

A Pilot Study about the Green Transformation Knowledge of Students from Bulgaria and Romania

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Abstract. *The green transition, which aims to achieve a sustainable economy, has become a central issue in the modern world. However, sustainability is a multidimensional concept that requires an integrated approach that covers environmental, economic, and social aspects. Therefore, changes in economic and social systems are needed to achieve a successful green transition. The challenges to this transition are related to inequalities in society, consumer habits and the need to increase the knowledge and skills of all stakeholders. This pilot study aims to investigate the level of knowledge and awareness of students from Romania and Bulgaria regarding green transformation. The research was conducted to assess students' understanding of various environmental issues, including renewable energy, sustainable consumption, waste management and environmental legislation. This would allow addressing the deficit of green skills by creating an innovative educational program in the field of sustainability, as well as developing joint curricula that meet these needs. The results reveal a significant level of awareness among students about the importance of environmental protection and sustainable practices. However, there are also areas where there are gaps in knowledge, especially regarding specific technical aspects of green technologies and the impact of individual actions on the environment. The findings highlight the need for further education and awareness-raising initiatives to empower students to become active agents of change in the transition to a sustainable future.*

Keywords: green transformation knowledge, students, green skills, sustainable.

Introduction

The transformation to a circular economy, or the so-called green transition, is a challenge that has enjoyed tremendous support in recent years as a sustainable alternative to the traditional production of goods, mainly due to its potential to minimize waste and promote resource efficiency through reuse and recycling (Dumitrescu-Popa *et al.*, 2024). At the same time, sustainability, understood as ecological, economic and social sustainability, is a complex system based on inferential logic. In order to manage the complexity that comes from sustainability, the world needs an economic and socio-political system that can deal with this complexity (De Felice & Petrillo, 2024). This

complexity also determines the challenges that the green transition faces – challenges related to societal inequality, consumer behavior, and, above all, the knowledge and competencies of all stakeholders (Dumitrescu-Popa *et al.*, 2024).

This perspective is based on the deepening negative impacts of climate change and environmental degradation – both of which are existential threats to the world as a whole. These crises gave impetus to an economy through green technologies and the creation of a sustainable common goal of reducing pollution and its negative impact on the environment and the world. Turning climate and environmental challenges into opportunities will make the green transition fair and inclusive for all (European Commission, n.d.).

The presented pilot study examines the knowledge and competencies of students from Bulgaria and Romania. The study was implemented within the international project *Educate4Green*, whose primary goal is to accelerate the development of green knowledge and skills of students, teachers and practitioners by designing, implementing and scaling an innovative educational model framed by transnational, transdisciplinary and visionary approaches in the field of business and engineering towards greening jobs and enterprises and sustainable growth. The project involves students and teachers from four partner countries: Bulgaria, Romania, Poland, and Italy. At various stages, reports are made on the current situation and the results achieved as an effect of the implemented activities of the project (Educate4Green, n.d.).

In line with the project mission, the main aim of the pilot study was formulated: *An analysis of the knowledge gaps regarding the nature and elements of the green economy* (including jobs, product design, digital skills, and legislation, as well as the expectations and skills of the target group of respondents) *and presenting good practices for students' competency improvement*. This study compares students from Bulgaria – *University of Ruse “Angel Kanchev”* and Romania – *National University of Science and Technology POLITEHNICA Bucharest*. The paper is structured as follows: 1) Introduction to the concept of green transition and emphasis on the need to develop green knowledge and skills among students; 2) Introducing the research methodology; 3) Presenting and discussing the pilot results of the study; 4) Formulation of research limitations, future directions for work and relevant conclusions.

Literature review

In today's turbulent world, knowledge is a controlling force in production and operation, promoting productivity, green economy and innovation, sustainability and organizational success. To grow and remain sustainable, organizations and firms need to quickly understand new market and customer demand by managing the creation, acquisition, sharing and application of knowledge from both internal and external sources (Ngoc Huynh *et al.*, 2024).

In a broad sense, sustainability can be defined as the ability to maintain certain qualities of human well-being, social justice, and environmental integrity over indefinite periods. Another interpretation includes social and economic dimensions, focusing on reducing harmful environmental impacts. In this sense, sustainability can be understood as an effort to minimize the adverse economic, environmental and social effects of a given activity, either by a manufacturing company, a service provider, or a government body. Resilience depends on transformational skills in designing transitions and the ability to withstand stress and contingencies. In this way, sustainability extends beyond the achievement of ideal goals to the careful examination of the forces and obstacles that enable or hinder the transformation of society (Coca & Pîslaru, 2024).

The green economy, in turn, can be described as 'low carbon, resource efficient and socially inclusive', thereby addressing the combined forces of global economic recession, human-induced

climate change and socio-economic inequalities. Many emphasize that the transformation to a greener economy requires a fundamental transformation of existing development practices to achieve the complex mix of policy goals: social, economic and environmental. These multiple dimensions combine technological innovation, traditionally seen as disruptive, with social and environmental progress, prompting calls for a new 'global social contract' and a 'global re-modelling of the economy and society towards sustainability', often through a 'new technological revolution' (Hatch *et al.*, 2017).

At the same time, the green transition could be a significant problem in any production system, as it is an alternative to the current model of production and consumption. There is still a 'circulation gap' that can be bridged in the short to medium term, possibly with the use of innovative and digital technologies. In fact, many researchers agree that a sustainable future can be achieved in the long term thanks to digital technologies (i.e. artificial intelligence, quantum computing, etc.), which, thanks to their computational speed, are able to identify the right decisions at the right time. Therefore, the challenge is not only to develop innovative technologies and tools for the efficient use of resources in sustainable production industries (De Felice & Petrillo, 2024) but also to implement and use these same technologies competently and responsibly.

The summary so far shows that the green transition is a challenge for many reasons. For example, in low-income communities, access to sustainable materials or practices has proven difficult and is often linked to inequities in the distribution of resources. In addition to inequality, stakeholder behavior also plays a vital role in the success of implementing sustainable initiatives that support the transition to a circular economy. According to Dumitrescu-Popa *et al.* (2024), behavior is shaped by choices, cultural norms, economic incentives and individual preferences, which significantly influence how resilient consumers are or have the potential to be. By developing inclusive policies, promoting sustainable consumption and empowering stakeholders across society, we can move towards a fairer and more sustainable future. In accordance with the literary background and the main objective of the study, the following research questions (RQ) have been formulated:

RQ1: *Are Bulgarian and Romanian students aware of how green behavior is transforming the way their university operates?*

RQ2: *What are the main gaps in Bulgarian and Romanian student's knowledge regarding the concept of a green economy and its components (product design, skills, legislation, etc.)?*

Methodology

The research methodology was developed within the Educate4Green (n.d.) project. Participants in the project, co-financed by Erasmus+, are: *National University of Science and Technology Politehnica Bucharest* – Bucharest, Romania; *Eurotraining Solution SRL* – Bucharest, Romania; *S.C. INFORELEA* – San Secondo di Pinerolo, Italy; *Lodz University of Technology* – Lodz, Poland; *University of Ruse “Angel Kanchev”* – Ruse, Bulgaria. The main project's goal is to take stock of current familiarity towards the green transition in terms of environmental responsibility, impact and opportunities for business and employment, as well as elicit training needs to develop ecological skills for students and practitioners in higher education (HE).

The research aims to provide an up-to-date and timely analysis of locally rooted training needs, green knowledge, green jobs and enterprises, expectations and skills across the range of pre-defined target groups: students, teachers and practitioners. The e-study was conducted through an electronic survey using a Google form questionnaire distributed through each organization and the

university's email network in the period *October – December 2023*. The Microsoft Excel and SPSS statistics functions were used to process the primary data.

Structure of the questionnaire

The questionnaire developed for the project covers four thematic sections: 1) Demographic profile; 2) Measuring the student's knowledge of green concepts/knowledge of green transformation; 3) Measuring the level of green skills (intellectual and digital) / opinions of students about their green skills – concept of green knowledge, green skills with non-digital components (intellectual and social), digital components (creatively using digital technologies); 4) Identification of training needs and expectations for greening workplaces and enterprises/training expectations of students.

Scope of the current study

This paper covers the target group of students from the National University of Science and Technology POLITEHNICA Bucharest (UPB) and the University of Ruse “Angel Kanchev” (URAK). It discusses the demographic indicators – Section 1: Demographic Profile, and partially the questions of Section 2 (Measurement of knowledge about the green concepts) of the survey form developed by the project. The project set the minimum number of respondents for the UPB and URAK to be 50 and 40 students, respectively. These values are consistent with the current students studying in the project partner faculties from both universities.

Results and discussions

The total number of students who responded from both institutions was 126 (N=126), of which 83 (66%) were representatives of UPB (N_{UPB}=83), and 43 (34%) were representatives of URAK (N_{URAK}=43). In UPB, most of the respondents study Business and Engineering – 62 (75%) and Business and Management 20 (24%). As presumed, most of the respondents (83%) are Bachelor's degree level. In URAK, respondents are predominantly students from Business and Management – 72% (30); 5% of them are from the Economic Science area of specialization; 2 % are from the Business and Engineering field, and the rest have indicated “Other”. The respondents are only from Bachelor's degree level, which could be explained by the fact that Master's degree students hadn't started their classes yet when the survey was conducted.



Figure 1 Current age range for UPB (N=83)

Source: Educate4Green Project Data'2023.

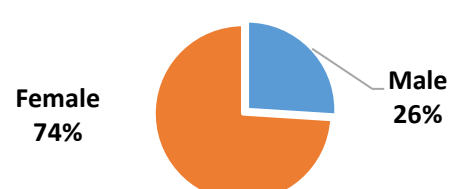


Figure 2 Current age range for URAK (N=43)

Source: Educate4Green Project Data'2023.

In UPB, 100% of the respondents belong to the group of age 20-29, while in URAK, 95% of the students are in the age range 20-29 years old; 8% of the students are in the age range 40-49 years old, and the other 3 groups are by 4% represented. This information leads to the conclusion that the students have enough experience in the professional field. According to the gender demographic profile, UPB students are divided into 38 (46%) men and 45 (54%) women (Figure 1). At the same time, at URAK (Figure 2), there is a more noticeable preponderance in the number of female respondents – 32 (74%) compared to men 11 (26%).

Table 1. Student's awareness related to the transformative green behavior

Variables of Green Actions: <i>Are you aware of the use of green behavior in transforming the way in which your university is operating?</i>	UPB (N _{UPB} =83)		URAK (N _{URAK} =43)	
	Rather known	Rather unknown	Rather known	Rather unknown
1.1.1 Maintaining stable ecosystems and combatting mass extinction, for example, by making conscious dietary choices that support organic food production and animal welfare	52 (63%)	31 (37%)	22 (51%)	21 (49%)
1.1.2 Use of ICT systems in an environmentally responsible and sustainable manner.	43 (52%)	40 (48%)	26 (60%)	17 (40%)
1.1.3 Promote the use of renewable electricity and heat generation sources to organizations and individuals to work to encourage sales of renewable energy equipment, such as solar power equipment.	70 (84%)	13 (16%)	25 (58%)	18 (42%)
1.1.4 Educate organizations and individuals on the correct procedures and legislation concerning the recycling of different types of waste in different types of containers, waste collection procedures, and the sanctions following non-compliance to legislation.	59 (71%)	24 (29%)	30 (70%)	13 (30%)
1.1.5 Being aware of environmental legislation, policies, and principles.	57 (69%)	26 (31%)	25 (58%)	18 (42%)
1.1.6 Maintained records and processed facts and figures about the type and volume of different recycling operations.	43 (52%)	40 (48%)	23 (53%)	20 (47%)
1.1.7 Apply principles, policies and regulations aimed at environmental sustainability, including the reduction of waste, energy and water consumption, the reuse and recycling of products, and the engagement in the sharing economy.	62 (75%)	21 (25%)	25 (58%)	18 (42%)
1.1.8 Being familiar with European and National legislation regarding the risk of pollution.	52 (63%)	31 (37%)	26 (60%)	17 (40%)
1.1.9 Promotion of environmentally friendly behaviors in social networks and at work.	68 (82%)	15 (18%)	33 (77%)	10 (23%)
1.1.10 Educate travelers about making a positive impact and raising awareness of environmental issues	61 (73%)	22 (27%)	30 (70%)	13 (30%)
1.1.11 Promote policies, actions and education programs that encourage healthy lifestyles that lead to changes in consumers' attitudes	58 (70%)	25 (30%)	28 (65%)	15 (35%)
1.1.12 Proactive participation in sustainable consumption leads to changes in consumers' shopping habits and expectations.	50 (60%)	33 (40%)	18 (42%)	25 (58%)
1.1.13 Investigate and design an artificial lighting system based on daylight, timer, or occupation of spaces, taking into account any technical specifications and restrictions.	54 (65%)	29 (35%)	24 (56%)	19 (44%)

Source: Educate4Green Project Data'2023.

Asked about their awareness related to *green behavior in transforming the manner in which their university is operating* (Table 1), the UPB students rather knew about promoting the use of renewable electricity and heat generation sources to organizations and individuals (84%), the promotion of environmentally friendly behaviors (82%), applying principles, policies and regulations aimed at environmental sustainability (75%), and the educate travelers about making a positive impact and raising awareness of environmental issues (73%). The more unknown facts are related to the use of ICT systems in an environmentally responsible and sustainable manner (48%), maintained records and processed facts and figures about the type and volume of different recycling operations (48%), proactive participation in sustainable consumption (40%), maintaining stable ecosystems and combatting mass extinction (37%), and being familiar with European and National legislation regarding the risk of pollution (37%).

The URAK students rather knew about the promotion of environmentally friendly behaviors (77%), educating organizations and individuals on the correct procedures and legislation concerning the recycling of different types of waste, the sanctions following non-compliance to

legislation, and educating travelers about making a positive impact and raising awareness of environmental issues (70%), followed by promoting policies, actions and education programs that encourage healthy lifestyles (65%). The unknown facts are related to proactive participation in sustainable consumption leads to changes in consumers' shopping habits and expectations (58%), maintaining stable ecosystems and combatting mass extinction (49%), keeping records and processed facts and figures about the type and volume of different recycling operations (47%), and design an artificial lighting system (44%).

The comparison between the two groups of respondents demonstrates both an interesting and some expected fact. Among the most familiar activities in the direction of green transformation, students from both URAK and UPB recognize the *promotion of environmentally friendly behavior in social networks and at the workplace*. It is well known that man is a social animal, and the ever-evolving social networks for communication and interaction have become the primary source of information and decision-making. Another point of contact between the students from Bulgaria and Romania is the assertion that *appropriate training of travelers can have a positive impact and raise awareness of environmental issues*. On the one hand, this is most likely related to the open borders and the ability to travel to different world destinations to a much greater extent today compared to about twenty years ago. This enriches the worldview and gives an opportunity to touch foreign cultures and good practices, including in terms of environmental protection. On the other hand, it is believed that the situation with COVID-19 and the forced stay-at-home, travel ban and limited contact made people much more sensitive to the benefits of nature for both their physical and mental health (University of Derby, n.d.) and, from there – much more engaged with the problems of the environment.

In general, the results of the current study are difficult to compare with similar studies. This is due to the uniqueness of the applied list of variables, which was created by the team of scientists from the educational institutions participating in the project. Partial similarity can be found in a study by Zulkarnaen *et al.* (2023), according to which over 87% of respondents, also students, responded positively to statements assessing the importance of discussing environmental pollution. In the pilot study presented here, with a relatively high share among both higher education institutions, the promotion of pro-environmental behavior on social networks stands out, which can also be defined as a method of public discussion of environmental problems. At the same time, in the study by Zulkarnaen *et al.* (2023), almost half of the participating students are not sensitive to environmental issues. Therefore, they hardly assess their behavior as significant in achieving a green transformation. This conclusion can be compared with the opinion of students from Bulgaria (42%) and Romania (60%) and their lack of knowledge about the fact that their proactive participation in sustainable consumption would lead to changes in market habits and consumer expectations. This fact is related not only to sensitivity to environmental issues but also to personal responsibility and the power of small steps that each person can take as an active citizen and responsible consumer with which to be a leading factor in the direction of a green and sustainable transformation of the economy.

At the same time, both groups of respondents show a similar degree of knowledge (69% / UPB and 58% / URAK) and ignorance (31% /UPB and 42% / URAK) of environmental legislation, policies, and principles. This significantly exceeds the data obtained by Semenova *et al.* (2018), according to which only 39% of students are familiar with environmental legislation. This can be viewed as an isolated regional case affecting specific higher education institutions. However, it can also be perceived as a positive change in general as a result of the educational policies in higher

education that have been encouraging over the past few years. Of course, such general findings require additional and up-to-date comprehensive research.

The next section of the questionnaire (Table 2) examines students' knowledge of specific green topics: *Green products knowledge* and *Environmental knowledge*. The questionnaire is constructed using a scale, where 1 corresponds to an *Unsatisfactory level*, 2 to a *Satisfactory level*, 3 to a *Medium level*, and 4 to a *Very good level*. The summarized data show that the mean values for all questions are relatively high, which suggests that students have some knowledge or at least rate their understanding of the green economy as average. However, there are slight differences in the mean values for the different questions. This indicates that students are more familiar with some aspects of the green economy than others. For UPB students, the most frequently selected answer for all statements is 3 or Average level, with only the last statement (1.2.1.7) having a mode of 2 (Satisfactory level). At the same time, this is also the question with the highest standard deviation, i.e. the answers were significantly more diverse. Among URAK students, the most selected answer is again average level (3), with deviation observed for statement 1.2.1.6. Accordingly, this is also the statement with the highest standard deviation. The standard deviation of statement 1.2.1.7 also evidences the lack of categoricalness and diversity in the answers.

Table 2. Students' knowledge of specific green topics

Variables for Green topics: Please mention your knowledge of the following green subjects.		UPB (N=83; Valid=83; Missing=0)				URAK (N=43; Valid=43; Missing=0)			
		Mean	Median	Mode	Std. Deviation	Mean	Median	Mode	Std. Deviation
Green Products Knowledge	1.2.1.1 Eco-innovation of products (UNEP – Design for sustainability)	2,52	3,00	3	,942	2,72	3,00	3	,854
	1.2.1.2 Eco-design of products (e.g. durability, reparability, reusability)	2,71	3,00	3	,773	2,74	3,00	3	,819
	1.2.1.3 Eco-labeling of products (OECD & ISO standards type I, II, and III)	2,51	3,00	3	,980	2,74	3,00	3	,819
Environmental Knowledge	1.2.1.4 EU environmental strategies to processes, goods & services	2,76	3,00	3	,905	2,67	3,00	3	,919
	1.2.1.5 Environmental Management System	2,67	3,00	3	,843	2,79	3,00	3	,861
	1.2.1.6 Resources and circular economy (circularity principles & waste management strategies)	2,72	3,00	3	,901	2,81	3,00	2 ^a	,932
	1.2.1.7 Supplier environmental assessment (Due diligence EU directive)	2,48	2,00	2	1,040	2,74	3,00	3	,928
a. Multiple modes exist. The smallest value is shown									

Source: Educate4Green Project Data'2023.

Overall, the standard deviation for Bulgarian students maintains closer levels, while fluctuations are observed for Romanian students (for 1.2.1.2, related to *Eco-design*, and 1.2.1.7, related to *Supplier evaluation*). Both groups of respondents demonstrate a high level of knowledge regarding eco-design of products. Ecodesign is a more specific subject that is less dependent on business thinking (the predominant profile of students) than design thinking. Therefore, it is gratifying that respondents from UPB and URAK realize the importance of this element in the process towards green transformation and a sustainable economy.

The pilot study clearly answers RQ1: *Are Bulgarian and Romanian students aware of how green behavior is transforming the way their university operates?* The results show that students

are relatively familiar with the practices of using green behavior. The students pay attention to promoting the use of renewable electricity and the sale of renewable energy equipment. They are also aware of environmentally friendly behaviors and with educating travelers about making a positive impact and raising awareness of environmental issues. All this emphasizes the role and influence of the educational environment, as well as the potential of students to drive positive change. By empowering them with knowledge and skills, we can encourage them to become active participants in the transition to a green economy. Future research should explore the long-term impact of such educational initiatives on students' attitudes, behaviors, and career choices. Additionally, it is essential to investigate how universities can further integrate sustainability into their curricula and campus operations.

The study also provides an answer to RQ2: *What are the main gaps in Bulgarian and Romanian student's knowledge regarding the concept of a green economy and its components (product design, skills, legislation, etc.)?* The point of contact between the two groups of respondents is the insufficient level of knowledge of product eco-labelling (OECD & ISO standards type I, II and III), product eco-innovation (UNEP – Design for Sustainability) and supplier environmental assessment (Due diligence EU directive). The latter defines the reporting requirements on the supplier's ecological assessment topic and conditions (assesses) the green and sustainable links throughout the production and/or logistics chain. Insufficient knowledge of the directive and the resulting assessment would be an obstacle to realizing the environmental impact of the entire chain, not just the individual business unit. At the same time, students from both Romania and Bulgaria have an average and satisfactory level of knowledge regarding the Environmental management system. This tool helps organizations reduce their negative impact on nature. It brings together rules, procedures and ways to train employees to monitor and continuously improve the company's environmental performance. The information that is monitored and evaluated covers both internal and external stakeholders, i.e. it also includes the entire supply and supplier chain. It is, therefore, worrying that students do not link this tool to the environmental assessment of suppliers.

The identification of points of contact and gaps in knowledge between students from Romania and Bulgaria is essential, as they serve as a starting point for building the programs accompanying the project's cross-border studies. The completion of the survey form by the different groups of respondents was followed by a specially organized summer school with the participation of students from the partner institutions of the project. The first cross-border summer school under the project took place in the period 24th-28th of June 2024. Summer School for HE learners in Łódź, Poland, aimed to stimulate the transition to a green and digital economy, facilitating the exchange of knowledge and experience between students from different countries.

During the five-day program, participants from Romania, Italy, Poland and Bulgaria had the opportunity to learn about innovative practices and work on real projects. With the participation of lecturers and practitioners from various fields, the summer school focuses on developing students' skills needed to create sustainable businesses and tackle the challenges of the European Green Deal. More specifically, students had the opportunity to work and fill in their knowledge gaps by examining case studies in mixed teams or participating in practical meetings with business representatives. The most valuable experience for the participants of the summer school was that they were trained in a real business environment both to the green knowledge, skills, and competencies they need and to the approaches by which different companies are progressing on their path to understanding and implementing green employment and entrepreneurship. During the workshops, students were involved in various case studies on how to find an innovative and

sustainable solution. The distinction in the competencies of the different students allowed the formation of mixed teams with complementary knowledge, which made the collaboration between the participants much more helpful, engaging and effective.

The next step is to identify a change in the student's knowledge after the summer school and adapt the subsequent project activities, including the Research Methodology and training programs, based on the new results. Such information will also support international cooperation in preparing future employees and entrepreneurs for a more sustainable and green future for all. As Pavlov and Ruskova (2023) point out, such joint initiatives, in addition to providing a snapshot of educational models on a global scale, also help different stakeholders unite their efforts in support of a common mission. In this case, the aspiration of the consortium of international HE institutions and other partners is to support the green transition and prepare the competent personnel needed to realize this

Limitations of the study and applicability of the results

As the present study is a pilot study with a small sample, the results should be interpreted with caution. The limited sample size and potential lack of representativeness may affect the generalizability of the results. Furthermore, the questionnaire used may not have captured all the nuances of students' knowledge. The aim is not to seek full validation but rather a momentary mapping of the current knowledge, skills and competencies of the students included in the international Educate4Green project. This mapping will allow for the improvement of the questionnaires in a way suitable for a larger sample, which is the aim of the authors of this study.

The study is limited to analyzing a subset of green technical and practical skills to provide a thorough understanding of each aspect. On the one hand, the adopted step-by-step approach avoids oversimplification of the complex process of transitioning to a green economy. On the other hand, it will enable researchers to examine carefully the individual components of the green economy before formulating more general conclusions.

Despite these limitations, the study's results provide valuable information about students' existing knowledge and attitudes regarding green transformation. They can be used to improve the design of future research, adapt curricula and project activities, and formulate new research questions.

Conclusion

The findings of this study provide valuable insights into the level of knowledge and awareness of students from Romanian and Bulgarian universities regarding green transformation. While both groups of students demonstrate a good understanding of the importance of environmental issues, there are still areas where knowledge gaps exist. Students' knowledge of supplier environmental assessment, eco-labelling, and eco-innovation products is relatively weak. Addressing these gaps through targeted educational initiatives and fostering a culture of sustainability within HE institutions is crucial.

The results are similar between the two groups of students in terms of the need to educate organizations and individuals on the correct procedures and legislation regarding the recycling of different types of waste in various kinds of containers, waste collection procedures and sanctions following non-compliance with the legislation. This shows that both HE institutions support educational methods regarding the development of green habits, which in itself would accelerate the transition to a more sustainable future and economy. The percentages in Romania and Bulgaria are similar, although lower, regarding the knowledge of European and national legislation. The importance of this knowledge is exceptional in the context that both countries are members of the

European Union. From this perspective, students should have an excellent understanding of the common legislative framework under which they fall as citizens of Europe.

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