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SUMMARY OF THE PhD THESIS

A study of geography on education for sustainable development.

Diagnostic, perceptions and perspectives.

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Geography of education is an interdisciplinary field that studies education from a geographical perspective, analysing the influence of geographical factors on educational processes and topics such as the location, distribution and density of educational institutions at local, regional, national and international levels.

In geography of education research, geographical concepts and analysis have been instrumental in understanding education systems and, in combination with comparative education, have helped to build new perspectives. It is important to highlight the difference between comparative education studies and educational geography. Comparative education focuses on analysing and comparing educational systems, policies and practices in different regions or countries, identifying similarities and differences in different educational contexts and understanding the factors that contribute to educational outcomes. In contrast, geography of education examines the role of space, location and scale in educational policy, practice and outcomes, as well as the relationship between education and social, economic and political processes.

Geography of education therefore offers unique perspectives and insights into the influence of geopolitical strategies on educational systems and processes. It can also provide an in-depth understanding of the distribution and scale of educational processes, student and teacher mobility. The geographical concepts of space, place, location, scale are therefore necessary and useful in gaining insights on the structures, characteristics and functionality of different educational spaces and, moreover, on. Despite the potential of offering new perspectives on how dynamics, power struggles and the geo-political aspects influence the creation of knowledge about sustainability and the implementation of education for sustainable development (ESD), geography of education is still in its infancy in modern research and vastly unexplored in Romanian research.

The concept of sustainable development was introduced into the global discussion by the Brundtland Report in 1987. In 1992, Agenda 21 published by the UN affirmed the essential role of education in promoting sustainable development. In 2000, the Millennium Development Goals (MDGs) addressed global challenges such as poverty, hunger, health and gender equality, but have been rather limited in nature. Since 2015, the Sustainable Development Goals (SDGs) have been adopted as part of the UN 2030 Agenda and aim to reduce inequalities and ensure inclusive progress, while also considering the limits of our planet. The Sustainable Development Goals include a more comprehensive set of indicators, with a focus on strengthening data collection and monitoring systems to support decision-making, and place greater emphasis on partnerships and collective action at all levels.

Education plays a crucial role in achieving Sustainable Development, empowering students to acquire the knowledge, skills and values needed to drive sustainable development, but the role of education varies across different educational spaces, either perpetuating dominant ideologies or serving as a transformative tool, stimulating critical thinking and creativity. It is widely believed that pluralism in education promotes the development of higher-level thinking skills by exposing students to diverse ideas and perspectives, encouraging critical analysis and creative problem-solving.

As a school discipline, geography has a lot to offer ESD because of its location at the crossroads of the natural, social and economic dimensions of the environment and because geography has the capacity to identify and project into the future the relationships between these spheres, facilitating the understanding of the links between humans and the environment. Integrating the SDGs into the study of geography helps to strengthen the study of their interconnectivity.

The Romanian context for the implementation of ESD faces some challenges: not only is ESD research sparse but also, the future of school geography hangs in balance due to recent national changes in the educational system. Other challenges highlighted by studies of the overall educational system in Romania are the distrust created by the lack of transparency and communication between decision-makers, large volume of curricular content, confusion regarding the concept of SD itself or traditional way of teaching based on memorisation and reproduction of knowledge.

Recent research and reports, such as '*România Educată*' or '*Educație pentru schimbări climatice și mediu în școli sustenabile*' initiated by the Romanian presidential administration highlights the emerging interest in ESD in Romania. As a result of these initiatives, the compulsory national program "The Green Week" was implemented in schools from 2023 and an optional course entitled 'Education for Sustainable Development' has been introduced for students aged 14.

The present study integrates information collected both from the analysis of geography textbooks using content analysis and from the analysis of perceptions and opinions on SD and ESD of a group of 496 students and 38 geography teachers from the Northeast region of Romania. The textbooks chosen were the ones available for Year 11 in the public domain in pdf format which made it possible for them to be introduced in the MAXQDA software for content analysis. Year 11 was chosen as it is the only year group where reference to SD is explicitly made in curriculum documents.

The textbooks analysed show that Romanian geographical education is still predominantly anchored in an educational paradigm which is based on passing on information with 93% of the coded paragraphs on SD falling into this category, only 4.5% having had the aim of transmitting values and beliefs and 2.5% providing opportunities to reflect, wonder and look at information from different perspectives. Most of the information in the textbook can be associated with *Life on Land* (SDG 15), *Affordable and Clean Energy* (SDG 7), *Climate Action* (SDG13) since they account for almost 40% of the cumulative total of the number of paragraphs related to SD. Other SDGs, such as *Gender equality* (SDG5), *Clean water and sanitation* (SDG6) are not addressed in these textbooks and topics related to *Quality education* (SDG 4) or *Good health and wellbeing* (SDG 3) are given very little attention.

This study argues that an analysis of the geographical distribution of the aspects related to all of the SDGs, a comparative approach to cases in different regions of the world, socio-economic or natural causes leading to globally significant differences in their distribution, could be ways in which school geography could address any of the SD themes, as they relate to aspects that are found at the intersection of the natural and socio-economic environments.

The need to include these themes in school geographical education arises not only from the need to understand the spatial diversity of these themes, their causal relationships, their possible pathways and effects, but also from the need to give geography the current relevance it so badly needs, especially at national level.

The classification and analysis of learning tasks in geography textbooks was carried out through the lens of Bloom's taxonomy. Thus, learning activities were categorized according to the keywords of the task, being associated with the processes of memorization, comprehension, application, analysis, evaluation and creativity.

When analysing the types of learning activities in the two textbooks, we classified them according to Bloom's taxonomy. It can be concluded that both textbooks focus predominantly on summative assessment, with the majority of activities found at the end of each chapter and that tasks focus mainly on memorisation and comprehension. The share of high-level cognitive activities differs significantly from one textbook to another, with one textbook having significantly more higher order thinking skills activities proposed than the other, raising questions about the regular evaluation of textbooks and the establishment of clear methodological guidelines to align all textbooks used with contemporary, politically endorsed educational goals and proposed methodologies in studying school geography.

As mentioned before, this study used an online survey to gather the views of 496 Year 11 students and 38 Geography teachers from the NE region of Romania. To extend our research and collect qualitative data, a follow up discussion in an online workshop was held with the teachers who had answered the initial survey, but wanted to continue to be involved in the research. Analysis was also carried out considering the rural-urban divide for students, given the specifics of rural urban in Romania, the types of school (theoretical, technological or vocational) and the years experience of teachers and their qualifications.

Overall, students declared a high degree of awareness regarding SD and that their main source of knowledge related to SD is from school and the Internet. Awareness of SD and importance of school scored slightly higher values for students living in urban areas than for those living in rural ones. On the same aspect, teachers declared themselves familiar with the concept of SD, but much less familiar with the specifics of the SDGs, some of them mentioning that sustainability is a confusing term, widely used to mean either environmental protection or climate change. They highlight the lack of serious professional training on this topic, lack of time, a packed curricula with little room for exploring other things, but they also showed interest in teaching aspects related to sustainability. Lack of resources in the Romanian language was also a point many teachers agreed on.

The present study looked at challenges teachers faced in ESD from different angles, being concerned with exploring their scale. Thus, at a national scale, teachers agreed that the educational paradigm in Romania was not yet conducive to ESD, that there was too much focus on passing on information and values and that though there were signs of change, the traditional way in which educational institutions function and the lack of real engagement and commitment to ESD from central authorities (though declaratively they state otherwise), slow down the transformation needed. Other national scale obstacles mentioned were the lack of

political stability and the concern of central authorities to change insignificant things rather than much needed systemic ones. Even though, declaratively, authorities recognise the importance of SD themes, having implemented *The Green Week*, there is no coordinated effort from state institutions or financial commitment to support its implementation. In teaching sustainability, teachers recognise the importance of cross-curricular teaching, but this is not something they are familiar and they raise concerns regarding resources, team teaching and evaluation of students' learning on cross-curricular content.

From a local perspective, teachers highlighted the rural-urban discrepancies in how students perceive the importance of education in general and, connected to that, the importance of sustainability education. Teachers observe a lack of interest and motivation to learn in students from rural areas and understand that, unlike students in urban areas, they have a different reality of commuting long distances to school and being encharged with other household chores. To add to this, lack of local funding, lack of place based resources to motivate and interest learners have also been mentioned.

Despite all these challenges, both teachers and students are in high agreement that school, as an educational institution, should be responsible for teaching SD; students from rural areas, placing the role of mass-media in second, ahead of students from urban areas which placed the Internet second. Within school education, and in agreement with many international research studies, both teachers and students consider that school geography should take on the mission of teaching about sustainability, as it is the best fit subject for it, followed by economics and personal development. Those geography is clearly at the top, there are some differences which suggest that some students consider ESD is associated more with economy and others which associate it more with sociology.

The literature in the field acknowledges the importance of practical activities and experiences in ESD and from this viewpoint, the present study has also tried to assess whether this aspect is present in students' geographical education. More than half of the students surveyed declare that they had participated in practical activities related to SD themes but there are differences regarding the type of school, with students in theoretical schools reporting vastly less such experiences than students in technological schools. As regards this aspect, teachers declare a preference to engaging students in practical activities linked to themes such as *Climate action, Ecosystems and biodiversity, Affordable and clean energy*, whereas themes related to *Social justice, Partnerships for the goals, Civic responsibility and democracy* are hardly represented.

When it comes to assessing teachers' and students' opinions regarding the SD themes of immediate relevance, this study reveals some similarities, but also significant differences. Teachers identified themes related to *Affordable and clean energy, Quality Education, Climate action* as being of immediate relevance, whereas *Responsible consumption and production, Partnerships for the Goals* were the least relevant. Similarly to their teachers, students also identified as more relevant themes such as *Quality education*, but interests vary widely after that. They consider of far more relevance themes associated to *No poverty, Social justice* than their teachers and these are the themes which figure the least in the analysed textbooks as well. Again, themes related to *Partnerships for the goals or Peace, justice and strong institutions*

were weakly represented in both teachers' and students' interests raising some concerns regarding the deep understanding of the collaboration needed in achieving sustainability, but also symptomatic of the lack of trust in the state's institutions which was mentioned previously.

Synchronising curriculum content with students' interests can increase motivation and satisfaction in studying geography. This study provides a starting point for understanding students' and teachers' different interests in sustainability. Coordinating teachers' and students' interests in sustainability topics, considering how they are addressed in the current teaching and learning process, and how they might be included in future updates of curriculum content, or in proposed activities for students, are ways in which this study can contribute to a positive and more relevant teaching-learning experience for both teachers and students.

We conclude this study by highlighting the importance integrating studies of education with studies of geography of education to gain new perspectives and understandings regarding ESD. The application of geographic exploration, characterised by an inherent ability to decipher the complex interactions between environmental, social and economic factors in the space in which ESD takes place, provides a unique perspective for a deeper understanding of how knowledge is generated, disseminated and applied in different contexts. Thus, the geographical study of the educational space in which ESD takes place highlights the contextual nature of sustainability knowledge creation and how spatial particularities influence decision-making at different scales.

If the role of education is to prepare people to act for a sustainable future and if education for sustainability is indeed essential today, then the importance of place-based education is also paramount. Otherwise, the effectiveness of implementing the concept of sustainable development in Romania, for example, is questioned. It should not be ignored that education for sustainable development is undeniably influenced by political interference, different development agendas, and the specific interests and priorities of the space in which it takes place. The result of these influences can significantly transform the characteristics of ESD in different spaces. Political agendas, resource allocation affect the design and implementation of education projects, determining from state to state, or from region to region, which themes are prioritised, or marginalised.

Comparative studies on how cultural, social, political and economic features, specific to the Romanian space, influence and determine the creation of knowledge about sustainable development may be of interest for future research in geography of education. Analysing the factors that influence the creation of centres of expertise in ESD and establishing the flows of ESD-related knowledge dissemination between them and the peripheries, as well as the actors involved in ESD at national and regional scales and the ways in which they seek to establish their authority and legitimacy claims to expertise in ESD are also potential directions of further research.

As ESD evolves, the urgent need for this field of research - the geography of education for sustainability - becomes an undeniable and transformative reality. In the kaleidoscope of education for sustainability, geographic research is the lens through which the entire spectrum of interdependencies that contribute to the creation and dissemination of the knowledge and

skills necessary for the sustainable development of society becomes visible. It is the compass that guides us in exploring the complex topography in which local context and global influences intersect and influence each other at different spatial and temporal scales. The importance of studying the local context is paramount in ESD. Just as the pieces within the kaleidoscope rearrange themselves to create new patterns, so the specificity of place influences the formation, understanding and implementation of the concept of sustainable development in formal education, shaping itself on the unique contours of local economic, social, political and cultural environments with each movement and change of place, revealing new complexities, fostering a knowledge landscape in which the nuances of sustainability merge and converge in constant change.

At this critical juncture of the long-awaited changes in the Romanian Education Law and against the backdrop of anxieties and uncertainties about the future of Romanian education, educational geography studies can make unique and undeniable contributions to educational policymaking. Considering the priorities set at global and national level regarding sustainable development, we consider that this study of geography of education for sustainability is in full resonance with the needs and national context, providing not only a support for a better understanding of the specific needs of the Romanian education system in relation to ESD, but also a platform for the geographical study of the particularities of the educational spaces associated with it.

Last but not least, this study aims to serve as an urgent call for the inclusion of sustainability education clearly and explicitly in the Romanian school geography curriculum. This can pave the way for exploring interdisciplinary approaches around the integrative vision that geography provides, increasing the relevance of ESD-related teaching and the relevance and necessity of school geography as a 21st century discipline.