I take on an abductive approach, as I expect the data collected and analysed to answer the research question while adding on to existing theories (Tavory and Timmermans, 2014, pp.5–7). Considering how recent the topic of SDGs is, empirical and theoretical knowledge are interconnected, building on each other (ibid, pp.2, 5). Furthermore, although I had an initial structure and was aware of what I aspired to identify in curricula, in a deductive mode, I relied on coding to be formatted by the data itself, in an inductive manner (Braun and Clarke, 2012, p.58; Ardoin et al., 2018, p.5). On the one hand, the research project requires a certain amount of deductive knowledge, based on UNESCO's theoretical frame in a structure of global governance. This pre-existent deduction was necessary for the sampling process (Gerson and Damaske, 2020, p.27). On the other hand, hypotheses about the differences and similarities on the integration of ESD in diverse curricula are constructed with the information gathered during document analysis, thus with an inductive technique (ibid).

The methodology used connects to the theoretical approach by using the structure established during global goal-setting for the SDGs to examine the curricula that embodies national decision-making. Through the analysis I then intend to contrast a scheme of global governance to critical development studies, by exploring good and bad practices found in my results.

4.2   Sampling and Data Collection

To select the countries for analysis, I resorted to sampling based on prior knowledge on the research issue (Gerson and Damaske, 2020, p.61). By looking at the ranking (0–1, 0 being the worst ranking, and 1 being the best) for the second indicator of SDG 4.7.1 – "the extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in curricula" (UNESCO Institute of Statistics, 2023) –, I selected the three best qualified countries: Cuba (1), France (0.99), and Romania (0.97). The number of cases is small, but allowed me to lead a more intensive analysis (Halperin and Heath, 2020, p.234).

The aim is to contrast countries from different contexts and backgrounds, but with a similar result in educational policies as determined by UNESCO (Halperin and Heath, 2020, p.238). The reason for choosing the best qualified countries is that they are the ones the UN considered to be closest to achieving the goal, and the thesis proposes to identify national strategies that seem to go in the right direction to achieve that exact goal, within their local context and culture. In this way, it becomes possible to question whether they incorporate critical theories into UN's new strategies. It is important, however, to disclaim that not all countries have shared enough information to be displayed in this ranking and so did not qualify for sampling regardless of the quality of their education. Out of the 193 member-states, the UN counted only with the report from 58 countries for the indicator in question, in 2020, year of the most recent data collection (UNESCO Institute of Statistics, 2023). In other words, out of the population – the UN member-states who have reported for this particular indicator in 2020 –, I was interested in selecting those I considered most likely to have written a curriculum able of achieving the goal according to the ranking, which is the rationale that separates them from the other countries reporting (Halperin and Heath, 2020, p.194). I also aspire that good practices and efficient strategies identified in my cases can be of example to other states trying to implement the goal, and so

externally applicable and constructive for future theory (Halperin and Heath, 2020, p.235)

Although the supporting documents were expected to "be made publicly available during 2022" (UN Department of Economic and Social Affairs, 2022, p.3), UNESCO suffered a delay in reporting. Due to this mishap, direct contact with UNESCO was necessary. Through email exchange, the Senior Project Officer for Education for Sustainable Development in the Education Sector, Alison Kennedy, gave me access to each countries' report on the indicator solicited (UNESCO, 2022). She also clarified how to access each curricular document online (Kennedy, 2022).

Based on the information acquired through email, the first step was to identify in which courses the curricula were taught. All three countries have reported to teach ESD in formal mandatory schooling at lower secondary levels, meaning from ages 11 or 12 to 14 or 15.

France has presented a whole-school structure for ESD, with a document that defines the holistic approach (Éduscol - Ministère de l'Éducation nationale, de l'Enseignement supérieur et de la Recherche, n.d.), but also specifically referenced the course of Life and Earth Sciences (Sciences de la Vie et de la Terre – personal translation), whose curriculum is available at the ministry's official website (Éduscol - Ministère de l'Éducation nationale, de l'Enseignement supérieur et de la Recherche, 2016a; Éduscol - Ministère de l'Éducation nationale, de l'Enseignement supérieur et de la Recherche, 2016b).

Romania referred UNESCO to three mandatory carrier subjects: Biology, Technological Education and Practical Applications, and Geography (Biologie, Educaţie tehnologică şi aplicaţii practice, and Geografie – official translations from report), also connecting to curricular documents (Ministerul Educaţiei Romania, 2009a; Ministerul Educaţiei Romania, 2009b; Ministerul Educaţiei Romania, 2017). Romania's report also described five non-mandatory courses, one of which is directed at lower secondary school (Ministerul Educaţiei Romania, 2007): Ecological Education and Environmental Protection (Educaţie Ecologică Şi de Protecţie a Mediului – official translation from report). This

document was also directed at other grades, but only the general description and the grades of lower secondary were here analysed.

Cuba's case had a more complicated process since the country only submitted a vast description and online information (although they have a full success rate according to the UN). However, the full study plan for Basic Secondary (Secundaria Básica – personal translation) is available on the government website (Ministerio de Educación de la República de Cuba, 2020), and so served as the curricular document where ESD content is identifiable throughout different courses.

Experts in the field of ESD can have important reflections on the causes and implications of the results I reached, and so I have consulted three of them, two through an online interview, and a third one via email. I looked for their perspectives on what different curricula achieve and lack, as well as on international, national, and local dynamics and contextual differences. Experts have professional knowledge to validate, or not, what is declared by governments (Lai and Peng, 2020, p.6), and my own discussion on the findings.

The three specialists consulted were: Helen Avery, a researcher for the Centre for Environmental and Climate Science in Lund University, with multiple publications on education (namely, Nordén and Avery, 2021), engaging multiple times with sustainability goals and global challenges; Felisa Tibbitts, Chair in Human Rights Education at Utretcht University and UNESCO Chair in Human Rights and Higher Education, as well as the Executive Director of NGO Human Rights Education Associates, involved in projects on ESD and other topics of education, in cooperation with UNESCO and other institutions such as the Danish Institute for Human Rights (for example, Tibbitts, 2015; Tibbitts, 2019); and Aaron Redman, research associate to the Monitoring and Evaluating Climate Communication and Education (MECCE) Project, which works in strong cooperation with UNESCO (with indicators such as the one in MECCE, 2022), also author of multiple publications on ESD and sustainability education (like Birdman et al., 2021; Redman et al., 2021).

The selection of these experts is based on their publications and on previous contact during the literature review and material collection. Others of their peers were contacted as well, but decided to not participate, whereas teachers' unions, research institutes and educational ministries from all three countries were also contacted but refrained from responding. The consultations were led in English and online, through the Zoom platform and through email. In order to establish contact with all these agents, standard invitation emails were sent. Follow-up emails were sent to those who accepted, with an interview guide (appendix E).

4.3   Instruments and Methods of Analysis

My analysis is constituted by an in-depth thematic qualitative text analysis, divided into three separate case studies, as neither curricular documents nor educational systems are equal or directly comparable (Kuckartz, 2013, p.70). I first looked at each countries' documents, coding them through keyword frequency, categories, and considering contextual phrasing. In this case, keyword frequency represents a quantitative aspect, while categorisation and contextualisation are qualitative actions (ibid, pp.48–49). Measuring the frequency of keywords and coding them into categories constitutes a thematic analysis which connects to abduction theory (Braun and Clarke, 2012, pp.57–58).

I consider curricular documents a result of national decision-making, since they have been designed and written by ministries of education, with executive authority. Therefore, I have chosen them as my central object of analysis under a framework inspired by the global goal guidelines. Through that mindset, I connect my material to my research question through the idea that content, competencies, and alternative pedagogies described in curricula reflect national policy efforts to reach goal 4.7 established in the SDGs, under a policy cycle organised by global governance.

With the support of NVivo, which was acquired through the licence of Lund University, I established three main categories, referent to the three highlighted

aspects of UNESCO's learning objectives: *content*, *competencies*, and a *learner-centred* and *holistic* pedagogical approach (the last two grouped under *pedagogical approaches*). The use of NVivo for collecting data justifies itself by increasing efficiency in word search and coding, as I used a large number of categories, sub-categories, and keywords (Kuckartz, 2013, p.133). It also offers visualising options that assist analysis. The coding tables designed with NVivo and presented in appendixes B, C and D expose each category and how they were organised per case and per document, with the frequency of each keyword. There is a table with the total frequencies for each case (appendix B), and two specified tables, one for France's and another for Romania's results (appendixes C and D, respectively). Because I used one single document for Cuba's analysis, the results in the table of appendix B are enough to describe said document.

Despite a need for adaptation to specific contexts and texts, each category was inspired by previous work. In relation to *content*, I used the sub-categories designed by Nguyen et al. (2022), which are based on the 17 SDGs and follow the UN's structure of the three dimensions of development. This categorisation aims at including both explicit and implicit integrations of sustainability, which other actors have deemed important (Olsson and Gericke, 2017, p.18). *Sustainable development* is its own sub-category, referring to a word search dedicated to that specific phrasing. The title of each dimension is also localised, as it expresses a general idea of when schools are expected to discuss those general subjects. It then becomes more specific by registering the frequency of expressions that directly connect to multiple SDGs and fit one of the three sub-categories. At this stage, it was important to be context-specific, as I was managing different languages which required considering different words for the same meaning. For example, I included the word *war* in the *peace and conflict* key-phrase, as it showed itself relevant in two of the cases. The table used by the original authors of this content categorisation, to illustrate their case in Vietnam, visually helps the description of the method (figure 1):

The frequency of SD themes = 200		Horizontal integration	Vertical integration	Total
SD concept and/or SD in general		11 (5.5%)	4 (5.5%)	15 (7.5%)
Society	Ethics	10 (5%)	3 (1.5%)	
	Human rights	6 (3%)	0 (0%)	
	Responsibility/social responsibility	14 (7%)	0 (0%)	
	Cultural diversity and respect	10 (5%)	0 (0%)	
	Leadership/partnership	3 (1.5%)	1 (0.5%)	
	Good health	7 (3.5%)	1 (0.5%)	
	Social welfare	6 (3%)	0 (0%)	
	Peace/conflict	5 (2.5%)	0 (0%)	
	Education quality	9 (4.5%)	0 (0%)	
	Social inequality	11 (5.5%)	0 (0%)	
	Gender equality	3 (1.5%)	1 (0.5%)	
	Population education	3 (1.5%)	0 (0%)	
	Total	87 (43.5%)	6 (3%)	93 (46.5%)
Economy	Sustainable cities and communities	4 (2%)	0 (0%)	
	Sustainable blue economy	1 (0.5%)	0 (0%)	
	Zero hunger	3 (1.5%)	0 (0%)	
	Industry, innovation and infrastructure	4 (2%)	2 (1%)	
	Clean production	3 (1.5%)	0 (0%)	
	No poverty	2 (1%)	0 (0%)	
	Circular economy	3 (1.5%)	0 (0%)	
	Total	20 (10%)	2 (1%)	22 (11%)
Environment	Environmental protection	10 (5%)	3 (1.5%)	
	Fresh water	4 (2%)	0 (0%)	
	Natural disasters	5 (2.5%)	0 (0%)	
	Deforestation	1 (0.5%)	0 (0%)	
	Pollution	17 (8.5%)	0 (0%)	
	Energy	6 (3%)	0 (0%)	
	Natural resource management/ conservation	12 (6%)	0 (0%)	
	Climate change	4 (2%)	1 (0.5%)	
	Biodiversity	7 (3.5%)	0 (0%)	
	Total	66 (33%)	4 (2%)	70 (35%)

Figure 1 - Keyword search in learning content, Hanoi National University of Education, Vietnam.
(Nguyen et al., 2022, p. 7)

The keyword search related to *competencies* was simpler. The words searched corresponded to the eight key competencies described before (UNESCO, 2017, p.10), possibly in varying conjugations or synonyms. The *normative competency* was mainly associated with the words *norms* and *values*, despite acknowledging that this skill also connects to the general knowledge of ESD themes, as a learning objective, and so as a value in itself. Here, I disclaim that such competency was intentionally not associated with the word *rules*, as I connect it more to an idea of discipline rather than directly to the action of critically considering which norms and values are relevant to the self.

Finally, the category of *pedagogical approaches* was divided into two points: a *holistic approach* and a *learner-centred approach*. *Holistic* curriculum was recognised through direct search of references and synonyms, but also through textual intentions for *interdisciplinarity* and *whole-school* efforts. The *learner-centred approach* was identified through sentences including *critical*, *empowering*, *action-oriented*, *active*, *participatory*, and *transformative pedagogy* (Tomas et al., 2020, p.51), which needed to be a less automated search. The notion of *interactive pedagogy*, which unexpectedly showed itself common and applicable in all curricula analysed, is a case of contextual specification and so was posthumously acknowledged as a keyword.

Cuba's and France's reports were made in their native language and Romania's statement was in English. Plus, all three countries linked documents in their national language. Therefore, a protocol for translation needed to be defined. Instead of fully translating each document, I translated the keywords I was localising for each language before executing the search, later translating the sentences where they could be found to English so as to assess its context. Throughout the case summaries, the name of courses was also translated to English. For that purpose, I resorted to DeepL, based on the methods of other research developed in the field (MECCE, 2022) and considering its reliability since it consults databases that collect UN's own translations. Then, I verified the resulting translations with peers whose native language is the language of each document. For Spanish (Cuba's language), I considered my own knowledge to be

good enough for verifying the translations. The translated keywords are equally in a table in appendix A, to assure transparency in translation.

After collecting the data, I describe my results through case summaries (Kuckartz, 2013, p.66) in the following chapter, later creating an overview on each category and evaluating how they are portrayed in each country, mapping similarities and differences in-between them. Each case summary is initiated with a contextualisation of its political background and the evolution of educational policies. Because Cuba has only one document which aggregates multiple courses, I have delved into frequencies per course in Cuba's case summary. The tables in appendix (B to D) perform as visual aid, to assist the understanding of my results (ibid, pp.145–146).

Once having registered my results, I presented the case summaries, tables of coding, and preliminary reflections to the experts I selected to consult, along with topics of discussion. We then proceeded to meet through a Zoom videoconference or exchange a number of emails for said discussion. Using an open structure with wide topics of conversation, enabling experts to determine the direction of the discussion, allowed me to collect the information expected and other perspectives I had not yet considered, building on the knowledge of the present thesis (Leech, 2002, p.668). Their perspectives were recorded either through video-recording (with the Zoom platform itself) or by the automated email system, supported by notes I took during the discussion, and incorporated in the Discussion chapter. At this phase, it is important to disclose that these consultations do not constitute the chosen method for my analysis, but rather contribute for a reflection on the results, as different perspectives to be deliberated.

4.4   Ethical Considerations and Limitations

The final section on methodology reflects on the limitations and ethical considerations of the present study, which is necessary in transparent research.

The limitations are mainly due to the time and extension boundaries of the thesis, as well as dependent on the material available.

Since this research is based on qualitative analysis of a small sample of UN member-states, it is important to disclaim that its main goal is not generalisation, as it involves only a small number of countries and nation-wide documents (Kuckartz, 2013, p.154). It is not referring to worldwide tendencies or to localised real implementation. Case studies are frequently used to analyse effects of the SDGs because of their in-depth empirical assessment of global objectives at national or local level (Pradhan et al., 2022, p.184), which justifies the method here chosen.

Comparing different contexts of development may raise some issues too, as the same cannot be expected from countries with different resources. The interest here is rather to hypothesise over possible explanations for the similar levels of ESD integration in countries with knowingly distinct contextual characteristics (Halperin and Heath, 2020, p.241). In addition, each country has presented different documents, in different amounts and different sizes. This means that it is not possible to directly compare between them, which is why I led three different illustrative cases instead of one strictly comparative study, even if results in different states are contrasted in the end. The documents presented were extracted from voluntary reports and do not assure proper implementation, which, in turn, requires a necessary discussion on the limitations of their impact and application, that takes place on the Discussion chapter.

Translation is also accounted as an ethical concern. The different languages create limits in the information collected, that may get lost in translation. For example, the intention of the text could be misinterpreted. There can also be conflict in the terms and phrasings used since countries may use slightly different terms than UNESCO, even if containing the same intentions. Those are the reasons for deciding to utilise instruments from other research which have already been tested (Nguyen et al., 2022; Tomas et al., 2020), and to consult native speakers in reference to the automated translations.

Even so, limitations with wording still arose during analysis. Multiple words in each language were sometimes added to one single keyword, as there was no single direct translation. Other times, words appeared in different contexts that did not refer to the intention of the search, and so were not coded into the categories. This can mean that my judgement in coding could have occasionally missed a code or limited the document to my personal interpretation. For example, the *anticipatory competency* was difficult to map in all three cases, which could mean I have looked for the wrong alternative terms, or solely that the skill is not given relevance in the text analysed. However, having kept an effort to be unbiased, I believe these possible lapses were not enough to drastically affect the final results.

Initially, there was the intention of comparing national design to local implementation. For that purpose, I had tried to contact teachers' unions in each country, both through email and telephone, in order to recruit teachers for focus groups interviews or union employees for individual interviews. Ministries of education were contacted with the same objective. However, reciprocal contact was very limited, and recruitment was not possible. Furthermore, the project originally planned was itself impossible to harmonise with the time and length limitations. Therefore, this thesis is dedicated to the deep analysis of the syllabus and learning objectives in each curriculum, which is the central method, with the informal consultation of ESD experts having the purpose of simply contributing to the reflection on the results.

In relation to consulting experts, it is also necessary to consider other ethical precautions. Discussions were not anonymous, as the role of each expert was relevant. Thus, experts had to report their informed consent for being directly quoted. Any computer programme used, in this case for video-conferencing and recording, is very likely to collect its own part of the information, which was also mentioned as a consent requirement. Finally, since an expert population is the object of discussions and risks misinterpretation by the researcher, every participant had access to the drafted Discussion chapter and the right to withdraw their consent or request alterations until a defined deadline. They are also receiving direct access to the final thesis. Yet, they have not received the role of

co-researchers and alterations to the meaning of research findings would not have been accepted (Bogner et al., 2009, p.198). A reference to the ethical considerations submitted to the experts prior to our discussion for informed consent, which follows the General Data Protection Regulation (GDPR) (2016), is made in appendix E.

Finally, it is important to reflect on my role as a researcher. As an outsider to all three societies, and a student of a field not specialised in education, my knowledge may be limited or possibly reflect misinterpretations. I must therefore commit to being as unbiased and as scientific as I am capable of, and strictly follow the structure I have created and believe is accurate under political science and development studies standards, which are the fields I intend to contribute to (Mason, 2018, p.103).

5 Empirical Analysis

This chapter is constituted by three case summaries. At this stage, I start by resorting to previous research to create a contextual background for each educational system. Then, a description of each case and the results of its thematic coding follows, continuing the narrative of each summary. For an extensive numeric description of keyword frequency, the tables in appendixes B, C and D should be consulted.

5.1 Cuba

Until independence from Spanish colonisation, in 1902, the Cuban educational system was ruled by elites and the Catholic Church, and so heavily characterised by inequality in access (Brandhorst and Marín, 2021, pp.467–468). By intervening in the Spanish-American War, the United States of America (USA) created a situation of dominance after said independence which did not allow for much improvement in Cuban education. Illiteracy was high and access was unequal, with differences based on class, ethnicity, and financial capacity, which were perpetuated by the economic and political instability (Bridges, 2020, p.136; Brandhorst and Marín, 2021, pp.469–470).

It was the socialist revolution of 1959 that radically altered the educational system of Cuba. An educational reform was an essential element of the revolutionary programme, characterised by a strong literacy campaign which earned the country the recognition of UNESCO in 1964 as a state free of illiteracy (Bridges, 2020, p.136) and was carried on until now, with a current literacy rate of 100% (Brandhorst and Marín, 2021, p.478). In fact, education was seen in Fidel Castro's regime as an instrument of social reproduction of the socialist

revolutionary ideology, as well as to strengthen societal bonds in times of difficulties (Bridges, 2020, pp.135–137, 150). While supported by the trade agreement and ideological alignment with the Union of Soviet Socialist Republics (USSR), Cuba worked on expanding the number of schools, unionising teachers, increasing the number of mandatory school years, and investing in vocational education to satiate the labour needs, while assuring that all kinds of education were administered for free and of equal access (Brandhorst and Marín, 2021, pp.471–474, 477).

When the Soviet Union was dismantled, Cuba maintained its socialist, one-partied regime. However, it embarked on an economic crisis due to the loss of soviet subsidies and the strengthening of the economic blockade ordered by the USA, in 1992 (Bridges, 2020, p.143; Brandhorst and Marín, 2021, p.474). This meant that the Cubans had to conduct an economic reform, partially opening to the global market, which nonetheless did not greatly affect the government's dedication to education (Brandhorst and Marín, 2021, p.474) or the people's support of the political system (Bridges, 2020, p.143). Thus, a strong socialist identity had in fact been created through education (ibid), and critical pedagogies as aspired by Freire (1974) were indeed developed, reinforcing a fight for liberation from the imperialist tactics of the USA (Bridges, 2020, pp.149–150).

Nowadays, education is centralised, completely free, and highly connected to societal values and public policy (Bridges, 2020, p.144; Abreu et al., 2020, p.2). Although there is increasing pressure for partial privatisation, there is a strong effort from both Cuba's Ministry of Education (Ministerio de Educación – personal translation) and the community to maintain the educational system as it is and further develop it. School is now mandatory until the age of 15 (Brandhorst and Marín, 2021, p.481), student scores are some of the highest in the Latin American region (ibid, pp.477–478), and international goals are under the spotlight, with ESD being incorporated since 1992 (Abreu et al., 2020, p.4).

According to their report on SDG 4.7.1 to the UN, the ministry expects sustainable development themes to be taught throughout various school levels and courses, which demonstrates a whole-school approach, although not directly

referenced and with lack of specification on lower secondary education (UNESCO, 2022, pp.1–2).

The document analysed is the most recent curricular adaptation for lower secondary education, with a total of 189 pages. It lists each subject taught in every course and describes their objectives, activities, and evaluation methods. It also addresses the general objectives of the lower secondary level. In the total of pages, *sustainable development* is referenced 13 times. Right in the first paragraph "sustainable and prosperous development" is meant as an ideal that guides the learning objectives of the full curriculum (Ministerio de Educación de la República de Cuba, 2020). In concrete courses, the term is used for Spanish Literature, History, Natural Sciences, Biology, Geography, English, and Civic Education (Español Literatura, Historia, Ciencias Naturales, Biología, Geografía, Inglés, and Educación Cívica – personal translation), therefore demonstrating an *interdisciplinary* attention to the goal.

When it comes to content, out of the three dimensions of development, *society* is much more represented than *economy* and *environment*, with a direct reference of 100 times compared to 29 and 41, respectively. The *social dimension* has a special focus on *peace and conflict* (when the word *war* is considered), *good health*, *responsibility and social responsibility*, and *cultural diversity and respect*, with all other keywords referenced only 10 times or less. Emphasis was also placed on *citizenship* and *labour* dynamics, even though my methodological structure does not predict their coding. Indeed, critical reflection on labour is even reflected on a specific course called Labour Education (Educación Laboral – personal translation), which is much more directed at the practicalities and contributions of labour to society than at the financial aspects of it. Seen as a socialist teaching, this may bring back the point from critical theories that the existing international structures for sustainable development are still excessively dedicated to economic growth. Lastly, other words that were not categorised but seem relevant in this dimension and are often used in the text are *discrimination* (referenced nine times) and *violence* (10 times), which can both be connected to phrases such as *social* and *gender inequality*, *diversity*, and *conflict*.

Regarding the *environmental dimension*, *energy* (sometimes taken as a chemical measurement and not directly connected to the environment), *biodiversity*, *natural resource management and conservation*, and *environmental protection* were the most frequent keywords. Both *biodiversity* and *natural resources* were presented in multiple ways, since the text addresses the diversity and preservation of plants, animals, bacteria, and all sorts of species in the living world. In contrast, *environmental protection* is treated in a much broader sense, with sentences alluding to the general preservation of nature or the biosphere. The concept of *fresh water* was missing, but there was some attention on water as a precious resource in need of rational consumption.

As mentioned above, the *economic dimension* is the least emphasised in Cuba's curriculum. *Industry* and *clean production* are the most written about, though still with low frequency. In the *industry* code, there were no references to *innovation* or *infrastructures*. References to *production* mostly revolved around sustainable agriculture, or production and service sectors in general. For *sustainable cities and communities*, there was simply a superficial idea of caring for the green spaces in the community. I consider important to note that, albeit not extensive, there is reference to eradicating *poverty* and *hunger*.

At the level of *competencies*, *normative*, *problem-solving* and *self-awareness* are the most relevant, with the dispersion of *norms* and *values* being much higher than any other skill, which may indicate a tendency to a traditional mode of teaching where the transition of standardised knowledge is prioritised. That being said, *critical thinking* was still more present than in the other countries' curricula, which can descend from the revolutionary character of this particular educational system. Conversely, *self-awareness* at times shows a stricter notion, that of *self-regulation*. Nonetheless, all skills are at some point chosen as objectives, except for the *anticipatory competency*.

Finally, no translation for *holistic* was found in the document and there are unexpectedly little references to the *students* or *learners*. With the rest of the words searched at this category being at frequency zero, only few phrases related to *interactive*, *action-oriented*, *participatory*, *active*, and *transformative*

pedagogies were found. Coming back to the *holistic* idea, it is important to establish that although not strictly referenced, this document presented a *whole-school* perspective with *content*, *competencies* and *pedagogies* associated to ESD spread around many courses, which I believe qualifies anyway as a holistic approach.

Because in this case there was only one document analysed, which presents the curricula of each course, I considered important to discriminate which courses contain more syllabus and learning objectives on ESD. For that, I looked at the pages for each course through NVivo and identified the ones with most coding strips. The courses with more ESD coding were History, and Natural Sciences and Biology (the last two considered together because one transitions to the other between seventh and eighth grades). At a lower frequency, but still giving great importance to the matter, are the courses of Physics (Física – personal translation), Geography and Spanish Literature.

In sum, Cuba's ESD strategy does translate the socialist intention of refusing the capitalist economic system, despite the current partial opening to the global market. Economic growth is not within the main goals of education and there is a high value given to the *society*. As mentioned in previous studies, the *critical* ideological character is clearly present in the curriculum. Under UNESCO's framework, Cuba seems to align with the success standard, particularly in the *content* category, though also reflecting heavily an *interdisciplinary approach*. Simultaneously, Cuba's education continues to be very inclusive of the national context.

5.2   France

France's first effort at universalising education dates back to the 18th century. Historically colonising and rich, traditionally with a catholic education system, the French nation used secular and public education as an instrument against its own monarchy (da Silva, 2007, p.100; Derouet, 2017, p.524). After a century of

revolution, a new monarchy and two empires, the republic was reinstated, and school first became mandatory up to 13 years of age in 1882 (da Silva, 2007, p.103; Carle, 2023). Illuminism was the guiding light of the education projected during this century, as it was part of its beliefs that a secular, public, free, and universal educational system would contribute to a civilised nation (da Silva, 2007, pp.100, 103).

Educational ideas throughout the 20th century were not so homogeneous, following internal political instability. Holding on to its colonies, school still transmitted considerably cruel values (da Silva, 2007, p.110). Mandatory schooling went up to 16 years old in 1959, where it stagnated until the current day (Carle, 2023). More, there was strong resistance to put students in the centre of the pedagogical approach (Derouet, 2017, p.527).

Because it is a highly public system, resisting marketisation by conditioning the few private schools to the public curriculum, it has faced unstable changes during the second half of the last century and the beginning of the current one, as each democratic party that rose to power has made contrasting efforts into or away from decentralisation (Derouet, 2017, pp.524–531). Until now, it has remained an extremely centralised system, leaving little space for the participation of multiple stakeholders (ibid, pp.529, 533). Another problem still in action is that inequality in access to education still rises as school levels go up, which means that many disadvantaged individuals finish school through vocational lower secondary schools due to lack of resources to continue further (Bulle, 2019, pp.445–446). Overall, research indicates that democratisation did not necessarily have a positive impact on the French educational system, which grew its roots way before the Fifth Republic (Derouet, 2017, p.537; Bulle, 2019, p.448).

Yet, some change has been happening that aligns with UNESCO's objectives. Slowly, French education has opened up to external stakeholders and pedagogies that go beyond the simple acquisition of normative knowledge towards behavioural influence (Barthes, 2018, pp.5–9). However, Barthes (ibid, pp.6–7) does reproduce the national resistance to this opening, alerting to the financial and ideological values that external entities may try to impose, the weakening of

critical thinking that may come with teaching social actions instead of unbiased knowledge, and the persistent vision of development as economic growth that seems to accompany this kind of education in France.

When reporting on its ESD design, the French government has indeed selected extracts that describe as an aim to teach students the impact of their actions and of responsible behaviour (UNESCO, 2022, p.4). It has reported a policy, activated in 2020, which enforces notions of sustainable development throughout all school years starting in pre-school, with increasing complexity. It also predicts that relations between the environment and society are approached in different courses, in spite of emphasising the role of the course of Life and Earth Sciences in lower secondary school (cycle four) (ibid, pp.5–6).

Results from the thematic text analysis of the French curricula definitely seem to align with the global goals for ESD in content. Out of a total of 95 pages, divided into three documents – a whole-school plan for ESD and the learning objectives and syllabus of Life and Earth Sciences – *sustainable development* was referenced 210 times, albeit only once on the specific course's curriculum.

As it was for Cuba, *society* was the most frequent dimension, although with a small distance from the other two, with 26 mentions. Here, the most relevant keywords were *leadership and partnership*, *responsibility and social responsibility*, *good health*, *cultural diversity and respect*, and *social equality and inequality*. The last showed the interesting aspect of reflecting on inequality beyond the national level, mentioning development disparities in-between countries (Éduscol - Ministère de l'Éducation nationale, de l'Enseignement supérieur et de la Recherche, n.d., p.21). However, *war* does not have any reference, and *peace* and *conflict* only have frequency of two and three respectively (five in total). *Discrimination* (referenced three times) is again somewhat relevant, but there is no mention of *violence*.

In this case, *environment* continues to receive more attention than *economy*, with a frequency of 13. The most frequent keyword of this sub-category is *biodiversity*, which out of the 61 times cited, only is in the Life and Earth Sciences' curriculum 10 times. This proportion is similar to the other key-

sentences, with the only two other phrases of frequency 10 or above being *climate change* and *resource management and conservation*. Once again, references to *biodiversity* and *resources* come in different forms, addressing diversity and preservation of water, waste, animals, bacteria, and other natural elements. *Fresh water* is also not described as such, but there is one mention of water as a basic need.

Only directly approached twice, the *economic dimension* is also only addressed on the general whole-school document. Although not extremely recurrent, this sub-category is dynamic in France. All keywords except for *sustainable or blue economy* are displayed, the most common being *sustainable cities and communities*. There is an important discourse on eradicating *hunger* and *poverty* at an international level, and *industry* is referred to along with *innovation*, considering a connection between *production* and the environment.

Competencies are referenced in small numbers. The most frequent, *normative competency*, shows 17 words throughout the texts, followed by eight mentions of *system thinking*. *Self-awareness*, *collaboration*, and *critical thinking* are tied at a frequency of six times. Only *critical thinking* and the *normative* skills are mentioned in the documents for the Science course. The *anticipatory competency* is again the only skill that is never addressed.

In contrast, the French documents present a strong *holistic* and *learner-centred* character. Words that refer to a *holistic approach* appear 21 times, and to educating and shaping *students*' behaviours 177 times. *Pedagogy* focuses on *participation* and *action*. But at a smaller scale are also *active*, *critical*, *empowering*, *interactive*, and *transformative*.

Overall, there is a big emphasis on educating students about how present actions impact the future and giving them the tools to construct sustainable development, with different contributions from different sectors of school for a wide perspective. *Content* is vastly dispersed through the three texts, and although *competencies* are not so explicit, a large number of *pedagogical strategies* and a solid centring of *students* may indicate a greater transmission of capacities than it is written. France indeed looks like it is close to fully integrate the international

framework. Nevertheless, the variety on the *economic dimension* may indicate that its curricula is not necessarily intensifying a neoliberal lens to which the population opposes to, but rather following the national ideological trend of rejecting economy as the centre of education, and in some way, development.

5.3 Romania

Historically, Romania served for a long time as a stage for territorial disputes. At the time of unification, after World War I, through the kingdom of Greater Romania, education seemed to be used to disperse unionising ideas, but also skills that would apt children for the quotidian tasks, through vocational secondary schools and university (Maier and Sdrobis, 2019, p.47). In fact, Romanian education was developed enough at the beginning of last century to be redesigned in order to fit a wider territory with deep social heterogeneity (ibid, p.48). But those objectives failed by the beginning of World War II, with little adherence from the population (ibid, pp.48–49).

Romania's integration into the Soviet bloc in 1948 assured equal and free access to education, which became officially mandatory for the first four grades (Marin, 2018, p.28). Nonetheless, USSR's influence also meant the deterioration of previous advances, by reducing the total amount of school years before university and limiting the access of children from previously rich families to high school and university (ibid). Although in the following 20 years mandatory schooling would increase up to 10th grade, the principal goal of Romanian communist education remained to create militant citizens available as labour force (ibid, p.29). During this period, enrolment increased, and so decreased illiteracy, but school served mostly as a propaganda tool for future disciplined workers (ibid, pp.29, 33, 38).

The end of the socialist regime, in 1989, meant for Romania a sudden entrance in a global market that was in itself under a transition into a knowledge or information based economy (Ardelean et al., 2014, p.371). This resulted in

Romanian students lacking preparation to satisfy the needs of the international labour market (Bălăceanu et al., 2020, pp.215–216). But facing a competitive system, the post-communist government has consistently failed in investing in education, turning proper access dependent on private possessions or external funding (Achim, 2015, pp.1201–1204; Bălăceanu et al., 2020, p.217). Literacy skills and international assessments are still low-quality, pedagogy focuses mostly on memorising techniques and dedicates little time to developing competencies, and there is a lack of interdisciplinarity (Ardelean et al., 2014, pp.372, 375; Bălăceanu et al., 2020, pp.218–219). An important criticism to consider here is that the designed policies for education are missing the necessary characteristics for being adequately implemented (Bălăceanu et al., 2020, p.221).

Currently, the Romanian educational system is centralised, albeit with some flexibility for school decisions and external funding (Wilk, 2017, p.110; Diaconu et al., 2022, p.247), and mandatory schooling now goes up to 15 years of age and is expected to soon rise to 16 (Edupedu, 2020). ESD appears to be expanding (Andritoiu, 2019, p.204) and there has been an effort to align with educational international standards (Bălăceanu et al., 2020, p.217).

In its report, the educational authority declared to have integrated the knowledge and attitudes associated to ESD throughout all school levels. Vocational secondary training has also gained multiple "green" options (UNESCO, 2022, p.11). Within lower secondary school, ESD is taught in the mandatory courses of Biology, Geography, and Technological Education and Practical Applications (ibid, p.10). There are also five courses that are not mandatory and are left up to each schools' decision: Ecological Education and Environmental Protection, Intercultural Education, Education for Democracy, European Union Institutions, and Education for Development (official translations from report) (ibid, pp.10–11). All these seem relevant, but only the course of Ecological Education and Environmental Protection was analysed, as it was the only curriculum out of the five reported to be taught at lower secondary level (ibid). However, there is a clear separation, as an optional course cannot be expected to have the same reach and impact as mandatory courses.

Content-wise Romania's curricular documents show lapses in integrating ESD. Out of 76 pages (14 of which are non-mandatory curriculum), *sustainable development* is referenced 12 times (10 in mandatory curriculum), *environment* 118 times (85 in mandatory curriculum), *society* 11 times (10 in mandatory curriculum), and *economy* nine times (all in mandatory curriculum). Many keywords are missing, even on the strong *environmental dimension*.

The *environment* is mentioned often but, in reality, references to *natural disasters*, *deforestation*, and *climate change* are still absent. The only two phrases that have a frequency above 10 are *energy* (which once again is sometimes rather connected to the human body's energy production), and *pollution*. There is no keyword in this sub-category that is only present on non-mandatory content. As in other cases, *fresh water* and *biodiversity* are sometimes contextualised at a more abstract level, while various forms of *natural resource* exploitation are addressed.

Society's sub-category is even more empty. The only two keywords present in the documents are *good health* (19 times, all in mandatory documents) and *population education* (once, in the course of Biology). One point of interest here is the emphasis in describing how human health can be dependent on technology and on the condition of the natural environment (Ministerul Educației Romania, 2009a, p.16; Ministerul Educației Romania, 2017, p.17). From the two words identified as pertinent in the other two cases, *violence* is identifiable once and *discrimination* is not at all.

Under the *economic* sub-category, there is the largest gap, with one single phrase referenced: *industry, innovation, and infrastructure*, from which only the first two words were actually used. There is no coding of *poverty* or *hunger*. Thus, in spite of previous research demonstrating a possible need for it, the curricula do not yet appear ready to give adequate education on economics.

In terms of *competencies*, Romania seems to come a bit closer to the other two cases. The only keyword that was not found was the *strategic competency*. That means that the Romanian curricula is the only of the three to explicitly reference the *anticipation* skill, albeit only in non-mandatory curriculum. The three most common *competencies* are *collaborative*, *normative*, and *problem-solving* (each

mainly described on mandatory curricula). *Critical thinking* is less frequent, but in fact more so than in the French curricula, which may also derive from a socialist past.

Finally, a *holistic approach* is only referenced once, and does not demonstrate itself very obvious, as there is no *whole-school* strategy and mandatory content spreads only through three courses in lower secondary. There is, though, a recurrent discussion on education with *students* or *learners* at the centre. Words connected to this aspect are of frequency of 51 times throughout all documents, 37 in mandatory curricula. *Participatory pedagogy* is more frequent in Romania than in the other two states (although this number reduces when limited only to the mandatory documents), and there are a few mentions of *active* and *interactive pedagogy*.

The results of the analysis on Romania's mandatory curricula meet the results of previous research that declares that although there is an effort to rise to the international expectations, the educational system is still far from them. By solely looking at documents directed at mandatory courses, it would be difficult to understand how Romania could be placed third in the global ranking. However, the educational ministry has designed for local implementation five different courses that address important fields of ESD, four of which at upper secondary level. The UN does not specify criteria between mandatory and non-mandatory syllabi, or for specific school levels, and there is the hope that such courses can serve as experimental subjects which can be turned into a mandatory curriculum later and therefore widespread to the entire student population. If all five optional courses increase the discussion on SD just like the one here analysed, Ecological Education and Environmental Protection, it is possible that Romania is on its way to have a complete ESD strategy. There is also some value to attribute to the local implementation of these courses, which contributes for school autonomy, and as stated in previous studies also allows for independence on getting extraordinary external funding, possibly indicating consideration for local contexts and creating a bridge between global goals and local diversity.

6 Discussion

When looking at the case summaries, there are tendencies and discrepancies between them that can be investigated. This chapter reflects on the results previously described and discusses each category and its role in each of the cases, incorporating contributions from conversations with experts in ESD: Helen Avery, Felisa Tibbits, and Aaron Redman.

Out of the three categories, *content* keywords are the most frequent. This, of course, derives from my own structure design which has defined more keywords for *content* than for any other category. It can derive as well from the fact that the documents analysed are curricula, and so have as one of their main purposes describing the knowledge to be acquired and the syllabus of each course. Interestingly, despite having almost the same number of keywords, *pedagogical approaches* have close to double the frequency of *competencies*.

Cuba demonstrates the largest frequency of *content* and *competencies*, but also of pages analysed, whereas France is the most coded at *pedagogical approaches*. In contrast, Romania has the lowest frequency of *content* and *pedagogical approaches*, while the smallest reference list to *competencies* falls on France. This means that Cuba is dedicated to ESD, but relatively lacks in *pedagogical* techniques to apply it. France, in opposition, has demonstrated *pedagogical* tools but gives little emphasis to improving *competencies*. While Romania has shown an effort related to *competencies* but is weak at *content* level and corresponding *teaching* methods. It is, then, a possibility that within the three cases, a similar qualification to UNESCO's ranking would apply.

When it comes to *content*, *environment* is the most frequent dimension, shortly followed by *society*, but distant from *economy*. The key-sentence *sustainable development* is mentioned more than all three, with a total frequency of 235 times. Another interesting factor is that in their total, *society* related keywords are

actually slightly more frequent than *environment* related ones, but that could again be influenced by a wider selection of keywords.

In the *social dimension*, the most frequent word within all countries is *good health*, with robust contributions of all three curricula. Analysing this dimension allowed for identifying a gap in the chosen structure, as countries have determined the social relevance of *violence* and *discrimination*, which I here considered as words that did not fit in only one keyword, and so could have possibly represented their own searchable code. When it comes to *environment*, *biodiversity* is the most used term, although only found in Romanian documents three times. At much lower numbers, but again existent in all three cases, the *economical* concept identified more often was *industry, innovation and infrastructure*. It is worth noting that out of all its mentions, *infrastructure* was never written.

Considering that economic growth is where the concept of development originally stemmed from, it is interesting to ponder on why it is now somewhat neglected in ESD content in curricula, as Felisa Tibbits (2023) draws attention to. Initially, it is possible to theorise that this is related to the global shift in the conceptualisation of development itself, as adapting to critical studies and becoming less centred in the Global North's principles. Yet, there may also be influential aspects characteristic of each case. Cuba has a heavy socialist ideology, which enforces a separation with the capitalistic ideas of growth, likely reflecting a lower intensity of teachings associated with it, which, as seen before, does not necessarily mean that there are no other kinds of economic education, for instance, Labour Education. France, alternatively, has historically been one of the founders of development aid as financial support, but has also historically fought against the impact of private economic interests in education, which in turn may also explain a reluctancy in incorporating ideas of production or innovation into its curricula. The third, Romania, recently abandoned a regime that also opposed to market ideology, and currently faces considerable bureaucratic challenges that create a barrier in their national investment and growth, which may indicate that authorities do not yet hold the knowledge to surpass such challenges, and thus neither to transmit said knowledge in school.

Reflecting back to the meaning of keywords, it is necessary to reinforce that frequency may not indicate the same for each country, as the significance they give to each word may differ as well (Avery, 2023). The concept of *sustainable development* is a good example: while for Cuba the environment is at centre, nonetheless connecting it to other dimensions and to local, national and international application (Ministerio de Educación de la República de Cuba, 2020, p.2); the French definition focuses more on the development part, and the dynamics between present and future, local and global (Éduscol - Ministère de l'Éducation nationale, de l'Enseignement supérieur et de la Recherche, n.d., p.5); and Romania presents a much more reductive idea, simply associating it to other specific concepts such as competitiveness, health, human impact, and a clean environment (Ministerul Educației Romania, 2009a, pp.3, 7, 9).

In *competencies*, the *normative* capacity was distinctively the most used keyword, which may connect to the predominance in curricula of traditional teaching techniques for the descriptive transmission of values. In a tie for second place are *integrated problem-solving* and *collaboration*. With relevant numbers, and shown in all three cases, were also *self-awareness* and *critical thinking*. *System thinking* is also mentioned in all cases, which, according to Aaron Redman (2023), was to be expected, as it is one of the most frequently observed terms throughout international education. Again, the *anticipatory competency* was only found in non-mandatory Romanian curriculum. Documents from every country correlate the *collaboration* skill to *teamwork*, and *critical thinking* to *critically analysing* material.

In *pedagogical* terms, *students* and *learners* are positively at focus. In one way or another, all educational authorities have written about affecting the behaviour of *learners*, while a *holistic approach* is only explicitly aspired by France. But general Cuban objectives do show by other words an intention to have *interdisciplinary* ESD. Unfortunately, one of Romania's most relevant courses for ESD in lower secondary school is not mandatory. The most relevant teaching technique is *action-oriented* (even though it is fully absent in Romania), but *interactive* and *participatory pedagogies* both come at a close second. Although

not the most common, a reflection on *empowering pedagogies* could be expanded if there was to be a connection to supporting learners' development of *competencies*, which is in fact an empowering act.

These results seem to share similarities with others from previous research. The three dimensions of development are indeed frequent in the curricula analysed, but in different quantities and having different weights on the values of education (as witnessed by Svalfors, 2017, pp.118–122; Barthes, 2018, pp.8–9), in this case with economy proportionally underrepresented. There is also an overall holistic approach in the sense that these sets of knowledge are spread throughout different courses and go beyond mandatory schooling (findings that are shared with Willats et al., 2018, p.67; Ohlsson et al., 2022, p.20; Nguyen et al., 2022, pp.8–9). In addition, ESD content is not necessarily the main priority of either of the courses here analysed (as also happened in the research of Tomas et al., 2020, pp.53–55; McGarr and Lynch, 2021, pp.999–1003). Once again, competencies seem to be neglected in written curricula, which can have negative results in its implementation and in students' development (Trad, 2019, p.365; Al-Kuwari et al., 2021, p.11). Nonetheless, the documents here analysed demonstrate alternative pedagogical approaches at a higher frequency than previous studies could lead us to expect (such as Tomas et al., 2020, pp.57–58).

The top-three ranked countries share political and historical features that may support their high qualification by UNESCO. In all three backgrounds, big advances on the quality and level of access to education seem to have always resulted from sudden political change. In spite of very different pasts, Cuba benefited from the socialist revolution, while French illuminism attributed importance to education, and post-socialist Romania felt the intrinsic need to restructure the educational system, although important steps were taken with the support of the USSR. The revolutionary character is particularly relevant in Cuba and France. I see it as connected to ESD, since there was a root idea that education can lead to positive social change, and that such idea is also at the base of UNESCO's educational framework.

As Aaron Redman (2023) pointed out, political history definitely influences the way a state responds to the SDGs, since those pathways impose restrictions to or facilitate the achievement of goals. In the case of SDG 4.7, UNESCO's ranking has clearly been affected by political backgrounds: the countries at the top all present models of education that align with a "Western-European education system" (ibid), in which primary education has been universalised, and literacy, mathematical, and other skills are heavily widespread. This means that the three countries best classified by UNESCO at mainstreaming ESD in curricula were able to do so because they no longer had more urgent educational needs to surpass, or at least not enough to obstruct ESD design. They already had a strong educational base to build upon (Tibbitts, 2023). Taking the example of *good health*, one of the most frequent teachings in each curriculum analysed, one can hypothesise that there were values of health previously taught in school, that later matched with a ESD plan (ibid). Within the wider goal of Quality Education, Cuba, France, and Romania had already overcome challenges that others still face, and that otherwise would have limited the scope of their ESD curricula. This can mean that the SDGs are still following an ideological programme that aligns with Global North standards, but it also shows the opportunity that different countries receive to establish different priorities.

Another contextual characteristic in common, of significant political relevance, is that all three countries have an educational system that is at least at some level centralised in national decision-making, though simultaneously open to the participation of local or external influences. Indeed, even Cuba, with the most centralised programme, counts with communal participation for managing schools (Brandhorst and Marín, 2021, p.479), while both Romania and France have outsourced funding, which of course comes with certain ideological compromises (Barthes, 2018, p.6; Diaconu et al., 2022, p.248).

In contrast, the studied states also differ in important attributes, which in fact may help them align with the goal in different ways. As a closed society under embargo, with a strong decolonising ideology, Cuba has become quite self-sufficient, dependent on the preservation of their own natural resources and on

strong internal solidarity relations (Avery, 2023). With a more idealistic or philosophical approach (Redman, 2023), French education sounds more abstract, with less specific commitments, which may connect to it being a rich and powerful country, that rather than responding to extreme immediate needs, assumes the role of an ideological example within the Global North (Avery, 2023). Romania, apparently in-between the other two in terms of political system, receives multiple pressures from abroad, which may indicate that ESD is here used as a tool in a modernisation process and a transition into the European Union and other international standards, where it requires creative initiatives to stand out (Redman, 2023; Avery, 2023).

At this point, it is important to disclaim once again that none of this research presents or indicates any kind of achievement in implementation. The actual success of these curricula depends on, as UNESCO itself acknowledges, wider national education policies, teacher's education and resources, and opportunities for students to actually acquire the knowledge and perform on it. Therefore, a reflection follows on what the documents analysed can in practice mean as policy instruments aligned with global goals.

The first hypothesis is that the documents may reflect a practice of box-ticking. According to Helen Avery (2023), because reports are voluntary, there is reason to believe that countries reporting on global goals may be submitting an embellished version of reality, aiming at sounding politically correct or at using greenwashing strategies, which would preserve their international image, without necessarily requiring national change or sacrificing their ulterior interests. In fact, as a one-party society, Cuba is not highly open to internal accountability (Redman, 2023), whereas France does not often use its powerful international position for supporting environmental protection (Avery, 2023), and Romania seems to have educational needs of higher priority, like literacy, and is still under heavy administrative processes (ibid). That means that their documents may not reflect their schools' daily implementation. This hypothesis aligns with critical theories, denouncing the SDGs as a disguise for a development concept that at its core still relates to belonging to a group, oriented by the Global North's interests,

and submitted to private concerns of economic growth (Avery, 2023). That may be the case with the full absence of the concept of *sustainable and/or blue economies* from all three curricula, for example. Despite a post-colonial agenda, and the long-lasting objective of combating climate degradation while reducing social and economic inequalities, the UN agencies were built upon, and still hold, colonial structures, which continuously stain the current global goals.

The second hypothesis is more hopeful. The SDGs can be understood as representing a political compromise between environmental preservation, social justice, and economic growth, that require that "developed countries" take responsibility over them (Avery, 2023). In terms of ESD, they promote education as a technological fix to spread awareness for those values, an idea that dates back to the Rio Conference, in 1992 (ibid). Considering the voluntary character of the goals, it is easy to assume that national reports may not reflect a real implementation of the values in question. However, writing them down as national objectives, through documents such as curricula, exposes such documents and the policies they portray to internal and external accountability mechanisms. That means that, even if they do not symbolise precisely what happens in classrooms, curricula are submitted to civil society's scrutiny, which has the power to advocate for their real implementation, especially when supported by the international community (Redman, 2023). In addition, countries' reports create the opportunity for transparency, and for countries to learn from each other without being imposed one single standardised approach (ibid). Through this theorisation, UNESCO would serve as a forearm at responding to critical studies, and so would the global governance system. The SDGs, as global goals set by the UN, of voluntary application by member-states, have indeed impact, even if limited and not enough to achieve all necessary change, as measuring voluntary actions can only pressure governments until a certain stage (Avery, 2023; Redman, 2023). In the present study, evidence that supports this hypothesis is for example the strong incorporation of *critical pedagogies* through *holistic* and *learner-centred* approaches.

Because implementation is not investigated in this thesis, testing these hypotheses is not possible here, but may serve as a base for future research. Either way, global goals show to have increased relevance when they can be applied differently in different contexts, whether because they can stand for new innovation opportunities for diverse actors (Avery, 2023), or because they can be introduced to countries with singular backgrounds and distinct levels of preparedness (Redman, 2023).

In sum, curricula can be an instrument where national governments express international objectives as policy in the written form. The countries at the top of UNESCO's ranking have received such position through a compilation of their political backgrounds and previous educational policies, as well as their written commitment to integrating ESD in school curricula through the guiding of SDG 4.7.1. Hence, such written effort reflects a national ideological alignment to the global goals afore discussed. Yet, by itself, a written commitment has little significance, and needs to be coordinated with actual implementation through teachers' education and the distribution of the necessary time and resources for schools to fully transmit the knowledge and competencies associated with ESD. Furthermore, the documents require accountability from governments that shall be enforced by citizens. If that is the case, Cuba, France, and Romania can be close to reaching SDG 4.7 and having a positive impact on their societies and future generations. Critical development studies definitely still have their place and must be accounted for, but it is possible that global governance through goal-setting at a voluntary base is in action when looking at the SDGs, and so may be suitable for a development setting attentive of previous neocolonial and neoliberal tendencies.

7 Conclusions

Throughout this chapter, I reflect over the results of the thesis, connecting them back to its original purpose as defined during the introduction. My conclusions aspire to make clear the interactions between each chapter and section of this study, as well as to contemplate on its meaning for future opportunities.

In the sustainable development agenda, education is considered important to equip future generations with the necessary tools to respond to changes that either cannot be avoided or will be necessary. That is why UNESCO has devoted much of its discourse to education, and most recently to ESD. Within the extensive framework designed by the international institution, Cuba, France, and Romania were the three countries best qualified worldwide for mainstreaming ESD in curricula. Owing to such ranking, they were selected for the present thesis to be analysed as part of the case study. The theoretical approach argued that a scenario where international institutions practise global governance, by setting international goals, which are, however, of voluntary character and can only be achieved through national policy implementation, can contribute to a process of development more detached from previous traditions of colonialism and economic growth, and more suitable to cultural diversity and local contexts, connecting global to national and local. By discussing the results described in each case summary, hypotheses on the direction of the specific goal, the SDGs as a whole, and the above-mentioned global governance scenario were constructed, although their testing relies on future measurements and long-term assessments, and not in the current research.

Cuba, France, and Romania have very distinct political backgrounds. However, they have demonstrated similar educational histories, which have attributed to them a good control over basic educational needs, and so created the necessary conditions for their ministries to explore the integration of ESD in

curriculum design. Curricula indeed shows itself in the three cases as a national policy document that describes educational objectives, and so, when writing those documents aligned with ESD, governments do show at some level the commitment to an international goal set by the UN. Reflecting on the case summaries also allowed me to verify that each curriculum is still taking into account the local and national ideologies and priorities.

Within the three countries, UNESCO's ranking can be regarded as significantly aligned with its framework and objectives, though requiring little material for measurement. Cuba, ranked first, has the highest concentration of ESD content and competencies on its written curriculum, whereas France, ranked second, holds a strong holistic design, where ESD takes a central role. Overall, Romania is the case that appeared to me less congruent with its ranking, as it was difficult to identify in the documents frequent aspects of ESD, which is of course limited to the analysis here performed, specifically to mandatory lower secondary school.

However, as implementation and students' development are not here measured, the real value, strength, and efficiency of these national policies cannot be determined. Notwithstanding, when aligned with UNESCO's framework and previous research, the curricula analysed mostly follows what can be defined as a positive direction. In other words, the categories inspired by the literature and international structure previously designed were vastly identified in the curricula of the three countries. Throughout this thesis, I have considered that as positive, since it indicates a national plan to empower students with economic, social, and environmental competencies that can improve their quality of life.

When it comes to positive change, the question becomes more complex. The ranking that deems the cases as successful relies on voluntary reports, which in 2020 were in a relatively small amount when compared to the total number of UN member-states. So, reviewing the validity of the ranking becomes important: what can it in fact mean, how reliable is it, how are the intentions it represents really implemented, what change can it signify in the development setting? One argument is that real change cannot be concluded simply from written curricula,

which can in fact represent an illusion to disguise hidden interests with possible negative consequences. The other argument is that formalising policy intentions through text initiates a process of accountability in which such text and its authors will be pressured into real implementation, and so hopefully real positive change.

To answer my stated research question, curricula from Cuba, France, and Romania for mandatory lower secondary schools have integrated ESD as outlined in SDG 4, although at different depths. The way they have done so was also different, as Cuba shows a heavy critical economic ideology but creates strong awareness for social and environmental justice, whereas France demonstrates a more holistic and idealistic idea of sustainable development, and Romania tends to focus on some specific targets within the international framework. In general, the efforts for ESD, that the national curricula as part of educational policy reflect, do seem to align with SDG 4.7.1 and be oriented by the values set by the UN through global goals.

Furthermore, I regard my keyword and categorisation structure as of relevance, since there is a lack of justification from the UN for the ranking they have presented and the reports from each country are in reality quite short (one to two pages). By drawing from different researchers to construct a structure to assess ESD curricula under the UN value-base, I believe I have created a structure that harmonises methods from previous studies into one single framework, which may be beneficial for future researchers and applied to other reporting countries. Additionally, educational authorities from states working on ESD can be inspire by the achievements, gaps, and contextual specificities depicted on this and other analyses. There is also an opportunity to deepen the research on the three countries studied here, by, for example, looking at other school levels, or at teachers' experiences and student achievements, with the purpose of assessing implemented and learned curriculum. That being said, the thesis presents some limitations, as the structure did not include every single element of interest (for example, words like *violence* or *discrimination*), the sample is small, and it refers simply to policy design through curricula, and so other policy instruments and implementation are not here measured.

As a last conclusion, accounting for the example of ESD, I believe that, if properly implemented, national policy that aligns with the post-2015 UN agenda can partially respond to critical development theories by adapting international standards to corresponding national and local contexts, needs, and priorities. In addition, by using the global governance lens, I consider that the SDGs can lead to a more equal process of sustainability. Going back to Nordén and Avery's citation used at the beginning of my introduction (2021, p.10), it is my personal view that ESD can indeed empower learners into global self-determination, and perhaps, one day, a better world.

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Appendixes

This additional chapter presents tables and texts that support the principal research and provide further information.

Appendix A – Table for Keyword Translations

The first column of the table below represents the keywords used in the thematic text analysis, whereas the other three columns refer to the translation of each expression into the language of each study case. Words coming after slashes (/) are alternatives that were equally searched, and words in brackets () were searched along with the main word only when further specification was considered necessary. As explained during the methodological chapter, these translations were submitted to peers with the respective mother tongue for confirmation and necessary alterations, except for Spanish, for which I relied on my own capacities.

Keyword	Spanish	French	Romanian
Sustainable Development	desarrollo sostenible	développement durable	dezvoltare durabilă/sustenabilă
Society	sociedad	société	societate/societatea
Ethics	ética	éthique	etica/ă
Human Rights	derechos humanos	droits de l'homme/humains	drepturilor omului
Responsibility/Social Responsibility	responsabilidad (social)	responsabilité (sociale)	responsabilitate/tea socială
Cultural diversity/cultural respect	(diversidad/respeto) cultural	(diversité/respect) culturel/le	diversitate/tea/respect cultural/ă

Keyword	Spanish	French	Romanian
Leadership/partnership	liderazgo/asociación/colaboración	*leadership*/direction/dirigeant/partenariat	conducere/colaborare
Good health	(buena) salud	(bonne) santé	bună sănătate
Social welfare	bienestar/previsión social	sécurité sociale/bien-être social	protecția/e socială
Peace/conflict	paz/conflicto/guerra	paix/conflit/guerre	pace/conflict
Education quality	educación/enseñanza (de calidad)	éducation de qualité/qualité de l'éducation	calitatea educației
Social equality/social inequality	(des)igualdad (social)	(in)égalité sociale	(in)egalitate/tea socială
Gender equality/gender inequality	(des)igualdad (de género)	égalité des sexes/genres	(in)egalitate/tea de gen/între sexe
Population education	(educación de) población	éducation des populations	educația/e populației
Economy	economía	économie	economie/a
Sustainable cities / communities	ciudades/comunidades sostenibles	villes/communautés/collectivités (viables/durables)	comunități/orașe durabile/sustenabile
Sustainable (blue) economy	economía sostenible/azul	économie durable/viable/bleue/*blue economy*	economie/a/i durabilă/sustenabilă/maritimă/albastră
Zero hunger	hambre (cero)	faim (zéro)/(zéro) faim	(zero) foame
Industry, innovation and infrastructure	industria/innovación/infraestructura	industrie/innovation/infrastructure	industrie/inovare/infrastructură
Clean production	producción (limpia)	production propre	producție curate/ă
No poverty	(no/sin) pobreza	(pas de) pauvreté	(fără) sărăcie
Circular economy	economía circular	économie circulaire	economiei circulare
Environment	medio( )ambiente	environnement	mediu(l)
Environmental protection	protección del medio ambiente/medioambiental	protection environnementale	protecția mediului
Fresh water	agua (dulce)	eau douce/potable	apă

Keyword	Spanish	French	Romanian
			dulce/proaspătă
Natural disasters	desastres/catástrofes (naturales)	désastres/catastrophes naturelles	dezastre/catastrofe naturale
Deforestation	deforestación	déforestation	defrișare/despădurire
Pollution	contaminación/polución	pollution	poluare
Energy	energía	énergie	energie
Natural resource management / conservation	(gestión/conservación/preservación/ protección de) recursos naturales	(gestion/conservation des/preservation des) ressources naturelles	(gestionarea/conservarea) resurselor naturale
Climate change	cambio climático	changement climatique	schimbăr(ile) climatice
Biodiversity	biodiversidad/diversidad biológica	biodiversité/diversité biologique	biodiversitate(a)
System thinking competency	(competencia de pensamiento) sistémico/a	(compétence de) pensée/raisonnement systémique	(competența de) gândire sistemică
Anticipatory competency	(competencia [de]) anticipación/anticipatoria	(compétence) anticipée	(competență) anticipativă
Normative competency	(competencia) normativa/valores /normas	(compétence) normative/normes /valeurs	(competență) normativă/norme/ valori
Strategic competency	(competencia) estratégica/estrategia	(compétence) stratégique/stratégie	(competență) strategică
Collaboration competency	(competencia de) colaboración/colaborativa	(compétence de) collaboration/collaboratif/ve/collaborent	(competența de) colaborare/a colabora
Critical thinking competency	(competencia de) (pensamiento/reflexión) crítico/a	(compétence de) (pensée) critique	(competența de) gândire critică
Self-awareness competency	(competencia de) (auto/su)conciencia	(compétence de) connaissance/ conscience de soi	(competența de) (auto)cunoaștere
Integrated problem-solving competency	(competencia integrada de) resolución de problemas/*proble*	(compétence intégrée de) résolution de problèmes	(competența de) (soluții integrate pentru) problemele/proble

Keyword	Spanish	French	Romanian
	m-solving		mă
Holistic approach	(enfoque) holista/holístico/integral	(approche) holistique/globale/intégrée	(abordare(a)) holistică/holistice
Student/Learner-centred pedagogy	(pedagogía) centrada en el alumno/estudiante/educando	(pédagogie) centrée sur l'apprenant/l'étudiant/l'élève(s)	(pedagogie) centrată pe student/elev/mai puține/elevul/elevi
Critical pedagogy	pedagogía crítica/oprim-/libertad	pédagogie critique/opress-/liberté	pedagogie critică/opress-/libertate/a
Participatory pedagogy	pedagogía participativa	pédagogie participative	pedagogie/a participativă
Empowering	empodera/capacita/potencia/empoderamiento/autonomía/autónoma/o	autonomi(sation)/habiliter	împuternicire(a)/abilitare
Action-oriented	orientado/a a la acción	orienté vers l'action/pragmatique	orientat(ă/e) spre acțiune
Interactive	interactivo/a/interacción	interactif/ve	interactive/interacțiune
Active	activo/a	actif/ve	activ(i/ă)
Transformative	transformador/a/transformativo/a	transformateur/trice	transformator/toare/transformativ

Appendix B – Table of Coding per Case

This table was automatically produced by NVivo and is organised by the total keyword frequency for each case. The order does not necessarily follow my written thematic analysis, as NVivo prioritises alphabetic order and I have instead created a narrative. Nonetheless, each keyword is placed under the corresponding sub-category, which is placed under its category. Categories (the exact words of *content*, *competencies*, and *pedagogical approaches*) were not quantified, as there was no word search done for them, but sub-categories (*society*, *holistic approach*, etc.) were in fact localised and coded.

	Cuba	France	Romania
Competencies			
Anticipatory	0	0	1
Collaborative	9	6	19
Critical thinking	10	6	7
Integrated problem-solving	21	1	12
Normative	50	17	13
Self-awareness	19	6	1
Strategic	3	3	0
System thinking	1	8	3
Content			
Economy	29	2	9
Circular economy	0	2	0
Clean production	8	3	0
Industry, innovation and infrastructure	13	6	13
No poverty	1	4	0
Sustainable (blue) economy	0	0	0
Sustainable cities, communities	2	8	0
Zero hunger	2	2	0
Environment	41	13	118
Biodiversity	47	61	3
Climate Change	4	29	0
Deforestation	1	0	0
Energy	55	7	20
Environmental protection	18	1	4

	Cuba	France	Romania
Fresh water	5	1	2
Natural disasters	2	0	0
Natural resource management, conservation	27	10	5
Pollution	8	5	15
Society	100	27	11
Cultural diversity, cultural respect	39	12	0
Education quality	2	5	0
Ethics	2	5	0
Gender equality, gender inequality	2	2	0
Good health	53	21	19
Human Rights	8	0	0
Leadership, partnership	1	39	0
Peace, conflict	76	5	0
Population education	10	8	1
Responsibility, social responsibility	44	28	0
Social equality, social inequality	3	11	0
Social welfare	2	1	0
Sustainable Development	13	210	12
Pedagogical Approaches			
Holistic Approach	0	21	1
Student, Learner-centred Approach	10	177	51
Action-oriented	23	25	0
Active	5	6	4
Critical pedagogy	0	4	0
Empowering	0	1	0
Interactive	31	6	2
Participatory pedagogy	13	12	14
Transformative	3	8	0

Appendix C – Table of Coding per Document: France

The table for France was also automatically produced by NVivo and is organised by the total keyword frequency for each French document, with the total frequency displayed on the last column. The order again follows NVivo's alphabetic priority, and categories, sub-categories and keywords were equally coded, or not, through the defined methodology. The names of the courses are presented in their original language.

	Holistic Approach	Science de La Vie et de La Terre - Learning Objectives	Science de La Vie et de La Terre - Syllabus	France - Total
Competencies				
Anticipatory	0	0	0	0
Collaborative	6	0	0	6
Critical thinking	5	1	0	6
Integrated problem-solving	1	0	0	1
Normative	16	1	0	17
Self-awareness	6	0	0	6
Strategic	3	0	0	3
System thinking	8	0	0	8
Content				
Economy	2	0	0	2
Circular economy	2	0	0	2
Clean production	3	0	0	3
Industry, innovation and infrastructure	6	0	0	6
No poverty	4	0	0	4
Sustainable (blue) economy	0	0	0	0
Sustainable cities, communities	8	0	0	8
Zero hunger	2	0	0	2
Environment	13	0	0	13
Biodiversity	51	3	7	61
Climate Change	27	1	1	29
Deforestation	0	0	0	0

	Holistic Approach	Science de La Vie et de La Terre - Learning Objectives	Science de La Vie et de La Terre - Syllabus	France - Total
Energy	7	0	0	7
Environmental protection	0	0	1	1
Fresh water	1	0	0	1
Natural disasters	0	0	0	0
Natural resource management, conservation	6	0	4	10
Pollution	2	2	1	5
Society	26	0	1	27
Cultural diversity, cultural respect	12	0	0	12
Education quality	5	0	0	5
Ethics	5	0	0	5
Gender equality, gender inequality	2	0	0	2
Good health	14	4	3	21
Human Rights	0	0	0	0
Leadership, partnership	39	0	0	39
Peace, conflict	4	0	1	5
Population education	2	4	2	8
Responsibility, social responsibility	26	1	1	28
Social equality, social inequality	11	0	0	11
Social welfare	1	0	0	1
Sustainable Development	209	1	0	210
Pedagogical Approaches				
Holistic Approach	21	0	0	21
Student, Learner-centred Approach	154	23	0	177
Action-oriented	25	0	0	25
Active	6	0	0	6
Critical pedagogy	4	0	0	4
Empowering	1	0	0	1
Interactive	6	0	0	6
Participatory pedagogy	12	0	0	12
Transformative	8	0	0	8

Appendix D – Table of Coding per Document: Romania

Lastly is the table for Romania, once again automatically produced by NVivo and organised by the total keyword frequency of Romanian documents, with the total frequency displayed on the last column, and the non-mandatory course on the fourth column. The NVivo's alphabetic priority persists, as well as the coding techniques for categories, sub-categories, and keywords. The names of the courses are too presented in their original language.

	Biologie	Educație tehnologică şi aplicații practice	Geografie	Non-mandatory - Educație Ecologică Şi de Protecție a Mediului	Romania - Total
Competencies					
Anticipatory	0	0	0	1	1
Collaborative	9	8	0	2	19
Critical thinking	3	4	0	0	7
Integrated problem-solving	11	0	0	1	12
Normative	5	4	2	2	13
Self-awareness	1	0	0	0	1
Strategic	0	0	0	0	0
System thinking	1	0	2	0	3
Content					
Economy	0	5	4	0	9
Circular economy	0	0	0	0	0
Clean production	0	0	0	0	0
Industry, innovation and infrastructure	0	4	9	0	13
No poverty	0	0	0	0	0
Sustainable (blue) economy	0	0	0	0	0
Sustainable cities, communities	0	0	0	0	0
Zero hunger	0	0	0	0	0
Environment	64	20	1	33	118
Biodiversity	0	0	1	2	3
Climate Change	0	0	0	0	0
Deforestation	0	0	0	0	0
Energy	4	16	0	0	20

	Biologie	Educație tehnologică și aplicații practice	Geografie	Non-mandatory - Educație Ecologică Și de Protecție a Mediului	Romania - Total
Environmental protection	1	0	0	3	4
Fresh water	2	0	0	0	2
Natural disasters	0	0	0	0	0
Natural resource management, conservation	3	0	0	2	5
Pollution	1	1	0	13	15
Society	1	2	7	1	11
Cultural diversity, cultural respect	0	0	0	0	0
Education quality	0	0	0	0	0
Ethics	0	0	0	0	0
Gender equality, gender inequality	0	0	0	0	0
Good health	8	11	0	0	19
Human Rights	0	0	0	0	0
Leadership, partnership	0	0	0	0	0
Peace, conflict	0	0	0	0	0
Population education	1	0	0	0	1
Responsibility, social responsibility	0	0	0	0	0
Social equality, social inequality	0	0	0	0	0
Social welfare	0	0	0	0	0
Sustainable Development	2	8	0	2	12
Pedagogical Approaches					
Holistic Approach	0	0	1	0	1
Student, Learner-centred Approach	14	9	14	14	51
Action-oriented	0	0	0	0	0
Active	2	0	2	0	4
Critical pedagogy	0	0	0	0	0
Empowering	0	0	0	0	0
Interactive	0	0	0	2	2
Participatory pedagogy	4	4	0	6	14
Transformative	0	0	0	0	0

Appendix E – Interview Guide

For the experts who accepted to discuss the results, an interview guide was sent which introduced the thesis work and presented preliminary results. It first included a section denominated "Ethical considerations requiring your consent", which referred to the conditions discussed in section 5.4 of this thesis. The email included deadlines for requesting alterations and withdrawing consent, explained the absence of anonymity, linked Zoom's Terms of Service and Privacy Statement which required consent, and ensured the elimination of the recordings after the thesis submission.

More importantly, the guide established topics of conversation between me and each expert on my coding results, so they could ponder on their perspective in advance. The choice of creating topics instead of questions is to allow for freedom in the flow of conversation, following the direction the interviewee has chosen. They were directed at each consultant as such:

- "Your general perspective on the results.

- Discussing the achievements and gaps in the results of each case.

- Discussing the results by categories and keywords.

- Hypothesising about why these cases were ranked top-three based on the results.

- Reflecting on the different backgrounds and on their influence on the results.

- Reflecting on what the results mean for UNESCO's framework and global goals on ESD.

- If there is time, and you feel like it can be relevant, you will be welcome to share your feedback on the sections of my work that were presented to you, expressing how you feel they could be improved."